The development of a woman’s health handbook in the Western Cape

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KEY WORDS

South Africa
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Low birth weight
Health promotion
Alcohol abuse
Smoking
Nutrition
Communication
Health handbook
Health systems
ABSTRACT

The development of a woman's health handbook in the Western Cape.

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Background

The Project reported on in this thesis took place between 2003 and 2006 and focused on the problem of high rates of low birth weight in the West Coast / Winelands area of the Western Cape Province, South Africa. A 32 page woman’s health handbook (WHH) was developed and field-tested using a participatory action research approach. The purpose of the WHH was to provide a health promotion tool that would increase the likelihood of satisfactory birth outcomes in future by: improving the continuity of care for women, especially in pregnancy; improving the interaction between health service providers and women during health consultations; and enabling women to improve their broader health literacy.

Methods

The Project used both qualitative and quantitative methods and was carried out in three phases following steps in strategic communication development: situational and audience analysis; strategic design and development; and, field testing. The process involved three levels of stakeholders, or audiences: primary (women working on farms); secondary (local health service providers); tertiary (regional and provincial health department officials).

Phase I began with a situational analysis of the two research sites in 2003 - Vredendal and Stellenbosch areas. Data was collected through key informant interviews, secondary data and general observations. The information on the two sub-districts was summarised. In order to understand the lifestyle and contextual issues facing the primary audience focus group discussions and key informant interviews with all three levels of the audience were carried out.
in 2004. The analysis utilised an inductive approach to generate themes that integrated the information from all sources and a framework for understanding substance use was developed. Ideas for the format and contents of the WHH were collected utilising the same methods and were summarised into categories.

Phase II utilised the findings of Phase I to develop the first version of the WHH. This was pre-tested with all levels of the audience in individual interviews or focus groups to assess its accessibility, contents and appropriateness. The findings were used to prepare the second version of the WHH for Phase III.

In Phase III the second version of the WHH was tested by recruiting a cohort of 103 participants who were utilising the antenatal clinic services in the two sites in 2005. A pre- and post-intervention questionnaire was used to collect qualitative and quantitative data to characterise the participants and, assess if the WHH that was given to them to keep had influenced their health knowledge and substance use behaviour. Analysis included simple frequencies, and a comparison of key outcome measures from the pre- and post-intervention questionnaires. Secondary level audience representatives were also interviewed, and content analysis carried out to identify their perceptions of the WHH and any potential barriers to its future use in the clinics. A final version of the WHH was developed and 10 000 copies made available through a resource centre. The dissemination of a batch of the final version was followed up in 2006.

Results
The first phase identified the extent to which environmental and health-related behaviour contributed to low birth weight, as well as, other negative consequences in the lives of the primary audience. Important factors noted included the resource poor and stressful environment in which farm-based women live and work, and the high rates of women smoking cigarettes and drinking alcohol in general, and through pregnancy.
A first version of the WHH was developed and pre-tested in the second phase by applying principles of designing health education materials for audiences with mid to low literacy levels. Results from this stage led to the development of the second version of the WHH.

Although the evaluation of the second version of the WHH did not show any significant change in the health knowledge of the participants on the pre- and post-test analysis, there was a reduction in the use of alcohol, and very positive feedback on utilisation issues from all audiences. There was widespread dissemination of the final version of the WHH, however, neither the provincial nor the regional health authorities had incorporated it into their annual health promotion plan or budget.

**Conclusion**

The participatory action research approach in the development of the WHH ensured that the form and contents was appropriate for most of the primary audience and that the secondary and tertiary audiences were supportive of its potential to positively women’s health in the region in the future. The main factors that limited the impact of the WHH include the need for the health service providers to consistently practice interactive health consultations using the WHH, and the need for the reproduction and dissemination of the WHH to be led by the provincial health department.

It is recommended that brief training of health service workers is required in order to ensure that the final version of the WHH is utilised to its full potential and, that the provincial and regional health authorities devise a reproduction and dissemination plan to ensure that all women using the public health services receive their own copy of the WHH.
DECLARATION

I declare that *The development of a woman’s health handbook in the Western Cape* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Kirstie Rendall-Mkosi

March 2010

Signed:……………………
ACKNOWLEDGEMENTS

The process of carrying out the research Project and writing up this thesis would not have been possible without the support and interest of many people.

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# Abbreviations and Acronyms

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<th>Description</th>
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<tr>
<td>ANC</td>
<td>Antenatal clinic</td>
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<tr>
<td>BMI</td>
<td>Body mass index</td>
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<td>CAGE</td>
<td>Screening test for alcohol problems</td>
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<td>FAS</td>
<td>Fetal alcohol syndrome</td>
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<tr>
<td>HAM</td>
<td>Health Action Model</td>
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<tr>
<td>IEC</td>
<td>Information, education and communication</td>
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<td>IMR</td>
<td>Infant mortality rate</td>
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<td>IUGR</td>
<td>Intrauterine growth retardation</td>
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<td>LBW</td>
<td>Low birth weight</td>
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<tr>
<td>MDG</td>
<td>Millennium development goal</td>
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<tr>
<td>MMR</td>
<td>Maternal mortality rate</td>
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<tr>
<td>MTC</td>
<td>Media and Training Centre</td>
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<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary health care</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of mother to child transmission (of HIV)</td>
</tr>
<tr>
<td>RSA</td>
<td>Republic of South Africa</td>
</tr>
<tr>
<td>SGA</td>
<td>Small for gestational age</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary counselling and testing (for HIV)</td>
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<tr>
<td>WHH</td>
<td>Woman’s health handbook</td>
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<tr>
<td>WFP</td>
<td>Women on Farms Project</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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CHAPTER 1 INTRODUCTION AND BACKGROUND

1.1 Introduction

This study reports on the development of a woman’s health handbook (WHH) in the West Coast / Winelands region of the Western Cape province in South Africa. The Project that produced the handbook was conceptualised as part of the response to the regional health services’ request to the University of the Western Cape to examine and design interventions to reduce the reported high rate of low birth weight (LBW), which was reported in 2002 to be 20.1% in the West Coast / Winelands region in 1999 (Western Cape Department of Health, 2001).

LBW is recognised as an important public health indicator of maternal health; national and regional estimates are used to compare health status between countries and regions. In 2004 the average LBW incidence across all developed countries was 7% of live births, while the average for developing countries was 16.5% - more than double that of developed countries. South Africa was reported to have 15% incidence of LBW (UNICEF/WHO, 2004). As with many other country-wide statistics, however the figure of 15% masks the disparities between the rich and poor areas.

LBW, less than 2500 g, is generally divided into two different categories – the first occurring as a result of pre-term delivery (less than 37 weeks’ gestation) and the second being intrauterine growth retardation (IUGR – less than 10th percentile weight for gestational age) due to in utero growth-inhibiting factors. There can be a combination of the two causes if a baby is born pre-term and suffers IUGR (ACC/SCN 2000).

LBW babies are more susceptible to hypo-glycaemia and to birth asphyxia, diarrhoea and pneumonia than babies over 2500g, contributing to a higher rate of postnatal death in LBW babies (De Onis, 1998). The longer term
consequences of IUGR are manifested in body size (stunting), body composition and muscle strength. Poor neurological development is also more likely to occur in LBW infants (Corbett et al, 2007). There is evidence to suggest that size, wasting and stunting at birth are associated with high blood pressure, diabetes and coronary heart disease in adults. These diseases may be as a result of “programming”, whereby a stimulus or insult at a critical, sensitive period early in life has a permanent effect on structure, physiology and metabolism (Leon, 1998).

It is widely recognized that the causes of LBW are complex and multifactoral. The direct influences on the growth of the foetus are nutritionally based, and include maternal nutrition, smoking, and alcohol and drug use. However, psychological stress related to having an unintended pregnancy, and the low level of social support, has also been proposed as a negative factor. Health service availability and accessibility can also influence birth outcomes through prenatal screening, support and advice for pregnant woman. Low socio-economic status is also understood to be associated with a higher risk of LBW, although the exact reasons are unclear - except that poverty, which is associated with reduced access to health care, poor nutrition, lower education and inadequate housing, may increase the risk (Hughes and Simpson, 1995).

Preliminary studies in this mainly rural farming area of the Western Cape have focused on antenatal care (Tversky, 2001), women’s perceptions of health and pregnancy (Maart, 2003), and risk factors for LBW in the region (Batiste, 2003). The findings have further underscored the need for appropriate interventions. These studies have demonstrated that there are health-systems limitations, communication barriers, and health-risk behaviour problems related to women’s health in general, and to the antenatal phase in particular. These studies are reviewed in more detail in Chapter 2.

As the health services were planning a new ‘patient-held antenatal card’ during 2003, this study aimed to develop a WHH that would address women’s health comprehensively and record all past pregnancy outcomes, chronic conditions, health-related screening, preventive measures, and risk factors. In
addition, the WHH aimed to promote health literacy amongst women of reproductive age through the information and resource list it contained.

In order to understand the nature of the required interventions before and during pregnancy that could contribute to the reduction of LBW rates, it is necessary to position this study in the ambit of maternal and child health.

1.2 Maternal and child health in perspective

1.2.1 Working towards the MDGs

Progress towards achieving the Millennium Development Goals (MDGs) for the reduction of maternal and child mortality of the 68 priority countries (South Africa being one of them) is varied (Countdown Coverage Writing Group, 2008). Some countries are on track; some have made insufficient progress; and others have made no progress at all. The data for South Africa indicates that between 1990 and 2006 there was an average 0.9% annual increase in under-5 mortality, while the country target requires a 13.8% decrease per year to achieve the target of only 20 per 100 000 live births by 2015. This puts South Africa in the bottom 10 countries in the ranking related to the reduction in child mortality, and gives it a ‘no progress’ status before the 2008 Countdown meeting held in Cape Town (Countdown Coverage Writing Group, 2008).

The South African government has set a target of reducing under-5 mortality by two-thirds from 1990 to 2015 (Editorial, 2008). However, data released by the government paints a similar picture to that painted by the Countdown Group, reporting that the rate remained relatively constant from 1998 to 2003 at 59 per 100 000 and 58 per 100 000, respectively (Department of Health, 2004b).

The reduction of LBW forms an important contribution to the achievement of this Millennium Development Goal; therefore, the LBW rate is an important indicator of progress made towards the achievement of this goal. Many recent studies have shown the importance of LBW as a public health issue by
highlighting the risk to survival of the neonate, the negative effects on growth and development of the infant, as well as longer-term links to adult chronic diseases. There are also intergenerational effects, as a woman who herself was a LBW baby and grows up in the same environment as her mother is likely to be small in stature, experience poor nutrition and have poor cognitive abilities, all of which will increase the risk of her giving birth to a LBW baby (Mora, 2000; ACC/SCN, 2000; UNICEF/WHO, 2004). There is, therefore, the danger of the poverty and poor birth outcomes being perpetuated unless interventions from a public health approach are implemented. The United Nations Children’s Fund (UNICEF) and the World Health Organization (WHO) make the following statement on the cover of the document that focuses on low birth weight internationally: “Children can be ensured a healthy start in life if women start pregnancy healthy and well-nourished, and go through pregnancy and childbirth safely” (UNICEF / WHO 2004).

At the International Conference on Population and Development (ICDP), held in Cairo in 1994, it was agreed that women’s health status within a population tends to reflect the levels of equity with regards to basic needs being met, access to services, and freedom of choice (United Nations Department of Information, 1995). Inequities can exist within a population between different strata based on socio-economic differences, or within one stratum due to phenomena such as gender inequities. Poverty, especially within countries with poor resource distribution, such as South Africa, is experienced as exclusion, marginalisation, and poor access to income (Naidoo, 1998). In poorer communities women tend to bear the double burden of being in the lower stratum of society and being disadvantaged due to gender-based cultural, economic, and legislative systems (UN Department of Information, 1995). In short, women in poorer communities lack the freedom to exercise choices that could promote their health and participation in the broader benefits of society. In most developing countries there is evidence to suggest that the underlying socio-economic, educational, and cultural factors, and resources for survival are worse in the rural areas than urban areas for women.
In the planning of government services, especially in developing countries, women’s roles are viewed as being inextricably bound to reproductive functions, in contrast to men’s, which tend to be more defined in terms of their economic productivity. This is often the case in health and social welfare services where the well being of children is the main focus, and services are developed only in relation to that aspect of a woman’s life that relates to child-bearing and child-rearing (Kitts and Roberts, 1996).

Many measures are accepted and used internationally to indicate the level of health and development within and between countries. Most are directly or indirectly related to the well-being of women. For example, the level of development of a nation is reflected in the level of education of the women, the maternal mortality ratio, the fertility rate and the under 5 mortality rate (UNICEF, 2005).

While these may be valid indicators of health and development, there is the danger of concepts such as maternal mortality or LBW being narrowly regarded as issues to be addressed only by the reproductive health services, while they are in fact indicators of poor access by women to lifelong learning, nutrition, fertility control and many other social and economic factors (Sweetman, 2001). Despite the international focus on ‘safer motherhood’, these indicators continue to be poor in communities where poverty and gender-based inequities persist. There is now a trend of women’s health being understood as a human-rights issue (UN Department of Information, 1995). The ICDP Cairo Conference called for all countries to make reproductive health accessible through the primary health care system to all individuals of appropriate age as soon as possible and no later than 2015 (UN Department of Information, 1995).

1.2.2 Health status and services South Africa

The burden of disease in South Africa has recently been described as a quadruple burden, comprising: poverty-related conditions, emerging chronic diseases, injuries, and AIDS. The top ten causes of premature death are ranked as follows: HIV/AIDS; homicide/violence, tuberculosis, road traffic
accidents, diarrhoeal diseases, lower respiratory infections, low birth weight, stroke, ischeamic heart disease, and protein-energy malnutrition (Bradshaw et al, 2003).

The South African public health services are based on the primary health care approach, with a balance between the preventive, promotive, rehabilitative and curative services (WHO, 1978). The ‘pillars’ of safe motherhood in the South African health services are based on the WHO Safe Motherhood Initiative and include: Choice on contraception; antenatal care; clean and safe delivery; essential obstetric care; and choice on termination of pregnancy (Department of Health, 2002). The mission of the Department of Health for 2004 to 2009 is stated as: “To improve health status through prevention and promotion of healthy lifestyles and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality, and sustainability” (Department of Health, 2004a:4). The strategies to achieve a reduction in LBW in the West Coast / Winelands area, therefore, need to take into account the promotion of healthy lifestyles, and the improvement of the health care system for women of childbearing age.

The health care services in the Western Cape continue to be fragmented by being offered by different authorities (Department of Health, 2004a). In the West Coast / Winelands there are three different authorities: Provincial Administration of the Western Cape (PAWC) responsible for hospital services; regional services responsible for curative clinic services; and municipal services responsible for preventive and promotive services, including the mobile services.

There is a high level of utilisation of antenatal care (ANC) services nationally with up to 92% of women having attended at least one ANC visit for a pregnancy (Department of Health, 2004b). In the Western Cape there is also a high level of medical attendance at delivery, with 57% of women reporting attendance by a doctor and 33% by a nurse only. However, there is some concern about the quality in terms of technical and human quality of care, specifically in maternal health services (Penn-Kekana and Blaauw, 2002).
A situational analysis report written in May 2004 on the obstetric, gynaecological and neonatal services in the Western Cape lists the health services of the West Coast / Winelands region as: Seven Health Sub-districts, one regional hospital, seven district hospitals, three community health centres, 30 mobile clinics, and 72 clinics. Besides identifying the strengths and weaknesses of the services in terms of personnel, training, transport, and neonatal intensive care unit facilities, the report includes some statistics and observations of interest to the problem of LBW, patient education and the prevalence of disability. Unbooked deliveries accounted for only 5.7% of all deliveries in 2002, implying that 94.3% of women had attended an ANC clinic at least once. Some of the concerns and frustrations listed by service providers in relation to the clinic services include: many teenage pregnancies; insufficient pamphlets on various health matters (and most of those available are in English, which is not well understood by patients and staff); many pregnant mothers smoking cigarettes; and many handicapped children. The recommendations relating to clinic-level services include that ANC should be more problem oriented and more attention should be paid to the common causes of neonatal death and spontaneous preterm labour. Better communication between the clinics and labour ward personnel regarding the outcome of pregnancies is also recommended (Odendaal, 2004).

A more recent study to explore factors that impact on the utilisation of maternal health services identified a number of underlying reasons for maternal and infant deaths (Tlebere et al, 2007). One of the factors that have relevance to this thesis is that the quality of care is not always good and this is related to the interpersonal and intercultural competences of health providers. The researchers recommend, among other improvements, that communication with communities and families are enhanced and a health-promoting-settings approach be adopted. Another report on the maternal health services highlights some specific barriers to good quality care in ANC services: patients consulting a different provider every time, which restricts the building of a relationship with one provider; and a lack of privacy in the clinic environment, limiting the possibility of a partner accompanying the patient.
and/or discussing personal issues openly. Interestingly this report states that patients are generally satisfied with the ANC services but also suggests that the expectations of the services by the patients are low (Beksinska et al, 2006).

Although the South African public health sector places a lot of emphasis on services for women and children from an equity point of view, the rural women who reside on farms are likely to have poorer access to health and social services than those in the towns and cities (Standing, 1997). For example, based on the 1998 Demographic and Health Survey (DHS) analysis of data by socio-economic status reveals that only 1.6% of births to women in the richest quintile were delivered without a trained attendant, compared to 29.2% of births to women in the poorest quintile (Smit et al, 2004). Since the range of needs of women at risk of having LBW babies requires a comprehensive approach, the more recent core package approach, which tends to ignore the indirect causes of poor health outcomes in favour of medical procedures, could detract from dealing with rural women’s health issues (Chopra et al, 1998).

According to the South African Every Death Counts Writing Group (2008), it is HIV/AIDS, complications from pregnancy and childbirth, newborn illness, childhood illness, and malnutrition that are the priority challenges to meeting the health related MDGs. While there is high coverage in key interventions such as ANC and having a skilled attendant at birth, the focus needs to be on high-quality services and the integration of HIV/AIDS care, while addressing inequity by reaching the poorest and marginalised populations.

1.2.3 Health status and lifestyles in the Western Cape

Although the Western Cape has almost the lowest HIV prevalence of all the provinces (8.6% in 2001, and 15.1% in 2006) (Department of Health, 2007), it has by far the highest TB rate (841/100 000 in 2001) (Department of Health, 2002). The total fertility rate for the Western Cape is 2.6 children per woman, and 63% of sexually active women between 15 and 49 years old use modern
contraceptive methods, while the teenage pregnancy rate is 14.3% (Department of Health, 2004b).

The rates of LBW (25% in some areas) result in high levels of morbidity even though the Western Cape infant mortality rate is the lowest in the country. Within the West Coast area the rates of LBW vary from 9% to 27% from one local municipality to another, with Matzikama municipality having a rate of 21% in 2002 (DHIS data – personal communication). The LBW rate for the Western Cape was 18.1% in the period October 2003 to March 2006 (Medical Research Council, 2007).

With regards to substance-use patterns, the Western Cape is atypical, with men and women using substances at a much higher level than other provinces (Parry et al, 2002). The national percentage of men smoking is 31%, compared to 44% in the Western Cape. Similarly, the national percentage of women smoking is 8%, compared to 27% in the Western Cape (Department of Health, 2004b).

A study on the health status and lifestyle factors in a sample of 247 male fruit farm workers in the Western Cape described 81% of the men as reporting being current smokers and 68% current drinkers, with 8% reporting never having smoked, and less than 5% reporting never having used alcohol. Health-related examinations revealed that 70% of men had experienced a head injury, the majority being due to being struck by a blunt object. The alcohol abuse, interpersonal violence and chronic under-nutrition, amongst other factors, suggested that a considerable burden of morbidity and a high prevalence of risk factors for chronic illness and disability were present (London et al, 1998b).

In 1995 Dhansay et al described the prevalence and performance of selected risk markers for LBW in women attending antenatal clinics in an area of Cape Town where the LBW rate was 21%. The mean age was 26.5 years and the gestational age at first booking (first antenatal attendance in the public health service clinic) was 21.6 weeks, with 49% being after 20 weeks. Their mean
weight was 62.3 kg, (35.7% underweight, 15% overweight, 22% obese). Having had a previous LBW baby was consistently the best indicator of delivering a LBW baby in the index pregnancy. Smoking, multiparity (≥4), and underweight were also strongly associated with LBW. It was suggested that these risk markers could be used in the primary health care (PHC) clinics and require the minimum of equipment and access to prior reproductive history.

Fetal Alcohol Syndrome (FAS) prevalence in this region was found to be higher than anywhere else in the world at 40.5 – 46.4 per 1000 in 1999 in first-grade school children, in a high risk farming town typical of the rural Western Cape (May et al, 2000). This had worsened to 65.2 – 74.2 per 1000 a few years later (Viljoen et al, 2005). Data was gathered from all the mothers of the children who were screened for FAS. Questions covered: childbearing pattern; drinking patterns before, during and after index pregnancy; socio-economic status (SES) indicators; demographic variables; and other risk factors. The results showed that the mothers of FAS children reported much greater current use of alcohol in general, and during pregnancy, than mothers of control children (FAS mothers – 12.6 drinks per week, control mothers – 2.4). Interestingly, FAS mothers reported many life problems at the time of the index pregnancy, and a higher number smoked than in the control group. Another important finding was that 86% of FAS fathers were heavy or problem drinkers, with only 38% in the control group (May et al, 2000).

It is clear that many of the women living on the commercial farms in the Western Cape are at high risk for delivering LBW babies as so many of the individual and environmental risk factors described in the literature seem to fit their profile. The direct risk factors for LBW are prevalent: high rates of smoking; alcohol use in general and in pregnancy; and poor nutritional intake, resulting in under-nutrition and anaemia.

Health care services are available, but often not easily accessible due to distance, transport costs and the restrictions placed on workers by the farmers not to go to a clinic unless they are very ill. The quality of the services at present is limited partly due to the skills and attitudes of the staff towards farm
workers and partly due to resource constraints for counselling and support. There are very few organisations the farm workers can receive any assistance from, especially related to smoking and alcohol problems.

The underlying factors influencing women’s health, and that of their offspring, seem to be related to a lack of opportunities and freedom to end the cycle of poverty, as well as gender-based limitations. It is these underlying factors, as well as the more obvious health-related behavioural factors, that need to be understood, and health promotion and development strategies designed and implemented, before the LBW rate is reduced to acceptable levels.

1.3 Rationale for ‘woman-held health handbook’

Cohen (1998) suggests that part of the process of empowerment of women is the provision of information. The information should be provided in a manner and language the participant understands, and thereafter she can choose when and how to use that information. In the structured review by Rowe et al. (2002) a number of trials of communication tools and methods were selected to evaluate if patient satisfaction, knowledge and understanding, compliance with advice or treatment, quality of life, and psychological health outcomes of women in maternity care were positively influenced by these tools and methods. The authors reviewed a range of trials that tested information provision on antenatal tests, communication skills training of service providers, and the women-held maternity records. Although there was no strong evidence of the efficacy of the various educational interventions, they concluded that “these trials point to potentially useful interventions for improving communication between health professionals and women in maternity care” (Rowe et al, 2002:82).

Patient-held records have been successfully used for a few decades; however, they are mostly in the form of the child health card, and the antenatal card (WHO, 1994). A review by Dickey (1993) concluded that there were potential advantages of patient-held mini-records for the general adult population: improved performance rates of preventive care; improved continuity of preventive care; low cost; practice promotion for prevention-
oriented providers; and improved patient involvement in health care. Jerden and Weinhall (2004) reported on a health booklet developed for Swedish adults, and concluded that patient-held records with health messages would be useful for promoting lifestyle changes through primary health care.

Based on the preliminary studies in the Western Cape (Tversky, 2001; Maart, 2003; Batiste, 2003), the literature review, and the fact that the Western Cape Provincial Health Department was planning a new ‘patient held antenatal record card’, I decided that a health handbook for each woman to keep could improve some health systems gaps and contribute to individual health promotion. The ‘patient held antenatal record’ was likely to only record the current pregnancy, while the WHH could record all past and current pregnancy outcomes, and service provision and risk information. It could also contain accessible health information, as well as key individual health records and counselling checklists, relevant to women living in the rural Western Cape.

1.4 Study design

This study, or Project, as I refer to it, aimed firstly to explore the context and experiences of women in the farming area of the West Coast / Winelands region of the Western Cape. Its second aim was to design and test a WHH as a tool to increase women’s health related knowledge and control over their general health and reproductive choices.

The methodology was mainly qualitative, with some quantitative measures being used in the final phase of the development process.

1.4.1 Study setting

Since the towns of Vredendal (Matzikama municipality) and Stellenbosh (Stellenbosch municipality) are at opposite ends of the West Coast / Winelands region, and both have significant wine-producing farms surrounding the towns, they were chosen as the research sites. Further details on these two sites are given in Chapter 5 in the situational analysis that was carried out as part of the formative phase of the project.
1.4.2 Research process

Participatory action research (PAR) was the overall approach that guided the methods and process of this Project, since the potential benefits to the research participants go beyond the provision of data to education and collective action. The origins of PAR can be traced to research in developing countries of the world where it has been recognised that research needs to be strongly linked with empowering education and action (Liamputtong & Ezzy, 2005). PAR is particularly suited to the context of the farm-based women as they can be viewed as marginalised and part of an oppressed class in the South African society. Since my involvement in health-related research and development is based on the recognition for the need for social justice and equal access to resources and opportunities for achieving good health, I find PAR an appropriate approach and set of methods to apply in the context of aiming to reduce LBW in the farming areas.

The research process was divided into three phases with Phase I exploring the context and experiences of the women living and working on the rural farms, and eliciting ideas for the nature and contents of the WHH. Phase II included the design, layout and pre-testing of the first version of the WHH. Finally, Phase III was a field test of the next version of the WHH, in the two study areas. This phase ended with a final version of the WHH being reproduced and being made available to interested organisations in the Western Cape.

As proposed by the P-process model for the development of health-communication materials (Health Communication Partnership, 2003), the research participants were divided into three distinct groups, and were referred to as primary, secondary and tertiary audiences throughout the three phases. The primary audience was the farm-based women in the two sites; the secondary audience was the health service providers at the local level; and the tertiary audience consisted of health managers at regional and provincial level, and health-related experts such as university academics and senior medical officers.
Data collection methods included mainly qualitative data collection tools, with some quantitative tools included in Phase III.

- Phase I and II used focus groups and key informant interviews with different audiences.
- Phase II also made use of document reviews in order to develop the contents of the WHH
- Phase III made use of a pre- and post-questionnaire for the primary audience participants of the field test. The secondary audience participants were interviewed individually.

1.5 Chapter summary

The health of women is intertwined with the context in which they live and the roles they play. Various international organisations have long recognised the importance of the health and education of women as contributing to the development of communities. Women living in poor circumstances, especially where there is gender-based inequity, are at high risk of producing LBW babies. These babies are more vulnerable to various health problems, delayed milestones, and poor growth.

Some of the areas in the region of the West Coast / Winelands report rates of LBW as high as 27%. Many of the typical socio-economic factors putting women at risk of having LBW babies are present in the region, as well as historical patterns of substance abuse. The rural population is predominantly ‘coloured’ and Afrikaans speaking, with many living and working on farms or in the small towns.

The health services in the West Coast are typical of rural primary health care in South Africa, with a combination of fixed clinics and health centres in the towns, and mobile clinics that visit the farming areas. Although there is high utilisation of the health services, especially for ANC, the maternal and infant outcomes are not acceptable. There is a need to improve the services in terms of the systems as well as the health promotion activities related to healthy childbearing.
This Project is part of the response by the School of Public Health of the University of the Western Cape to the problem of LBW in the West Coast/Winelands region. While it is recognised that changing the rates of LBW is a long-term goal that requires multi-sectoral interventions, an intervention suitable for implementation within the health sector has been developed. The WHH is aimed at improving the likelihood of a woman having a healthy pregnancy, with a satisfactory outcome, through improved recognition of high risk women, and support by the health service providers of women with poor nutritional status and or substance abuse. It is also aimed at improving the health literacy of the women, thereby increasing their confidence to make healthy decisions and make demands on the service providers.

The WHH has been developed and tested through a three-phase process which is reported on in this thesis. After the literature review chapter, the methodology for the whole Project is outlined. The chapters that follow cover the methods and findings for each phase individually. A final reflective chapter concludes the thesis and makes recommendations for the successful use of and further evaluation of the WHH.
CHAPTER 2 LITERATURE REVIEW

2.1 Introduction
The focus of this review is initially on the importance of LBW as a public health issue, and then on factors relating to the cause of intrauterine growth retardation (IUGR). Then, the specific context and prevalence of risk factors for LBW in the West Coast / Winelands region is described, based on preliminary studies and the literature. This is followed by a section covering interventions, focusing on health promotion and preventive programmes, and not the management of LBW infants per se. Finally, the application of information, education and communication strategies in reproductive health are summarised, and the specific process of developing print media for individual use is described.

2.2 Low birth weight

2.2.1 Effects of low birth weight in children and adults
In a study of the association between IUGR and cognitive development and behaviour in the first six years of life, it was concluded that deficits in performance of the IUGR group began to appear between one and two years of age. While the physical size of difference was less at four and seven years of age, neurological dysfunction has been particularly profound in males of low socio-economic status and is associated with attention deficits, hyperactivity, clumsiness and poor school performance (Martorell, 1998).

The prevalence of type 2 diabetes and impaired glucose tolerance was found to fall progressively between those who were small and those who were large at birth. People who were thin at birth also tend to be insulin resistant in adulthood and to have metabolic changes suggestive of a bias towards fuel conservation. This may be the link to adult obesity in populations of high LBW rates (Leon, 1998).
The British Hertfordshire school study shows evidence of the relationship between birth weight and mortality from coronary heart disease (CHD). Amongst 15,726 men and women, death rates from CHD fell progressively with increasing birth weights in men and women. These findings were confirmed in a study of 1,586 men in Sheffield, England that showed that it was particularly people who were small at birth as a result of growth retardation, rather than those born prematurely, who were at increased risk of the disease. Many studies have examined the relationship between LBW and blood pressure. A positive relationship is found even when controlling for socio-economic factors (Leon, 1998).

A study of a sub-sample of the South African “Birth to Ten Study” focused on the relationship of birth parameters and growth during childhood and dysfunction of the pancreas. The sub sample consisted of 152 children born full term, but with LBW. Metabolic studies were performed at seven years of age. LBW children appeared to process proinsulin to completion more efficiently than the other children. The researchers suggest that this may represent the ultimate compensation of the beta cell. They also found an association with weight gain velocity and LBW, and explained that LBW children seem to gain weight in the form of fat rather than muscle. They conclude that there is a relationship between maternal nutrition, LBW and the predisposition for diabetes (Gray et al, 2001).

There is no doubt that LBW is an important predictor of both infant survival and thriving, as well as chronic diseases in adulthood and, therefore, that it should be regarded as an important public health issue worthy of dedicated strategies aimed at preventing its occurrence as far as is possible.

2.2.2 Causes of low birth weight

A case control study was carried out in Brazil in 1991 on 712 mother – baby pairs who had IUGR to assess the levels of vitamin A, iron and folate in maternal blood and cord blood, and risk factors for IUGR. A total of 84 variables were assessed from seven different categories (nutritional, maternal stature, weight gain, work, antenatal care, toxic exposures, demographic and
socio-economic). Eight variables were found to be significantly associated with IUGR in the following ranked order: maternal body weight; per capita income; cigarette smoking; weight gain; prior LBW; maternal ferritin; beer intake; and coffee intake (Rondo et al, 1997).

A similar range of risk factors was found in an analysis of the 1988 National Maternal and Infant Health Survey (NMIHS) in the US – race, age, mother's education, prenatal care, prematurity, gestational age, smoking and alcohol consumption were significantly related to LBW (Faden et al, 1997). In addition, the relative risk of having a second LBW baby, assessed by Raine et al (1994) in a retrospective cohort study, was found to be as high as 7.0. (either preterm or small for gestation age (SGA)). They showed that there is a tendency for women to have repeat LBW deliveries despite adequate prenatal care, and proposed that there is a need for a better understanding of the underlying patho-physiology of preterm and SGA delivery.

For this review risk factors that are modifiable, on an individual behavioural basis and a health systems basis, are explored further; i.e. nutrition, smoking, alcohol, health education and support.

**Nutrition**

Pregnancy places additional nutritional demands on the body. It is both the nutritional and health status of a woman before she falls pregnant, as well as while she is pregnant, that has a bearing on the adequate growth of the foetus. Fetal growth has been correlated with maternal pre-pregnancy weight as well as with weight gain during pregnancy. Pregnancy increases the demand for iron and folate due to the increased haematological activity. Poor maternal nutritional status, comprising protein-energy malnutrition and micronutrient deficiencies, is an important cause of IUGR (Kramer, 1993; Rondo, 1997). In addition, maternal stature, due to the mother's own childhood under-nutrition and/or infection, is recognised as a factor and is responsible for the intergenerational nature of LBW (ACC/SCN, 2000), as well as the higher risk of obstructed labour as a result of cephalo-pelvic disproportion (Mora, 2000).
Poor health and nutrition are also associated with repeated, closely spaced, pregnancies that progressively reduce women’s nutritional reserves to the point of nutritional depletion, known as the maternal depletion syndrome (Mora et al, 2000).

**Substance use in general**

Although substance use can include alcohol, cigarettes, over-the-counter medication, and illicit drugs, the emphasis in this review will be on alcohol and cigarette use as these are the most commonly used by the Western Cape farm-based women.

Blumenthal (1998) states that there are major factors based both on physiological and cultural environment that place women at risk of substance abuse. She lists a complex array of factors such as: physical and sexual abuse, poverty, anxiety, depression resulting from multiple role expectations, poor self-esteem, and dead-end or no employment, low education, single parenthood, divorce, and loneliness. Exactly how these factors may predispose an individual to substance abuse and what protective factors may exist, she suggests, are still open questions.

Graham (1987:55) describes the paradox of substance use when she states that “like tranquillizers, alcohol and coffee, with which the consumption of cigarettes is associated, it works to promote women’s sense of well-being, while threatening their physical health”.

Unintended or unplanned pregnancies are an issue in understanding LBW mainly because lifestyle factors such as smoking, drinking and poor nutrition will affect the fetus while the women doesn’t know or doesn’t expect to be pregnant. In the USA as many as 50% or pregnancies are unintended even though 62% of women practice some form of contraception (Moos, 2003).

In order to make sense of the interaction of various risk factors leading to substance-use problems amongst women, Alegria (1998) designed a
conceptual framework. The model draws on the Stress-Vulnerability Model, Family Interaction Model, and Social Learning Model. Although this framework focuses on Hispanic women and their drug use in the USA, the categorisation of the factors could be similar when considering the farm-based women in the Western Cape.

The first category is Individual or Personal Factors, and includes: socio-demographics; biological/genetic; psychoemotional; experiential; and cultural. The next category is the Interpersonal Factors, and includes: family interaction and friend integration. The third category is the Neighbourhood Characteristics, which covers: socio-demographics; neighbourhood norms; neighbourhood opportunities; and neighbourhood risks. The fourth category is Institutional Factors: institutional resources; incarceration experience; and drug treatment barriers/ participation. The final category is the Outcomes (of drug use): problem behaviour; health; and functional impairment. This is a useful separation of the factors to facilitate a better understanding of drug use, and many are applicable to alcohol use and some to smoking.

**Smoking**
The negative effect of maternal smoking on birth weight was first reported in the 1950s and many studies since then have confirmed this finding. It is proposed that smoking could affect intrauterine growth in at least three different ways. The first mechanism is fetal hypoxia due to reduced maternal blood supply to the placenta. The second is the effect of nicotine causing uterine vasoconstriction. And lastly, cyanide compounds may interfere with fetal oxidative metabolism (Horta, 1997). A study of 880 women who gave birth in a Cape Town public tertiary hospital found that the smokers were at higher risk for SGA, abruptio placentae and a mean birth weight of 256 g lower than for non-smoking mothers (Odendaal et al, 2001).

In a large historical cohort study in Brazil in 1993 it was established that there was a direct dose-response association between the number of cigarettes smoked and the risk of growth retardation. Women whose partner smoked were also at higher risk of having a child with growth retardation. They
concluded that the effect of maternal smoking seems to be attributable to IUGR rather than preterm delivery (Horta, 1997). Passive smoking in pregnancy has been shown to double the risk of delivering a SGA baby (Dejin-Karlsson et al, 1998).

In the 1980s researchers such as Hilary Graham (1987) were concerned about the emphasis of smoking research being on the epidemiology and not on the psychological and social aspects of smoking in women. Through a study of women in England caring for pre-school children in low-income families, she explored some of the complex links between women’s poverty, caring and smoking. The study suggests that for a significant minority of mothers, poverty and caring combines with low levels of physical and emotional energy, and with sleep problems and feelings of isolation, resulting in a condition called ‘caring-in-poverty’. It seemed that smoking was a coping mechanism to deal with this combination of factors.

Kahn et al (2002) investigated smoking patterns of women before, during and after pregnancy. While women are more likely to stop smoking or at least reduce smoking during pregnancy than at any other time, they were smoking again within one year postpartum. The authors examined socio-economic, demographic, and clinical risk factors associated with maternal smoking, using a survey in a nationally representative cohort of women in the US (N= 8285). The results were used to predict the likelihood of women smoking before, during and after pregnancy. Low education, low income, other household smokers, and alcohol consumption, were found to form a cluster of positive predictors. Kahn et al’s major finding was that smoking rates among women with a college degree decreased 30% from before pregnancy to 35 months postpartum, but did not change among the least educated women. This means that women with less education were more likely to smoke before conception, less likely to quit during pregnancy, and more likely to relapse after delivery. As in other studies on smoking, a strong relationship was confirmed between the presence of other household smokers and an increased risk of postpartum relapse. While maternal depressive symptoms
were associated with smoking status, they were not associated with a change in smoking status.

Another study focused on gaining insight into attitudes and perceptions about smoking during pregnancy and barriers to quitting among low-income, ethnically diverse women in Minneapolis, USA. Dunn et al (1998) used focus groups with 57 women participating altogether. They found that participants were aware that smoking during pregnancy is harmful, and most took steps to reduce smoking in pregnancy. However, this reduction was accompanied by beliefs that rationalized moderate levels of smoking. Personal barriers to quitting included being around others who smoked, feelings of stress and boredom, addiction, and not believing smoking is dangerous enough. Participants valued pregnancy-related advice from female friends and relatives more than from professionals.

**Alcohol**
As far back as 1973 the effects of heavy alcohol consumption during pregnancy was described by Jones et al (1973). They coined the terms FAS (fetal alcohol syndrome) and FAE (fetal alcohol effects). Babies exposed to large amounts of alcohol in utero are typically born with LBW.

Children who are born with FAS present with a combination of classic IUGR effects and, therefore, can be viewed as a sub-group of LBW infants. They are diagnosed on the basis of facial and other dysmorphology; diminished structural growth for age; developmental delay (intellectual and social skills); and, when possible, a maternal drinking history (Institute of Medicine, 1996). Since the rate of FAS in the Western Cape is very high - up to 89/1000 in some areas (May et al, 2007) - the use of alcohol in pregnancy is an important risk factor to consider.

The major maternal risk factors associated with FAS and other alcohol-related birth defects are summarised by the US Department of Health and Human Services (2000): socio-demographic – over 25 years of age; parity greater than three; single, divorced or separated; low socio-economic status; working
in a male dominated occupation; unemployment; and social transience. Lifestyle risk factors include: binge drinking, long history of drinking, heavy drinking male partner, heavy drinking other family member, cultural tolerance of heavy drinking; cigarette smoking; use of multiple substances; sexual dysfunction; and loss of children to foster or adoptive care. Low self-esteem is also listed.

An analysis of maternal risk factors for FAS in the Western Cape using the data collected in the FAS prevalence studies, during which controls were identified from the child/mother pairs where the child did not have FAS, was carried out. It was established that women with FAS children, besides drinking more alcohol, were also more likely to be: poorer; less religious; of lower education level; higher gravidity; not legally married; and smaller in anthropometric bodily measures. This led to the conclusion that the high-risk women demonstrated poor nutritional status and second-generation FAS exposure (May et al, 2005).

A collective case study by Cloete (2005) on the farms in the Stellenbosh area identified a number of layers of factors that contribute to the drinking patterns of women. Her four themes include: nothing comes easy; trying to make this life bearable; rekindling hope; and, we break bread with little. She concludes that the women struggle to participate in health-promoting occupations due to the historical and current context in which they live, and have suffered major traumatic events in their lives. They are trapped into the farm-worker life with little opportunity for further education, and struggle to fulfil their roles as daughters, wives and mothers. They are under constant stress due to their poor living conditions, and view themselves as victims of circumstances that they cannot change. Their risk-taking behaviours, such as alcohol abuse, are understood as coping mechanisms to deal with the stress and challenges of living in the oppressive farm context and without alternative leisure time and entertainment opportunities.
**Socio-economic and educational level**
Hughes and Simpson (1995) summarise the work of many authors and concludes that socio-economic status is one of the most powerful risk factors for poor health outcomes. This applies to LBW and is associated with various measures including occupation of the mother and/or father, income, and education. Also, individual behaviour is linked to culture and it is therefore difficult to separate the effects of individual behaviour and social class in relation to LBW. Smoking is identified as a behaviour that is more common among women in lower income groups, whereas alcohol problems are not specific to this group.

An extensive and complex review carried out by Kramer et al (2000:200) on the relationship between socioeconomic disparities and birth outcome concluded that “quantitatively important mediating factors of socio-economic disparities in IUGR include cigarette smoking, low gestational weight gain and short stature. Alcohol, drugs of abuse, and maternal work and physical activity may explain a small, additional portion of the disparity between socio-economic groups.” Kramer et al (2000) also suggested that living in poverty leads to an accumulation of multiple chronic stressors, which together affect pregnancy outcome to a greater extent than if one considers the contribution of each factor individually.

While being employed has obvious positive benefits to a woman in terms of income and social support, those whose jobs require heavy physical labour may also be at higher risk of LBW (Chomitz et al, 1995).

**Psychological stress**
It is difficult to separate the range of risk factors that put a woman at risk of a LBW baby, but many researchers are concerned about the psychosocial stressors experienced by women during pregnancy. A case-control study in the US on a sample of 2378 mothers showed that the risk of a very low birth weight (lower than 1500 g) is one-and-a-half times greater if the mother perceived that she ‘almost always’ felt stress during pregnancy. The study also identified other stressors that were associated with very low or
moderately low birth weight (between 1500 and 2500 g); these included getting back together with a partner, experiencing a major injury, accident or illness (odds ratio, 1.7), pregnancy denial (1.4 – 1.6) and unhappiness about the pregnancy (1.3) (Sable and Wilkinson, 2000).

While interpersonal violence, and specifically domestic violence, may not directly increase the risk of LBW, the psychological coping mechanisms such as smoking, drinking and poor nutrition may. Miller (1998) suggests that one mechanism that may link victimisation experience to alcohol and drug problems is post-traumatic stress disorder. She further proposes that alcohol and drug use may be a more general coping mechanism for victimization experience. Chomitz et al (1995) add that victimisation of women during pregnancy may lead to a neglect of chronic medical conditions or to delayed attendance at prenatal care.

**Health knowledge**

An interesting study by Mvula and Miller (1999) investigated the relationship between patient knowledge on seven health behaviours and LBW. Data was collected at a hospital in New Orleans where 538 women were interviewed after giving birth. Information on patient characteristics, health-behaviour knowledge and birth weight was collected. The results showed that the majority of women knew all seven health-behaviour items – including avoidance of alcohol and drugs, taking of prenatal vitamins, and following a proper diet. Factors found to be associated with LBW included inadequate prenatal care, absence of health insurance and a prior LBW infant. Mvula and Miller (1999)They concluded that patient knowledge was better than previously thought, and while other factors were associated with LBW, overall knowledge was not.

**Access, content and quality of women’s health services**

A large study to assess the adequacy of maternal and neonatal services across 49 developing countries was undertaken in the late 1990s (Bulatao and Ross, 2002). Various components of the service were rated on aspects ranging from policy and support services to the actual care received. Although South Africa fell within the ‘moderate’ overall rating, the general comments
made on the whole sample of countries are relevant. It was found that while relatively good ratings were recorded for immunisation services and counselling on breastfeeding, very poor ratings were given for emergency obstetric care in rural areas, safe abortion, and HIV counseling. Health promotion was scored lower than policy, resources, monitoring and evaluation, and training. The paper concludes by stating that “improving services requires moving beyond policy reform to strengthening implementation of services and to better staff training and health promotion” (Bulatao and Ross, 2002:726). While family planning services are widely available in South Africa at clinic level, there are many factors related to knowledge, attitudes and beliefs of women and their sexual partners that prevent the women from using contraceptives effectively and planning pregnancies (Hulsey et al, 2000; Kharel et al, 2003).

Interestingly, there seems to be controversy as to whether antenatal (or prenatal) care really has any effect on pregnancy outcome (Fiscella, 1995). According to Alexander et al (2001), in the USA there has been an increase in LBW and pre-term births, while the infant mortality rate has declined. They suggest that this reflects a failure of preventive public health approaches, and the success of high-tech medical advances. Only if antenatal interventions are developed to address specific underlying mechanisms that lead to poor birth outcomes, will these vehicles facilitate a reduction in pre-term and LBW deliveries.

The standard procedures carried out in ANC include specific medical procedures, and health education discussions. The medical procedures include blood pressure measurement, urine test, blood analysis, weight measurement, pelvic exam, and obtaining a health history. The health messages typically cover advice on vitamin use, proper diet, breastfeeding, avoidance of tobacco, alcohol and drugs, and proper weight gain. However, there is little if any evidence as to which of these components have any effect on birth outcomes directly (Alexander et al, 2001).
Comprehensive ANC services have standard procedures, as well as various additional services such as: outreach efforts to improve enrolment, social work, psychosocial counselling, social support, health education, transportation, home visiting, and follow-up services. Alexander et al (2001) propose that the comprehensive approach should be considered, particularly for low-income populations.

The issue of how many antenatal visits a woman should have, and when in the pregnancy, has been studied in Zimbabwe. A new antenatal programme with a reduced number of visits and more objective driven content to the visits was compared to the old programme by allocating three clinics to continue the old programme, while four took on the new one. The median number of visits was four on the new and six on the old programme. It was shown that there was no difference in the pregnancy outcomes, and fewer referrals and pre-term births from the new programme. The benefits were described in terms of more time being available for each woman with the same member of staff, less demand on resources as some routine tests were not repeated at all visits, and the new programme providing the possibility of shifting some staff to focus on special risk groups (Munjanja et al, 1996). These authors’ findings concur with the Cochrane review by Villar et al (2001), in which patterns of routine ANC for low-risk pregnancy were reviewed. A reduction in the number of visits was not associated with an increase in any negative maternal or perinatal outcomes. Care provided by a midwife or GP was favoured by women above care by an obstetrician or gynaecologist.

The ‘Saving Babies 2003-2005’ report (MRC, 2006) found that the top three avoidable factors in neonatal deaths in South Africa were:

1. Never attended antenatal care;
2. Booked late in pregnancy; and
3. Inappropriate response to decreased fetal movements.

The report proposed that on a community based level pregnant women should:

1. Initiate and attend antenatal clinic early in pregnancy;
2. Have basic knowledge of key aspects of pregnancy including danger signs of pregnancy and labour, the effects of HIV on pregnancy, where they are to deliver, how they will get there, and their responsibilities; and

3. Have a basic knowledge of how to look after their babies, recognise danger signs, and where and when to seek help.

Examining each of the main known risk factors related to LBW makes it clear that no one behaviour or risk factor can be prioritised for intervention, in order to reduce LBW. Rather, any intervention programme needs to aim to improve women’s social and income status, as well as negative health-related behaviours and access to appropriate health services.

2.2.3 Risk factors from preliminary studies and other literature

Studies were carried out in the Stellenbosch and Vredendal areas as part of the UWC Healthy Childbearing Project (funded by the National Research Foundation), in an attempt to understand the ANC being received by women living on farms, as well as the lifestyle risk factors related to healthy childbearing. As part of the Health Childbearing Project, Tversky (2001) described the antenatal care consultation from the perspective of the health workers and the women, and found that the interaction was not always one of respect and trust. She established that insufficient screening and counselling was done relating to smoking and drinking habits during pregnancy, and that the norms and values relating to the use of alcohol and tobacco by women living on the farms were promoting the use of these substances.

Maart et al (2008) explored the knowledge, attitudes and practices of farm women regarding pregnancy in Stellenbosch and Vredendal, using qualitative data-collection methods. It was found that most women do have some level of understanding of the signs of pregnancy and that nutrition, smoking and drinking all influence the development of the fetus. Most of the myths around pregnancy relate to preventing premature labour or providing explanations of how the umbilical cord gets around the infant’s neck. It was concluded that these were generally harmless beliefs. However, it is of concern that some
women would prefer to have a small baby, and none of the women knew what a normal birth weight is in kilogrammes. While most women have the knowledge about a healthy pregnancy they are not able to act on this due to very poor wages, smoking and drinking being common established habits, and little support from the community or health services to reduce these habits during pregnancy. The women and health workers agreed that many pregnancies in their community are unplanned and that there is a high rate of teenage pregnancies. Some of the respondents suggested that it is fashionable for teenagers to have babies and some even plan to fall pregnant in order to access the child care grant.

The same study reported that the mobile services visit farms about once a month but only consult with people who are waiting for the service, and do not seek people for follow-up. Improvements in the ANC services and their links to family planning services were recommended, as were the development of support groups that could be run by farm health workers or health promoters.

Gordon (2005) completed a qualitative study to assess the nature of and extent to which health promotion messages were applied by pregnant women in the Stellenbosch area. The nine participants reported that besides attending the health talks on various topics at the antenatal clinic, they also received useful information from their own mothers. The changes they made during their pregnancies, attributed to the health education, were in eating, smoking and alcohol-use patterns. While they assessed the methods of communication used by the health promoter as good, they felt that some women may not follow the presentations due to poor literacy and concentration and memory problems. Various barriers to applying the healthy lifestyle habits during pregnancy included high stress levels related to partner relationships and child care roles, addiction to the substances, and gossiping within the community. It was also noted that not all women attended the educational sessions, and that those at highest risk for poor pregnancy outcome or complications may be the ones not attending the sessions.
Jackson et al (2007) reported on a case-control study to analyse the risk factors for LBW in a sample of women who gave birth at a secondary hospital in the West Coast / Winelands Region. The study subjects included 200 women who had just given birth to LBW babies (cases), and 200 women who had just given birth, in the same hospital, to normal weight babies (controls). Of the cases, 47.5% were born preterm (<37 weeks gestational age) and 52.5% were term infants, representing a large proportion of IUGR in the population. The socio-demographic risk factors found to be predictive of LBW included: having primary school education only (odds ratio, 2.36), and living in a shack (3.10). Low socio-economic status was not predictive since most respondents were of low socio-economic status. Pregnancy-related factors that were significant included: having a previous preterm birth (2.65), having a previous LBW baby (3.86), a history of pregnancy complications (1.92), and problems in the current pregnancy (3.33). The mean number of weeks gestation at the first antenatal care visit was 22 weeks in both groups. Smoking was the strongest lifestyle related predictor of LBW in this predominantly low-income population (adjusted OR 2.67 [95% CI 1.69, 4.20]), with 61% of the cases admitting to smoking in pregnancy, compared to 35.4% of the controls. Of those who smoked, 32.2% of the cases and 25% of the controls smoked more during pregnancy. The alcohol-LBW relationship was also significant (OR 2.15 [95% CI 1.37, 3.38]). However, the combined use of alcohol and tobacco was found to increase the risk of LBW beyond that of the individual effects of the substances (OR 3.82, [95% CI 2.23, 6.55]).

The most relevant conclusions of the preliminary studies are as follows:

- The system of record keeping from one pregnancy to the next reduces the possibility of a high risk woman being identified (Tversky, 2001);
- The communication between health workers and women using the services is often judgemental and one-way (Tversky, 2001);
- Most women have a basic understanding of how to have a healthy pregnancy, but are not always supported to do this because of individual and environmental constraints (Maart et al, 2008)
• Although there are some health promoters providing education and support for pregnant women, the sessions are not uniformly presented to all women and are not always accompanied by appropriate written take home materials (Gordon, 2005).

• The rate of smoking and alcohol use by women in the region is high, and these substances are strong predictors of LBW (Jackson et al., 2007)

A critical issue in the farming sector of the Western Cape is the ‘dop’ system which was historically established by using alcohol as a medium of payment of and social control over, employees. Although this system is illegal and has declined dramatically in the past decade, there is still some evidence of the practice, especially in the more rural areas. The associated legacy of widespread alcohol abuse is enormous and impacts on the social and physical well-being of farming communities (London, 1999). In another study by London (2000), it was concluded that workers with past experience of the dop system were 9.8 times less likely to be abstainers than colleagues without exposure to the dop system. Another problem is the manufacture and sale of cheap wine in foil bags, commonly known as ‘papsakke’. A survey of 461 farm workers in the Vredendal, Franschoek and Stellenbosch areas established the prevalence of and risk factors for papsak use and problem drinking. It was found that 69% were current drinkers, 73% were positive on the CAGE alcohol problem screening tool, and there was no gender difference (McLoughlin, 2007). A strong association (adjusted OR 2.8) between preferred papsak consumption compared to other alcohol types and a positive CAGE test was found, suggesting that papsakke are associated with alcohol dependence more so than other types of alcohol. Employer-provided housing and non-labourer occupations were negatively associated with a positive CAGE test. (The CAGE is a widely used set of 4 questions to screen for possible alcohol problems. The acronyms is derived from the 4 key words in the questions: Cut –down; Annoyed; Guilty; and Eye-opener)
An anthropological study carried out in 1999 on a farm in the Stellenbosch area emphasised that one has to understand the underlying power dynamics between the farmer and farm workers, as well as the fact that the drinking ritual is rooted in structural violence that cannot be reduced to a problem at the individual level. The workers do not receive a wage that in any way supports a healthy lifestyle for their family, so they seek reward in the weekend drinking parties. Interpersonal violence perpetrated by men and women was observed, and occurs mainly under the influence of alcohol. Children and adults are the victims of the violence which includes shouting, beating, and stabbing (between adults), and rape. Often treatment is not sought for wounds or to report incidents such as rape to the police because of the farm workers’ fears that they will be evicted from the farm if the farmer knows of the incidents (de Kock, 2000).

The main route used by workers to escape their alcohol habits is to convert to evangelical Christianity and to accept that alcohol is evil and no longer condoned. It is unclear whether it is their new faith which enables them to stop drinking or the new found community support of others who are also ‘bekeer’ or converted (de Kock, 2000).

Information was gathered in a study to assess alcohol use by pregnant women in three underprivileged areas of the Western Cape – two of them small towns and one within the Cape Metropole. The sample of 636 women was drawn from 17 antenatal clinics across the three areas, and each was interviewed once only. The results provide a useful description of women attending clinics in predominantly ‘coloured’ areas. The dominant characteristics were: between 20 – 30 years of age; single (57%); Christian (72.8%); and the majority had formal education of between 8-10 years. As high as 42.8% admitted to varying degrees of alcohol ingestion during pregnancy, with beer being the drink of choice (91.5%), and the drinking pattern being of ‘binge’ nature. Smoking was reported by 45.6% altogether, and 29.6% admitted to smoking and drinking. This left only 41.2 % of women using neither alcohol nor cigarettes. Of note is that the women who were drinking the most had the highest level of awareness of the possible effects of
substance use in pregnancy (Croxford and Viljoen, 1999). High levels of smoking (39%) were also reported in a study of women who had just given birth in a Cape Town hospital (Odendaal et al, 2001).

**Summary of risk factors, facilitators and barriers in study region**

It is clear from the literature and preliminary studies that many of the women living on the commercial farms and in small towns in the West Coast / Winelands region are at high risk for delivering LBW babies as so many of the risk factors seem to fit their profile. The framework by Alegria (1998), described earlier in this review, is used here to categorise the characteristics of women at highest risk of LBW in the West Coast / Winelands region and to identify the negative consequences of their context and lifestyles.

**Individual/personal factors:**

Women with LBW babies are typically of poorer socio-economic status and lower education level, and could be of any age within their reproductive years. The direct lifestyle-related risk factors for LBW are prevalent: high rates of smoking; alcohol use in general and in pregnancy; and poor nutritional intake resulting in under-nourishment and anaemia (Dhansay et al, 1995; Jackson et al, 2007). The women experience many stressors related to insecurity in their environment, conflict in interpersonal relationships and living in poverty (Cloete, 2005). Commonly they deal with the high levels of stress by smoking and drinking. The poorest women drink the worst alcohol – papsak wine (McLoughlin, 2007). Although most women have some understanding of the lifestyle risks told to them at the clinics, some are intellectually not able to understand the issues well enough to make changes (Gordon, 2005).

There are a few factors that could militate against some of the harmful behaviours and the impoverished environment in which they live. The women do have some knowledge and awareness of what a healthy pregnancy is, and most believe that a bigger baby is a more desirable outcome than a small baby. Although there are some beliefs that are commonly held relating to how the umbilical cord may end up around the baby’s neck, or how one may cause early labour, none of these myths actually cause any harm (Maart et al, 2008).
The women display some sense of hope in the future despite their difficult circumstances and low self esteem (Cloete, 2005)

Interpersonal factors:
Family and friends seem to have the potential to strongly negatively influence a woman in relation to using substances, and smoking and drinking by women is not seen as deviant. However, women do value the information acquired from their own mothers regarding pregnancy and childcare (Gordon, 2005). Since there is little to do on the farms besides farm work and house work, women have poor activity balance in their lives and turn to drinking in groups in a home or outdoors, to pass the time, especially on weekends (Cloete, 2005; McLoughlin, 2007).

The violent interpersonal interactions that take place on the farms, particularly between partners, are frequently reported and alcohol plays a central role in this, especially when both partners have been drinking (London, 1999; de Kock, 2000).

For those who are not able to further their studies or skills training, working on the farm is one of the few employment opportunities they will have, thus the cycle of being trapped in a small poor community is perpetuated, possibly resulting in another generation with poor life skills and negative health related behaviours (Cloete, 2005; Maart et al, 2008).

Neighbourhood factors:
The farming area consists of small towns and large farms, with a lot of movement of workers within and between these two settings. On the farms the workers are often accommodated in very rudimentary structures in small groups of families, and sometimes basic services such as electricity and running water are not available (de Kock, 2000; McLoughlin, 2007). Wages are very low in this sector (London, 1999). Travelling to and from the nearest town for groceries or entertainment is difficult, and many workers rely on weekly transport provided by the farmer or local taxis. Many farmers maintain a level of social control over the worker families (de Kock, 2000).
experience of farm workers is that of living in isolation from the rest of the province and country, and in a very resource-poor environment, and often with few prospects of changing this situation (London, 1999). Although family planning services are available, the women are under pressure to have children and, to a certain extent, have a fatalistic view of their life regarding taking control of their fertility (Tversky, 2001).

Institutional factors:
Health care services are available, but often not easily accessible because of distance, transport costs and the restrictions placed on workers by the farmers not to go to a clinic unless they are very ill (de Kock, 2000). The quality of the services at present is limited partly as a result of the skills and attitudes of the staff towards farm workers and partly because of resource constraints for counselling and support. There are few organisations the farm workers can receive any assistance from, especially assistance related to smoking and alcohol problems (Tversky, 2001). There are also insufficient and inappropriate alcohol-rehabilitation support services for the rural women (Myers and Parry, 2003 and 2005).

Outcomes:
Many pregnancies are not planned and many first antenatal care (ANC) visits are only made around 20 weeks or later, by which time much damage could have already been done to the neurological and general growth of the fetus due to substance use and poor nutritional status (Maart et al, 2008; Jackson et al, 2007). There is a complex set of contextual and individual circumstances that combine to perpetuate the intergenerational problem of high rates of LBW and deepening poverty. Even more serious is the high rates of FAS that compromise the intellectual abilities and social judgement of many women, putting them at high risk for having LBW and FAS babies, as well as contracting HIV. Inevitably, it is these women who have the most limited opportunities for and capabilities to cope with life beyond the farm, and smoking and drinking are difficult to avoid.
2.3 Health promotion

2.3.1 Theoretical framework

The Health Field Model (derived from La Fromboise, 1973) identifies four categories of factors that influence the health of a person: those due to ‘human biology’, including genetic makeup; behaviour or ‘lifestyle’ actions; those that can be attributed to the health care system; and those that are determined by the environment – including policies and norms, physical resources and geographical location. Although the biological attributes of a person cannot be easily altered, much can be done about the other three sets of factors in terms of improving the chances of a person being healthy and managing the demands of human existence. It is the differences in the lifestyle, environmental resources and health service provision that can explain the vast differences in health status between communities; i.e. inequalities in health are due to inequity (Hubley, 2004).

There is no one commonly used definition of health promotion, and every new definition seems to be broader and more all-encompassing than the previous one. However, it is accepted that the more traditional prevention model, where health education contributed to primary, secondary and tertiary disease prevention, is outdated as it was too strongly aligned with the medical model of disease and treatment.

The Ottawa Charter, released by the WHO in 1986, has stood the test of time as a useful definition of health promotion and a set of guiding principles and actions for tackling the determinants of diseases, disabilities and conditions: “Health Promotion is a process of enabling people to increase control over and to improve their health and quality of life” (WHO, 1987:13). The work described by various authors regarding interventions to promote a healthy pregnancy could be classified under one or more of the five action areas proposed by the Ottawa Charter: policy developments; community action; environmental changes; personal skills; and health service re-orientation. However, it is impossible to artificially separate the interventions as so many programmes cover at least two of the five action areas. With regard to
reproductive health services at a primary health care level the ICDP Cairo Conference proposed that such care should include, *inter alia*:

- Family planning counselling, information, education, communication and services; education and services for prenatal care, safe delivery and post-natal care, especially breast-feeding and infant and women’s health care; prevention and treatment of infertility; abortion; treatment of reproductive tract infections, sexually transmitted diseases (STDs) and other reproductive health conditions; and information, education and counselling on human sexuality, reproductive health and responsible parenthood. (UN Department of Information, 1995:icpd - cairo 1994 summary.htm)

The following sub-sections will describe theories related to health behaviour change and then outline various interventions relating to women of childbearing age in general and specifically to nutrition, smoking and alcohol. The final sub-section will consider multifaceted programmes, which include policy changes.

### 2.3.2 Models of health-related behaviour

An understanding of the factors that lead to the particular health-related behaviours need to be developed and used to develop explanations for detrimental or dangerous behaviours. The most well-known model of health-related behaviour change is the Health Belief Model, which was first proposed by Rosenstock in 1966. The premise of the Health Belief Model is that individuals will take action to prevent, control, or treat a health problem if they perceive themselves susceptible to the problem, if they perceive the problem to be severe in nature and consequence, if they perceive that the action will benefit them and produce a desirable outcome, and if they perceive few barriers to taking that action (Tones & Tilford, 2001).

Another theory that complements the above model is the Social Cognitive Theory (previously called the Social Learning Theory by Bandura, 1977). Human behaviour is considered as a result of the person – environment interaction. A key concept in this theory is that self-efficacy is necessary for a person to carry out a particular behaviour. It is proposed that self-efficacy is based on knowledge and skills, expectations of the outcome of performing the behaviour, and reinforcement of the behaviour. Behavioural modelling or observational learning can provide the necessary elements to strengthen a
person’s self-efficacy, and is commonly applied to persuasive health education using role models (Hubley, 2004).

The Stages of Change Theory (also called the Transtheoretical Theory), developed by Prochaska & DiClemente in 1984, is another well-known theory that can assist in understanding a person’s current attitude and action related to a particular behaviour. The model consists of five cognitive-behavioural stages: precontemplation; contemplation; preparation; action; and finally maintenance of the action. If a person moves from being unaware of, or denying a problem, to recognising the problem and contemplating making some change, they would have moved from the precontemplation to the contemplation stage. If they then make serious preparation for taking action to improve the health related behaviour, and actually make some change, they have moved from preparation to action. If they are able to continue with the change they are considered to be in the maintenance stage. If, however, they relapse to their negative pattern, they may need to begin the cycle from the precontemplation or contemplation stage again. This theory is most often applied in a health consultation so that health education can be tailored to suit the stage at which the person is operating; e.g. if a person does not recognise that their smoking is in any way a health problem, they are in the precontemplation stage, and tips on how to cut down on smoking would be inappropriate advice (Tones & Tilford, 2001).

The Health Action Model originally proposed by Tones in 1979, and later modified by him in 1987, uses a combination of various of the health-behaviour theories and models to provide an explanatory framework for the range of factors influencing health choices and actions (Tones, 1987; Tones & Tilford, 2001). There are two main components to the framework: factors influencing behavioural intention; and factors facilitating or inhibiting the health action. The components of the behavioural intention have been divided into the cognitive (belief system), affective (motivation system) and normative systems. And these are in turn moderated by the personality domains of self-concept and self-sentiment. The factors that facilitate or inhibit the intended health action can relate to the supportive environment and the personal skills
to perform the health action. The health action can be a single time action (e.g. being sterilized), or a routine action such as eating a low-fat diet daily. A person who intends to establish a routine action may not succeed in making it routine and may relapse to a previous negative action or habit. The Health Action Model will be described in more detail when it is applied to the formative phase of the research project in Chapter 5.

2.3.3 Health promotion programmes related to reducing LBW

If women have more control over their lives in general, and reproduction in particular, their pregnancy outcomes are likely to be better, and childrearing stresses diminished. This view is supported by Cohen (1998:188) who states that “women’s health is perceived as a continuum that extends throughout the life cycle and which is critically and intimately related to the conditions under which women live”. She adds that if the focus of health promotion is entirely on individual education and lifestyle changes, there is the danger of ‘blaming the victim’ when the desired changes do not occur. Instead, she proposes that health educators need to be aware of the traditional disempowerment and oppression of women and how it affects their access to income, social status, education and healthy working conditions. Health educators, therefore, should advocate for and empower individuals and communities to deal with the social context of health.

It is, therefore, desirable that any service provision that is aimed at promoting women’s health be designed using a combination of a rights based approach, focusing on the broader determinants of health and on access to gender-sensitive services for individuals. Health promotion does not focus on preventing disease, but rather on promoting opportunities for and capacities by people to control their lives (Keleher, 2004). The implication is that women should participate in the design and implementation of any programme, and that the objectives should include addressing the specific short term and broader long-term needs of women.
The essence of the approach to improving the health of women and their children, and using pregnancy as a window of opportunity, is well stated by Chomitz et al (1995:121):

Detrimental lifestyles can be modified, but successful modification will require large-scale societal changes…. these societal changes should include a focus on preventive health, family-centred workplace policies, and changes in social norms.

These authors also suggest that important information on the protective factors that facilitate a healthier lifestyle could be obtained through researching women who, given the same environmental pressures, do not engage in high-risk behaviours or who have been able to change. Women will not be able to change or modify their behaviour without support from the health care system, society, and influential people in their lives. System-level reform, as well as individual efforts, are required. Resources and facilities such as child care, social services, law-enforcement services, affordable and quality food, transportation, and maternity-leave provisions during employment are necessary (Chomitz et al, 1995).

The WHO has published a range of guidelines relating to ‘safer motherhood’ and ‘safer maternal and newborn health’. One such initiative uses a health promotion paradigm and aims to contribute to the empowerment of women, families and communities to improve and increase their control over maternal and newborn health (WHO, 2003:3). Four priority areas are recommended:

1 Developing capacities to stay healthy, make healthy decisions, and respond to obstetric and neonatal emergencies
2 Increasing awareness of the rights, needs and potential problems related to maternal and newborn health
3 Strengthening linkages for social support between women, men, families and communities and with the health care delivery system
4 Improving quality of care and health services and of their interactions with women, men, families and communities.
A similar document, published in 2002 by Ransom and Yinger in the USA, identified four main ‘delays’ related to safer motherhood, and recommended strategies to prevent these delays. Briefly, the four main objectives are to:

1. Help women and their families recognise danger signs;
2. Help women and their families decide when to seek care;
3. Help women to reach appropriate care; and
4. Make sure women receive care at health facilities.

The detailed strategies recommended in order to achieve each of these objectives include a combination of community awareness, health education, improvement of the interpersonal skills of service providers, improved transport systems, and improved quality of maternal health services.

Specific to LBW, and based on the UNICEF Care Initiative, it is proposed that the underlying and basic causes of LBW in developing countries are tackled. Any long-term strategy for prevention should include household food security, maternal and child care, access to and quality of antenatal and other health services, sanitation and hygiene, education, gender discrimination and poverty (ACC/SCN, 2000).

Integration of nutrition programmes

The ACC/SCN (2000) policy paper identifies critical moments for nutritional intervention in the life cycle, especially where resources are scarce. Increasing pre-pregnancy weight and weight gain during pregnancy have been shown to reduce LBW by up to 13% (based on many studies reviewed in this policy paper). Emphasis is placed on pre-pregnancy weight and interventions are described which would need to focus on all women of childbearing age as well as in adolescence. This is seen as a long-term strategy, while focusing on pregnant women is a more immediate possibility. This is a similar position to that of Mora et al (2000:1357):

Because of the reproductive consequences and the long-term effects of childhood malnutrition on adult physical and intellectual productivity, as well as of the widespread effect of women’s health and nutrition on child survival, women’s productivity, family welfare, and poverty reduction in the community as a whole, securing
adequate nutrition of women, particularly before and during pregnancy, is socially and economically important goal for developing countries”.

The paper by Mora et al (2000) offers more detail on the components of a comprehensive programme, based on the life cycle approach:

1. Prevention and management of unwanted pregnancies through birth-spacing information and services. These services can also play a role in the provision of iron supplements and other nutritional services for women.

2. Nutritional services for non-pregnant women through regular visits to health services for either curative or preventive child health care. The nutritional supplements and micronutrients could also be delivered to female adolescents through the school system.

3. Enhanced maternity care – increase coverage and offer a package of health and nutritional services, including education and counselling and micronutrient supplements.

4. Extended nutritional assistance to vulnerable female groups to improve overall nutritional status.

It would be necessary to support this type of programme with an information, education and communication (IEC) set of activities to achieve behavioural change. Aspects to be included should be to improve women’s eating practices (for example, limiting the self-sacrificing role they adopt when there is little food to feed the family); delay childbearing among adolescents; and remove sex discrimination in the community, school and work place.

A large double blind randomised community trial carried out from 1998 to 2001 in Nepal compared the effects of daily supplements of folic acid, or folic acid-iron, or folic acid-iron-zinc or multiple micronutrients. They concluded that antenatal folic acid-iron supplements modestly reduce the risk of LBW. Multiple micronutrients confer no additional benefit over folic acid-iron in reducing the risk (Christian et al, 2003).
Any approach to nutritional problems that goes beyond food handouts will be concerned with community food security. Hamm and Bellows (2003:37) propose their own definition of community food security – “as a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice”. They argue that through research and educational outreach, nutrition educators can assist communities to become more able to ensure food security. Ramakrishnan (2004:17) goes further to conclude that “strategies that combine nutrition-based interventions, such as improving food intakes and micronutrient status, especially iron status, with approaches that improve women’s status and reproductive health are needed to reduce LBW”.

**Smoking reduction**

There is extensive literature on programmes to assist people to quit smoking. Some of those pertaining specifically to women were reviewed and, in general, demonstrated the effectiveness of dedicated quit programmes (Moore et al, 2002; Battersby et al, 2003). The interventions varied from behavioural interventions such as the Norwegian SmokEnders programme (Bakkevig et al, 2000) and the SmokeChange programme in New Zealand (Ford et al, 2001), to community or group level interventions such as Breath Easy (Secker-Walker et al, 2001), the education of networks of women who share information (Dunn et al, 1998), and the community wide initiatives of the COMMIT Research Group (1995). Media initiatives in the Breath Easy programme included newsprint, pamphlets, radio, and to a lesser extent, television. Case stories and tip-sheets were widely distributed.

In their study of the predictors of smoking cessation in pregnancy, Woodby et al (1999) provided evidence that counselling, tailored self-help materials, skills training and professional / social support were associated with quitting smoking during pregnancy. The 435 participants in their study were all from the lower socio-economic group in the USA.
Most studies report on strategies to assist an individual to quit smoking, but seldom focus on the broader environment. Dejin-Karlsson et al (1998) show that even non-smoking pregnant women are at risk of a small baby due to passive smoking, and propose that a reduction in the incidence could be reached if pregnant women were not exposed to passive smoke.

Based on the cluster of risk factors identified by Kahn et al (2002) in their study of smoking before, during and after pregnancy, they propose a comprehensive and integrated approach to smoking reduction across women’s many health care contacts. If any of the positive health behaviours achieved during pregnancy are to be maintained, then a ‘well-women’s care’ notion needs to be adopted. New interventions may include removing financial barriers to nicotine replacement therapy, focusing on the treatment of co-morbid depression and alcohol problems, and changing the behaviour of other household smokers.

**Alcohol reduction**

Similar to smoking, there are many programmes for, and approaches to, assisting people to reduce or give up drinking alcohol (Rosenbaum and Irwin, 1998). Some emphasise the individual cognitive and behavioural aspects, while others encourage change at a family and environmental level (Edwards et al, 1997; Parry and Bennetts, 1998). Many countries, including South Africa, have brought about dramatic policy changes to control the sale of alcohol. The WHO has published a comprehensive review to identify what works in the area of programmes to prevent psychoactive substance use (which includes alcohol). The review focused on four different aspects: regulation of the physical and economic availability of alcohol, and of illicit psychoactive substances; mass media; community based programmes; and school based programmes (WHO, 2002).

The prevention approach to prenatal exposure to alcohol advocated by the US Department of Health and Human Services (2000) provides a useful framework. Three levels of interventions are described:
• Universal – broad, population wide, such as media campaigns aimed at all women of childbearing age regardless of risk;

• Selective – aimed at women known to be at some increased risk because they are drinking while pregnant or belong to a vulnerable group;

• Indicated – women who are at highest risk - drinking heavily or have had a FAS child before.

It is proposed that the most effective treatment approach for the women who fall within the ‘selective’ or ‘indicated’ groups includes comprehensive social, cognitive-behavioural, medical and referral services. The co-ordination of the services through active case management is considered essential. The US paper refers to many programmes which operate at one or more of these three levels; however, it could not provide any conclusive evidence as to what methods of intervention are the best. Rather the US Department of Health and Human Services (2000) concludes that establishing the baseline of FAS in a community and the identification of the high-risk women is an essential first step. Thereafter, the effectiveness of different prevention approaches must be determined through carefully controlled evaluation studies.

This framework is similar to the public health approach based on primary, secondary and tertiary interventions proposed by May (1995), in which he suggests that a variety of drinking patterns need to be addressed, through a multiple-level, comprehensive programme. Such a programme should be based on epidemiological studies of social and individual risk factors of women’s drinking patterns, FAS literature, and women’s health programmes more generally. Recognising that the most profound and permanent changes in behaviour occur as a result of the influence of primary social groups such as the family and peer groups, it is evident that prevention programmes must be broad enough to alter the norms of these groups, as well as their access to alcohol. Primary prevention is applied to all members of the population, while secondary- and tertiary-level preventions are reserved for those women who are heavier drinkers and at greater risk of producing children with FAS.
Many countries are promoting a ‘sensible drinking’ approach to alcohol intake in contrast to the smoking policies, which attempt to cut out smoking completely. Van Heerden and Parry (2001) outline the harmful effects of alcohol on the individual and societal level, as well as the beneficial aspects of light drinking. Using the USA, UK and Australian recommendations they propose sensible drinking for South Africa and define this as low-risk drinking. They refer to the USA guideline ‘if you drink alcoholic beverages, do so in moderation, with meals, and when consumption does not put you or others at risk,’ and to the Australian guideline of 0-4 drinks for males and 0-2 drinks for females per drinking occasion being ‘responsible’ drinking. However, mention was made of alcohol in pregnancy and the advice was total abstinence.

In her colourful alcohol action-oriented book, Brady (1998) uses the Ottawa Charter framework of the five action areas to convey ideas on how people can tackle alcohol problems. A range of ways of initiating interventions based on these areas is described by Brady (1998) and all are illustrated by true stories collected from Aboriginal communities and individuals in Australia. Brady includes the issue of domestic violence related to alcohol problems. Some of the actions which proved to be successful in Australian Aboriginal communities were women’s shelters (focusing on women’s safety), legal advice through women’s centres or councils, and night patrols run by the community.

Brady (1998), through her anthropological research in Australia, has found that people with alcohol problems place a lot of store in what is said by health workers. Although they may seem to deny a problem and not want agree to cut down on their alcohol during an interview, the empathetic attitude of the health worker and the message given can have a positive effect on the drinker in the long term. Tips for gradually cutting down on alcohol can be useful in counselling and as a pamphlet to be given after counselling.
Mengel et al (2006) propose two major factors that can reduce the risk for FAS – alcohol and contraceptive use – and therefore propose that screening and counselling of high-risk women focus on both of these.

A handbook developed by the Living with Alcohol Programme (1998) in the Northern Territory of Australia includes clear and well illustrated information for health workers to use in screening, counselling on careful drinking, and referrals. As the handbook was written with the Aborigine population in mind, there is an emphasis on the balance between care, control and culture. Although some of the information is specific to that territory, most of it could be applied anywhere in the world.

Rollnick et al (2001) propose an innovative training method to enhance the skills of health workers in carrying out brief interventions and coined the phrase ‘context-bound training’. They describe communications training as best carried out in the real context, or in as close as possible simulations of real contexts, and based on a problem-solving situations presented by the trainees. The process of motivational interviewing is most developed in relation to counselling people with alcohol problems.

Miller (1998) is concerned about the link between interpersonal violence and drug and alcohol use. She proposes the restructuring of norms and values in communities to reduce acceptance of violence, and highlights the difficulty faced by people who try to change their behaviour positively, but are faced with the social setting in which violence is promoted. “We need to consider contextual and structural changes that can be promoted to support individuals in looking for a way out of cycles of violence and substance abuse” (Miller, 1998:383).

Understanding the causes and consequences of alcohol abuse by women is important when considering the nature of intervention required by those who have alcohol problems. Beckman (1994) goes so far as to suggest that to achieve patient-treatment matching may require separating men from women, and also focusing on sub-groups of women, such as pregnant women. She
proposes that the components of ‘women–oriented alcoholism treatment’ require the availability of a broad range of co-ordinated treatment components including treatment for other problems such as domestic violence, multiple substance abuse, and other mental health problems; general health services; development of parenting skills; development of social roles, positive relationships and social support; development of self-esteem and adaptive coping mechanisms; and legal assistance. Barriers to entering and benefiting from a treatment process are identified as internal or external barriers. The internal barriers include denial of a drinking problem, fear of stigmatisation, concern about leaving or losing children, and guilt and shame. The external barriers can be on an interpersonal basis – opposition by family and friends, and the social costs of treatment, or due to structural barriers such as referral patterns, inadequate training of health professionals and lack of women-sensitive treatment services, lack of economic resources and insurance coverage and, lastly, the lack of child care facilities.

Green (2006) also identifies the same barriers to treatment and adds that women who suffer post-traumatic stress disorder, or who are pregnant, may benefit from gender-specific treatment programmes. Green (2006) also highlights the evidence for women being more likely to remain sober than men, after completing rehabilitation.

Alcohol-related problems are generally viewed as the responsibility of mental health care services. However, it has been shown that many people with mental health problems do not receive the treatment required. Kohn et al (2004) reviewed community-based psychiatric epidemiology studies that included a percentage of people with mental health disorders who were receiving care, and median results for untreated cases for various disorders was calculated. Alcohol abuse and dependence had the widest treatment gap at 78,1%. Almost all the studies included were from developed countries where treatment availability is likely to be better than in developing countries. Therefore, the treatment gaps for alcohol abuse and dependence in South Africa can be expected to be higher than Kohn et al’s (2004) their finding.
A model that utilises paraprofessionals to support the highest risk substance-abusing women on a home-visit basis has been developed and tested in Seattle (Grant et al, 1999). The Parent-child Assistance Program is based on relational theory and has demonstrated the benefits of interpersonal relationships in women’s addiction, treatment, and recovery. The home visitors focus on other risk behaviours besides the substance use, and address social well-being issues of the clients and their children. A structured process including assessment of needs, establishing rapport, and dealing with practical problems, is carried out by the health visitor who serves as an advocate for the family. An evaluation carried out in a case-control study showed a significant impact of the programme in terms of protecting the safety of children of substance-abusing mothers, while helping mothers take steps to make fundamental changes in their lives (Ernst et al, 1999).

A well-known support programme is Alcoholics Anonymous (AA). It is difficult to assess the value of this well-established network of people as it is community based and people participate on a voluntary and anonymous basis. Morgenstern et al (1997), however, undertook a study to examine the therapeutic effects and mechanisms of action of affiliation with AA after treatment on the standard 12-step programme (Minnesota Model), by following up 100 patients for up to six months. The findings suggest that increased affiliation with AA after formal treatment is associated with better substance-use outcomes. The researchers explain that AA’s association with outcome was mediated by: its effects on sustaining beliefs in the cost-benefit of maintaining behaviour change; commitment to a specific goal and ability to achieve this goal; and through promoting active coping efforts.

**Antenatal health care services**

Alexander et al (2001:311) paint an ideal picture of what antenatal services should encompass:

Prenatal care has evolved to include the detection, treatment or prevention of adverse maternal, fetal and infant outcomes as well as intervention to address psychosocial stress, detrimental health behaviours such as substance abuse and adverse socio-economic conditions.
A combination of studies on maternal health services carried out across three provinces of South Africa in 1997, using qualitative and quantitative tools to engage health service providers and women in the community, described both the problems and potential solutions. The top five obstacles to quality services identified by workers were: lack of resources; poor health sector management; low salaries; staff shortages; and poor interpersonal relations among clinic staff. Based on the range of suggested solutions to the problems, the authors concluded that the best strategies are to make investments in the health system itself, rather than any ‘unifocal’ activities of a specific programme (Fonn et al, 1998).

Another study conducted in South Africa, in rural Kwa Zulu-Natal, used 29 semi-structured interviews with pregnant women to gather data on their perceptions of ANC and delivering in a health facility. The findings revealed that most of the women did not perceive significant health threats during pregnancy, and believed that only one antenatal visit was necessary. This one visit, usually around 20 weeks’ gestation, is mainly made to obtain an antenatal card, enabling her to deliver at a health facility. So, while little value is placed in the procedures and discussions that should take place at antenatal clinics, much value is placed on delivering at a health facility rather than at home. Poor communication by the health staff resulted in the women not learning about the importance of a few antenatal consultations during pregnancy. The authors conclude that primary care providers have a strong influence over women’s perceptions of ANC, could provide appropriate educational messages, and yet seem to be contributing indirectly to poor health-seeking behaviour and, consequently, increasing the risk of avoidable perinatal deaths (Myer & Harrison, 2003).

Alexander and Korenbrot (1995:12,13) acknowledge that there are many barriers, especially for low-income women, to attend ANC and thereby reduce the risk of LBW. They suggest that the service should:

1. Promote a systems integration approach to prenatal care that enables linkages with the medical community for follow-up, case management,
and ancillary services, and assures continuity of coordinated risk appropriate care.

2. Provide a population-wide preconception and prenatal education to encourage family planning, reproductive health, and health promotion.

3. Undertake outreach and follow-up efforts.

4. Provide leadership toward development of community involvement and empowerment in perinatal issues.

5. Advocate policies that facilitate access to and availability of services and interventions to reduce stressors related to disparate socioeconomic conditions.

6. Encourage cultural competence on the part of providers to increase acceptability.

In some situations access to services can be improved through the use of mobile clinics. However, the cost and infrequency of this mode of service delivery may in fact reduce availability and access. Dyer (1996) did a study of the comparative costs of mobile- and fixed-clinic PHC services in South Africa, in order to inform decision making to optimise both the use of resources and the quality provided at local level. Rather than use a cost per patient measure, a time-per-consultation measure was used, based on the premise that time spent with a patient is both a measure of cost as well as quality of care. He concludes that a small part-time clinic may be the best option in terms of cost and acceptability, relative to a mobile service, for serving a rural community in South Africa.

### 2.4 Health information, education and communication

#### 2.4.1 Health literacy

The concept of health literacy is broader than just knowledge of health determinants or how to read a medicine label. Zarcadoolas et al (2005:196) have defined health literacy as the “wide range of skills, and competencies that people develop to seek out, comprehend, evaluate and use health information and concepts to make informed choices, reduce health risks and
increase quality of life”. The authors unpack the concept further by suggesting that it has four central domains: fundamental literacy; science literacy; civic literacy; and cultural literacy. Briefly, fundamental literacy relates to the skills involved in reading, writing, speaking and interpreting numbers, while science literacy refers to levels of understanding of scientific explanations of the body and technology. Civic literacy refers to the awareness and ability to become involved in civic processes. Finally, cultural literacy covers the recognition and use of collective beliefs, customs etc to interpret and act on health information. The authors propose that any health-related communication can be developed in relation to enhancing people’s abilities in all four domains.

Kickbush (2001) reminds us that education and literacy rank as key determinants of health and, in particular, of women’s health and the health of children. She, however, suggests that health literacy is a discrete form of literacy that is important for social and economic development, and quotes a definition from Nutbeam (1998:357), “Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use, information in ways which promote and maintain good health”. Kickbush (2001:294) states that “information is crucial, but will never be sufficient to address many of the major challenges faced by disenfranchised and marginalized populations. Components of health literacy, such as access to information and knowledge, informed consent, and negotiating skills must constitute part of the overall development effort.” The measurement of health literacy is difficult, but Kickbush (2002) suggests that indicators of functional health literacy, interactive health literacy; and critical health literacy need to be developed and applied on a community-wide level.

In a similar vein, Hubley (2004) explains that communication in health promotion should utilise a health empowerment approach – enabling people to make informed decisions through access to information, problem solving skills and the confidence (self-efficacy) to take action for health. He proposes that health literacy is a critical component of health empowerment in this simple formula (Hubley, 2004:18): “Health empowerment = self efficacy + health literacy”.

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2.4.2 Information, education and communication

A comprehensive review of lessons learnt in the past few decades regarding the use of information, education and communication (IEC) in public health generally, and reproductive health specifically, was commissioned by the WHO Reproductive Health and Research Department (WHO, 2001:3,4).

General lessons learnt:

1. IEC does work. It creates awareness, increases knowledge, changes attitudes and moves people to change or continue their behaviour or to adopt an innovation.

2. Very rarely does a person make a decision alone. To make a lasting change in one individual, the key influentials must be identified and encouraged to support these changes.

3. Mass media helps to create an agenda for public debate. It reaches many people and is not that expensive. However, to be effective, mass media must be supported by interpersonal and group communications.

4. Communication channels should ensure availability of feedback mechanisms. This is important for reinforcement and for clarifying questions and issues.

5. Personal testimonies of affected people are far more compelling than any other form of communication. Fear arousal is seldom effective.

6. When a communication programme is designed and carried out by expert practitioners, it is more likely to achieve success.

7. A mass communication programme dealing with sensitive issues socially validates open discussion of these issues, thus making them part of the everyday agenda.

8. In order for a communication campaign to be successful, the relevant social services infrastructure should be prepared to satisfy the increased demand for services created by the campaign.

9. An important element in a health communication campaign is an adequate blend of entertainment and social messages.

10. A continuing barrier to the success of IEC interventions is limited resources and unrealistic expectations.
11 Resources need to be devoted to producing salient materials in sufficient quantity, to establishing a workable distribution and reordering system, and to showing service providers how to use materials. Also needed are basics: information on where and when services are available.

Lessons described that are specific to reproductive health IEC are summarised below (WHO Reproductive Health and Research Department (WHO, 2001):

1 Peer education, support groups, counselling and interpersonal communication are important components of a reproductive health programme. Peer counsellors need to be charismatic and chosen by the target audience for their leadership and image as a role model. They can work individually or with groups of people in a variety of settings.

2 Gender considerations – it is essential to listen to women and to involve them in the planning and implementation of programmes, and to understand their roles as economic producers, household caretakers, and community members. They need to know that they can trust the information they get.

3 Public health IEC programmes can contribute in many ways to increasing knowledge, changing attitudes, and enabling action and mutuality. Advocacy initiatives can increase awareness of women’s health problems among policy makers and can help foster a physical and social environment conducive to good reproductive health.

4 Men as partners – one key to increasing men’s participation is to develop messages, based on audience segmentation and qualitative research, that are relevant to men’s concerns. Messages need to appeal to men’s sense of responsibility and involvement in family matters and not position them as irresponsible adversaries.

A concluding point made in this report is that values, meaning, and cultural context have risen in the list of priorities and motivational factors that must be considered when strategies are being designed. Quality of services, sound
management, interpersonal communication and counselling, and capacity building, are recognised as crucial to the success of integrated IEC and preventive health care and health promotion efforts.

Tinker (1993), writing for the World Bank on ‘making motherhood safe’, suggests that the key messages for improved health related behaviour should focus on: increased utilisation of family planning; improved maternal diet; compliance with referrals and recommendations; and exclusive breastfeeding. The messages should not only focus on the women, but influential household members and community decision makers to support behaviour change among women. Tinker(1993) suggests that the formative research required to understand the perspectives of the various role players before designing any IEC programme should utilise qualitative techniques such as focus group discussions, in depth interviews, and observation.

There is a strong move to expand the range of settings in which women can receive counselling and support for alcohol problems. In the past in-patient specialised treatment of ‘alcoholics’ was the norm, but in the past couple of decades the role of service providers at the primary level has developed and been extensively written about. One of the central concepts or techniques is the notion of the ‘brief intervention’. Fleming & Manwell (1999) reviewed 13 brief intervention trials and described the main components of brief interventions, as well as the difficulties in implementing the strategy. The five essential steps are:

1. Assessment and direct feedback – asking questions regarding alcohol consumption and using the CAGE questions, assess medical, behavioural and dependence problems;
2. Negotiation and goal setting – planning the reduction of drinks in given time;
3. Behavioural modification techniques – talking about avoiding situations where drinking is promoted and clarifying the likes and dislikes about drinking habit;
4 Self-help directed bibliotherapy – distributing booklet to be read at home containing interactive exercises; and
5 Follow-up and reinforcement – making a date for telephonic contact or visit appointment to discuss progress with targets set.

Brief interventions are also supported by Brady (1998), where formal health workers and indigenous workers are encouraged to be knowledgeable about alcohol problems, how to screen a person, and how to carry out an in-depth talk. The link between the presenting health problem and alcohol is suggested as a way of talking about the alcohol problem.

The Project CHOICES study in the USA, supported by the Centers for Disease Control and Prevention (CDC), demonstrated that a five session motivational interviewing programme, delivered to non-pregnant women at risk of an alcohol-exposed pregnancy, can increase the likelihood of a woman cutting down on alcohol use and / or improving her use of contraceptives two-fold (Floyd et al, 2007).

There is a growing recognition of the need to increase patient participation in their own health care decision making through patient-centred interaction with health care providers (Rollnick, 1999). Whether in developed or developing countries, there is a fairly universal traditional pattern of interaction between the health provider and patient; i.e. where the professional is the expert and the patient plays the passive role, with the two often coming from different socio-economic and cultural groups (Haywood et al, 2006; Bodenheimer et al, 2002; Marincowitz, 2004). In a qualitative study, Fraenkel et al (2007) identified five essential elements to enable patient participation in medical decision making: patient knowledge; explicit encouragement of participation by the provider; an appreciation of the patient’s responsibility and rights to play an active role in decision making; awareness of choices; and the time available in the consultation.

Many studies have focused on identifying effective strategies to improve the outcomes of health care, especially in chronic care. Some strategies seek to
increase the assertiveness of the patient while others focus on the attitudes and communication techniques of the provider. In the review by Bodenheimer et al (2002) three main strategies were identified as having the potential to improve patient self-efficacy and health outcomes: programmes that teach self management skills are more effective than information only; self management programmes can reduce costs for chronic conditions; and programmes that bring patients into a group can improve outcomes and reduce costs. Bodenheimer et al (2002) propose that a collaborative relationship between the patient and provider needs to be developed through the professional recognising the knowledge and expertise of the patient and engaging in joint goal setting and problem solving.

A cross-sectional study by Jerden and Weinehall (2004) carried out in Sweden elicited responses from 418 family medicine patients who had received a health booklet. Twenty-five per cent of the participants reported a positive change in their health practices after reading the booklet. The health practices were mainly exercise, diet and stress management, and there was no difference on the basis of education level or presence of chronic disease. The authors suggest that patient-held records might be a useful tool for promoting lifestyle changes in primary health care.

The values and attitudes necessary for providers to promote patient responsibility for their own health care are discussed in two papers by researchers from very different settings – Swedish hospitals (Eldh et al, 2006) and rural South Africa (Marincowitz, 2004). The need for respect and recognition of the patient’s unique context is emphasised in the Swedish article. The review by the South African health practitioner concludes that health workers need humility; the ability to relinquish the role of the expert; an awareness of their position of power; and the ability to value poor people.

In order to promote the possibility of patients being more assertive and entering into a more equal relationship with the provider there are various strategies, including providing printed materials and doing patient coaching, in how to prepare and pose questions in the health consultation (Haywood el al,
A study carried out in Indonesia, where the norms of social distance between provider and patient strongly discourage active participation in the consultation by the patient, demonstrated the potential of patient coaching in the waiting room context. The programme uses a combination of broad-based mass media and community mobilisation and is called “Smart Patients, Smart Providers, and Smart Communities: Redefining Roles in Improving Participation in Reproductive Health Care Delivery”. The main components of the programme include: streamlined self-learning materials that do not require the presence of an educator or strong literacy skills; mass communication using various channels to model desired communication behaviour; and, lastly, community-mobilisation activities such as group talks, peer education and site launches. Patients who were individually coached before their family planning consultation managed to ask more questions and express their concerns more than patients in the control group (Kim et al, 2003).

Stout (1997) proposes an interesting model for the design of antenatal services focused on reducing LBW which is based on the Health Belief Model. Stout proposes guidelines for an antenatal programme based on these six components:

1. Perceived susceptibility – need an element that aims to increase women’s perceived susceptibility to LBW, thereby establishing a need for ANC attendance.
2. Perceived severity – need to increase the perceived effect of LBW on the life of the child through education on the potential health and developmental outcomes.
3. Perceived benefits – need to guide women to choosing an action which will most benefit the foetus.
4. Perceived barriers – need to guide women to understand that the benefits to taking action outweigh the barriers or difficulties in making the change.
5. Other variables and cues to action – programmes must account for other variables or modifying factors such as age, income, beliefs, and work with them and not against them. Also, cues need to be provided to reinforce action to be taken.
6 Self-efficacy – a woman’s confidence that she can take action successfully is critical and can be improved through acquiring more skills to seek adequate care and make lifestyle changes.

Much of the literature refers to the success of mass media campaigns delivered in conjunction with individual and group educational strategies. However, because of cost constraints and the need to promote individualised record keeping, it was decided that a mass media approach would not be feasible for this Project, and that individual print media with interactive aspects would be the most suitable.

2.4.3 Development of print media

The WHO reviewed the use of home-based maternal records in many developed and developing countries in the 1980s, and concluded that most of the records were for single pregnancies; they were used in outpatient settings of health centres or hospitals; and were filled in by trained health staff. There were only a few home-based, or ‘woman-held’, records that contained information on in between pregnancies, and could be used to identify high-risk women. Generally, the records were found to be inaccessible for illiterate or semi-literate women; information on inter-pregnancy periods was not included; and some were not kept by the women, therefore limiting the possibility of participation by a woman in her own health-monitoring and management (WHO, 1994). A WHO prototype home-based maternal record card was then designed and adapted for use in many developing countries in an attempt to: help in early detection of risk conditions; promote timely referral to appropriate levels of care; improve health status monitoring for eight to ten years of a woman’s reproductive life; and increase the participation of mother, family and community in their own health care. The main lessons learnt in the evaluations of the maternal record card conducted across many countries include the following:

- The cover section needs to be attractive, and the layout not too dense;
- The literacy level of intended users should match the language and symbols used in the card, and colours and language should not be culturally alien;
• Risk factors that are uncommon, difficult to recognise or that cannot be easily managed should not be included;
• Health actions that are not supported by local health service policies should not be included;
• The duplication of records should not be expected;
• Subjects that require a lot of writing should not be included; and
• Large quantities of the record card should not be printed before pre-testing.

The design and writing of materials for people with low literacy is a challenge, and needs to be carefully planned in terms of content, literacy demand, graphics, layout and typography, learning stimulation and motivation, and cultural appropriateness. When reviewing existing material one needs to also consider the organization of the material, writing style, appearance and appeal (Doak, Doak and Root, 1996).

Wilson el al (2003) summarise the various approaches to the evaluation of health education materials and list some of the quantitative scales to measure readability such as REALM (Rapid Estimate of Adult Literacy), CLOZE (Cloze procedure for assessing comprehension of a written passage) and SMOG (Simple Measure Of Gobbledygook). However, Wilson et al (2003) proposed a framework based on the approach taken by Doak et a (1996) which firstly identifies key characteristics of the intended users, and then evaluates the material based on its organisation, writing style, appearance and appeal, in relation to the intended users. Both quantitative and qualitative feedback from the users would be used in this approach, and conclusions drawn on the match between the materials and the intended users.

Milewa et al (2000) describe the evaluation of a booklet called “What should I do?” The study was undertaken in the UK and used quantitative and qualitative data collection to assess patient responses to different self-referral scenarios, and to explain the rationales of the respondents. Milewa et al (2000) concluded that there was a small impact of the booklet on appropriate
self-referral behaviour, but emphasised that the wider socio-historical influences on the manner in which expert knowledge is regarded will influence patient responses to educational material.

2.5 **Conclusion to literature review**

LBW is a significant public health problem, especially when it affects more than 15% of births, since it is an indicator of vulnerability of the infants as well as the poor state of health of the mothers of a community. There are also lasting effects of LBW that increase the risk for chronic conditions such as diabetes in adulthood.

Risk factors during pregnancy include direct causes such as smoking, alcohol and drug use, poor pre-pregnancy weight, and poor during-pregnancy weight gain. Indirect factors include low socio-economic status, inadequate housing and low education. Stressors that compound the use of substances, and possibly have a direct effect on the fetal growth, include interpersonal violence, work-related demands, and unwanted pregnancies. There is a high relative risk of a woman who has had an LBW baby of producing another.

The women living in the rural Western Cape, where the LBW rate is between 15% and 27%, experience many of the typical contextual risk factors and are exposed to many of the individual risk factors for producing LBW babies. The intergenerational effects of LBW and ongoing poor lifestyles are evident in many women being of small stature and underweight, and not gaining enough weight during pregnancy. If employed on the farm on which she lives a woman is likely to be doing hard labour well into her pregnancy and because of poor enforcement of maternity benefits, will return to work soon after giving birth. Such a situation influences her energy levels during and after pregnancy, which in turn affects the birth outcome and the success of breastfeeding. Although the number of children per woman is reducing and probably averages three, the stress of “caring in poverty” could be part of the explanation for high rates of substance abuse.
The contextual factors require multi-sectoral development for the whole community, while the direct factors can be tackled by the health services to a certain extent. Based on preliminary studies done on the health and lifestyle of women in the Western Cape, and other literature, the risk factors that lend themselves to change in the short term, and that could lead to a marked reduction in the LBW rate are, firstly, health-systems related issues (i.e. the identification of and continuity of care for high-risk women) and, secondly, individual health-related behaviour (i.e. poor nutrition, substance abuse and poor pregnancy planning).

Women in poor and stressful circumstances and with low education require more support in order to make lifestyle changes, despite having some awareness of the detrimental effects of poor nutrition and substance use on their own health and that of their baby. A focus on improving the quality of the community level health services, including the interpersonal relationships between women and health service providers, as well as an increase in the ability of the women to take control over their own health, will serve to improve both the effectiveness of the health services and the quality of life of individual women and their families. ANC that is protocol driven includes health promotion and is provided as early in pregnancy as possible, will contribute to better pregnancy outcomes.

The models of health-related behaviour change take internal and external factors into account in explaining the potential for change. However, some models such as the Transtheoretical model and the Health Belief Model do not adequately take account of the external factors that impact on a person’s ability to practice healthy behaviours. The Health Action Model (HAM) developed by Tones (1987) utilises theory from the Health Belief Model and the Stages of Change Theory in compiling the components of ‘behavioural intention’. The HAM also highlights the importance of the facilitating and inhibiting factors that support the potential ‘health action’.

Patient-held records and information have been shown to improve the sense of control people have over their health and facilitate the identification of high-
risk individuals by health service providers. A health booklet can improve the communication and health promotion by service providers, resulting in better compliance with lifestyle changes. ‘Brief interventions’ from service providers can be supported by recording key information, such as goals for change, in a handbook. The implementation of any component of an IEC programme requires systematic research of the target audience and the context in which members of this audience live. However, the limitations of IEC in influencing the broader structural influences that are needed to support health promoting behaviours needs to be recognised. The design of the media is guided by principles derived from the evaluation of both large and small initiatives in reproductive-health-systems improvements and health-educational initiatives.

The WHO (1994) has promoted the development and use of a maternal home-based care record that includes both pregnancy and inter-pregnancy phases of a woman’s life. This should be developed to record and monitor the top risk factors for maternal and child morbidity and mortality of the target population, and provide additional information that can promote the demand by women for information exchange during health consultations before and during pregnancy.

The proposed woman’s health handbook (WHH) could be used in conjunction with support groups and counselling sessions, as well as by the individual at home, to refer to for her personal records and for information on a specific topic. There is the potential for her to receive better care at which ever service she may present, based on the information contained in her records she carries with her. Since the proportion of women who smoke and use alcohol in the target area is between 40% and 50%, and these habits often continue throughout pregnancy, substance use should be imbedded in the screening records, and in the counselling and information provided, so that women can reduce these habits in general, and specifically in pregnancy.

Print media in particular requires careful planning, development and pre-testing, before the final product can be utilised by the intended users. The success of an IEC intervention also depends on the extent to which the
intended users – the farm women and health service providers, in this case – value the materials and have the skills to utilise them effectively.

In order to have any long term impact on the LBW rate, a multifaceted programme is necessary. The elements of the programme need to include policy, environmental and service delivery changes, as well as improving the individual knowledge and behaviours of pregnant women, and the support they receive from their partners and neighbourhood. The challenge is to design a programme which operates on all these aspects simultaneously, and is implemented and evaluated in a way that the most successful aspects are identified and replicated across the region and beyond (Sanders & Chopra, 2001).
CHAPTER 3 OVERALL STUDY DESIGN AND THEORY

3.1 Introduction
The design of this Project was fairly complex since it involved three distinct phases and utilised different theories and methods for each phase. I have therefore provided an introductory summary of the overall approach, as well as a summary of the methodology of each phase, in order to map the research process and chapters of this thesis for the reader.

The overall approach in the design of the study had two major components, namely the research methodology and the materials-development process. A Participatory Action Research (PAR) approach was adopted (de Koning and Martin, 1996), and a strategic health communications model, the so-called P-process was followed (Health Communication Partnership, 2003).

The research project was conducted in three phases utilising a sequential research design that utilised qualitative methods first, and then a mix of qualitative and quantitative methods:

- **Phase I** of the Project was the formative phase and utilised mainly qualitative data collection and analysis techniques based on grounded theory (Strauss and Corbin, 1998). A situational analysis of the two research sites was done before the detail of this particular Project was conceptualised (McCoy and Bamford, 1998)

- **Phase II** was the materials-design phase, drawing on the theory related to materials development for people with low literacy (Doak et al, 1996; Wilson et al, 2003). Existing health education materials and policy guidelines were referred to when generating the contents of the WHH. A testing process was conducted as recommended in the P-process.

- The final stage, **Phase III**, was the evaluation of the WHH through a field test, utilising a combination of qualitative and quantitative methods to assess the usefulness of the handbook from the perspective of the
women and the service providers (Patton, 2002). This phase was informed by the theory of Utilisation Focused Evaluation (Patton, 1997).

The detail of the methodology Phase I is included in the next chapter, and is followed by the Phase I results and discussion in Chapter 5. The detail for Phase II and III are explained in later chapters, creating a pattern of methods, results and discussion for each phase, in turn. A final chapter reflects on the entire Project in terms what was learnt about the women on farms, the service providers and managers, and the utility of the WHH.

3.2 Theoretical models and approach

3.2.1 Participatory action research

Participatory action research (PAR) is viewed as an emerging methodology since it is based on the premise that a process of research that involves those experiencing the issue being researched can lead to social transformation. PAR has developed over the past few decades through the application of mainly qualitative research methods to the understanding of social and health-related issues and the development of locally relevant development-oriented solutions that are people-centred (Kelly and van der Riet, 2000).

The main principles of PAR as summarised by Liamputtong and Ezzy (2005) include:

- The research creates knowledge that is owned by the powerless participants, potentially leading to transformation of power structures and relationships;
- The knowledge and lived experience of ‘oppressed’ people are valued; and
- Researchers work in collaboration with the local people in order to improve their lives.

PAR is influenced by phenomenology, hermeneutics and feminism, and can use a combination of qualitative and quantitative methods. However, most PAR employs qualitative methods such as in-depth interviews, focus group
interviews, life history, and participant observation. Some more innovative methods have included seasonal calendars, body mapping, modelling and community mapping. Tversky (2001) successfully utilised drama as an introduction to a focus group discussion with farm women on their perceptions of ANC provision in Stellenbosch in the Western Cape.

PAR can be confused with action research, and does utilise the action and reflection cycle of action research. However, various writers have concluded that while action research also focuses on the collaborative nature of the research process, it is not necessarily applied to situations of extreme power imbalance, and therefore does not aim to empower the less powerful. Using a participatory approach requires the building and maintaining of rapport with the community and skills in listening, being sensitive, and understanding competing priorities. The role of the researcher can be as an activist or as a consultant (Kelly and van der Riet, 2000), and provides an opportunity for people in poor socio-economic circumstances to have a voice.

There are advantages and limitations in using the PAR approach in a community-based project. The main advantages lie in the combination of research, education and action, and the 'voice' it provides for people whose perceptions and issues are often not taken into account. In addition, PAR supports the shift of power towards those who are less powerful through the generation of locally relevant knowledge and development of transformative solutions. However, it needs to be recognised that people with poor health literacy may find it challenging to discuss health related topics. The main limitations are recognised to be the time consuming and complex nature of the participatory engagement, and the need to triangulate all the data through using various methods and sources. PAR requires the project leader to have a combination of interpersonal, intellectual, and political skills to facilitate the participatory process. Well developed self-awareness and efficient data management are also required (Liamputtong and Ezzy, 2005).

PAR is often used in the development of health programmes since it fits well with the primary heath care approach (WHO, 1978), where community
participation is a key principle in influencing the determinants of health as well as the provision of health care services (de Koning and Martin, 1996).

There are different degrees to which the core principles of PAR are incorporated into a research project. Sometimes, as is the case with this Project, the researcher designs the overall project and the community participants collaborate in each phase and influence the outcome. In this Project the problem of LBW was identified by the health service management, but the participants (women on farms, and the health service providers and managers) were not involved in the selection of the methods utilised in the generation of the data for understanding the problem, or in the decision to develop a handbook in particular. The participants were involved in each phase, however, and strongly influenced the design of the WHH.

Ongoing reflection by the researcher is an important part of applying the PAR method. Reflexivity involves self-questioning and self-understanding so that the researcher using qualitative and interactive methods is conscious of the cultural, political, social, linguistic and ideological origins of one’s own perspective and can be open to the voices of those involved in the study (Kelly and van der Riet, 2000; Patton, 2002). Reflexivity can be channelled towards effecting change. Although I was reflecting on the data and interactions with participants throughout the project, a summary of the reflections is contained in Chapter 10.

3.2.2 Overview of participatory process of Project

At an early stage in the Project various meetings were held with stakeholders from the local and provincial health service providers. Initially these were referred to as Reference Group meetings, but after the first meetings in each of the two sites, it became clear that more localised meetings would suffice for the remainder of the project.

Three non-governmental organisations played a key role in the Project: Women on Farms Project (WFP); Dopstop Association; and the Media and Training Centre (MTC)
As the name suggests, the WFP focuses on the rights and need for development of women farm workers. WFP strives to strengthen the capacity of women who live and work on farms to claim their rights and fulfil their needs.

We do this through socio-economic rights-based and gender education, advocacy and lobbying, case work and support for the building of social movements of farmwomen. We promote self-reliance, accountability and sustainability of organisations so that women organise themselves, speak for themselves and mobilise resources to support their needs and dreams. We believe that self-organisation counteracts the marginalisation, abuse and vulnerability experienced by women in the workplace, home and farming community and ensures their leading role in accessing services and securing employment, land and housing (Mission statement on Women on Farms website).

The Dopstop Association focuses on reducing alcohol abuse and promoting alternative opportunities for development of youth and adults on farms.

We enable people to take control over alcohol and other substances in their lives; and promote healthy rural agricultural communities in South Africa (Mission statement on Dopstop website).

It was originally intended that staff members of each of the two NGOs (WFP and Dopstop Association) would collaborate with me, and serve as research assistants in each phase of the study. Although a contract was established with each of them, and they did contribute in some way to the data collection in the first phase, there were organisational demands on their time that precluded their participation beyond Phase I.

A third non-governmental organisation which was closely involved in the development, testing, printing and dissemination of the WHH was the MTC. The organisation is based in Observatory, Cape Town, and was commissioned as a service provider to the project because of their convenient location in Cape Town and their track record in producing locally appropriate health related media, especially for the Provincial Health Department.

The goal of MTC is to assist communities to make positive behavioural change decisions that will ultimately impact on the health status of that community by developing and facilitating access to
information through collaborative partnerships. The belief of the organisation is that by empowering citizens who do not have access to mainstream media, people are able to exercise their rights, and in this way access opportunities which improve the quality of their lives. MTC provides a health-promotion service to any client requiring media material. We specialise in the development of print and radio material that is participatory, interactive and impacts positively on health behaviour’ (website of the Media and Training Centre).

It was planned that the farm-based women who participated in the Phase I focus groups would participate in Phase II by giving feedback on the draft WHH, and assist with the pilot testing in Phase III. The intention was to empower a number of farm based women by exposing them to the process of gathering data, reflecting it back to the target audience, designing communication media, and testing the draft with the target audience. However, because of various logistical barriers, the same participants were not involved in each phase.

3.2.3 Strategic health communication

A partnership of internationally reputable public tertiary education institutions, funding bodies and development organisations jointly developed a simple but useful model to guide the development of health communications and called it the P-Process (due to the P–shaped diagram that summarises the five main steps). The five steps are: analysis; strategic design; development and testing; implementation and monitoring; and evaluation and replanning (Figure 3.1). This approach is based on evidence that strategic health communication can influence behaviour (Health Communication Partnership, 2003). Participation and capacity strengthening are key process strategies that should occur throughout the process of the communication development (Figure 3.2). The relevant steps will be discussed in the methods section of the chapters covering phases I, II and III of the Project.
Figure 3.1 Steps in Strategic Communication (Health Communication Partnership, 2003:1)
Throughout the process, keep in mind . . .

**Participation**
A strong communication program should fully engage multiple stakeholders at the national, district, and community level.

**Capacity Strengthening**
A successful plan always considers ways to build capacity at the institutional and community level.

Figure 3.2  Participation and Capacity Strengthening throughout the P-Process (Health Communication Partnership, 2003:10)

This model proposes that audience segmentation is done by the communication programme developer so that perspectives and use of the materials can be differentiated according to specific groupings of people. In relation to the WHH development process the primary audience was defined as the women for whom the WHH is intended; the secondary audience was the health service providers who are expected to interact with the women through use of the WHH; and the tertiary audience was the regional and
provincial health managers and experts in the field of women’s health. This differentiation is referred to throughout the rest of the thesis.

3.2.4 Grounded theory

In order to develop an explanatory framework, or theory, of rural women’s health related behaviour, grounded theory, originated by Glaser and Strauss in 1968, was used (Cresswell, 1998). Strauss and Corbin (1998) refer to the development of the ‘conditional matrix’ by specifying conditions and consequences at every level of scale from the macro to the micro. The main components of the conditional matrix that influence actions and interactions include: contextual conditions, causal conditions, intervening conditions, and consequences.

Both quantitative and qualitative data are used in grounded theory and the researcher strives toward verification of new hypotheses, or explanatory propositions, by using the multiple perspectives in the data. Patton (2002:125) states that “Grounded Theory depends on methods that take the researcher into and close to the real world so that the results and findings are grounded in the empirical world”.

I used the qualitative data mainly from Phase 1, to make theoretical interpretations about the characteristics and health-related behaviour of the women who live on the farms, and the health workers in the local health services. This was done through a process of open coding, axial coding, and finally selective coding (Holloway, 2005). The issues of substance use and abuse by the women emerged as important health related behaviours. Therefore, much of the analysis and theory development revolves around this topic in the final chapter.

3.2.5 Utilisation-focused evaluation

In the third phase ‘utilisation-focused evaluation’ was used as an approach to assess the acceptability and perceived usefulness of the WHH by the health service providers and the beneficiaries (Patton, 1997). This approach to evaluating an intervention does not prescribe specific methods of evaluation;
rather, it is a process for helping ‘primary intended users’ select the most appropriate content, model, methods, theory and uses for their particular situation. The intention was to involve participants (health service providers and women utilizing the services) in Phase III in the process of identifying indicators of success of the handbook, what data collection was suitable, and in playing a role in the data analysis and the drawing of conclusions and recommendations.

The main steps proposed in the application of utilization-focused evaluation are presented in a 12 point checklist, each with a premise and primary tasks (Patton, 2002). These will be presented in Chapter 8, when the methodology for the final phase is presented.

3.2.6 Trustworthiness

Since this is a qualitative study concepts of validity and reliability do not apply as in a quantitative study. Rather, trustworthiness needs to be considered in order to ensure scientific rigour (Patton, 2002a). The concepts related to trustworthiness include credibility, transferability, dependability and confirmability. The procedures employed to strengthen the trustworthiness in the study included:

1 Prolonged engagement with the participants and persistent observations strengthened the credibility of the data – some of the same participants and research assistants were involved throughout the phases. This engagement gave me the opportunity to observe their interaction over more than a year. The participants can develop a sense of ownership and involvement in the outcome of the research, which will strengthen the quality of their engagement with the issues.

2 Peer review – a colleague challenged the analysis of the first round of discussions in order to develop the best possible framework/ matrix of factors on which to understand the health behaviours of the rural women.

3 Triangulation contributes to the dependability of the analysis – the analysis of the focus groups, notes and observations was compared
and contrasted in order to reach as rich a picture of the situation as possible.

4 Since data was collected across more than one site, and from a range of sources, the transferability of the findings are possible across the Western Cape where similar historical influences and living context can be found.

The quality of PAR is partly gauged by the extent and depth of participation in all stages of the research. Ideally, the same group of participants should see the whole process through in order to benefit from the process of learning and empowerment. Also, the research project should serve the interests of both the participants and the researcher (Liamputtong & Ezzy, 2005). Reflexivity is also a key process in PAR and requires that the researcher is self-aware and self-critical about the interactions with participants. Also, the researcher needs to clarify their own perspectives and assumptions about the issues being studied, and the influence these may have on the analysis and interpretation of the data (Holloway, 2006).

3.3 Ethical considerations

The development of the WHH involved a range of participants. Participants were drawn from three different groups: staff who run the antenatal services in Vredendal and Stellenbosch; women who live on farms; and health managers and experts who are mainly located in the Cape Town and West Coast areas. This approach is in line with suggestions made by Baum (2007), where she suggests that public health research is more ethical when the less powerful groups in society are involved in the research and the research responds to their needs in terms of improvements in resources.

The four basic principles that are commonly applied to biomedical research are: autonomy, beneficence, non-malificence, and justice (Joubert and Ehrlich, 2007). Respect for the autonomy for all individuals who participated in any data collection was ensured. Qualitative and quantitative non-invasive methods were used. Informed consent was obtained from all participants
before a focus group, interview, or questionnaire was carried out. Confidentiality was assured and no names, affiliations or patient record numbers are recorded in the analysis or final report in a way that could identify the individual. Participants were free to refuse to participate at any stage of the initial interview or any follow-up interviews.

The participants did not stand to benefit directly from participating in the research process, except that their knowledge stood to be improved, and their consciousness of the issues of women’s health stood to be heightened. The participants were not in any way disadvantaged or put at any risk by participating. Only the participants who received a handbook in the final phase could have benefited directly from the knowledge and counselling the handbook may have stimulated and, possibly, from changing their own behaviour as a result.

The data collection was conducted primarily in Afrikaans; however, interviews in English were also conducted, depending on the preference of the participant(s). The consent forms were provided in English and Afrikaans.

Ethical approval was obtained from the University of the Western Cape Higher Degrees and Research and Ethics committee.
CHAPTER 4    PHASE I METHODOLOGY

4.1 Introduction
Phase I is the formative phase of the LBW study, and corresponds with the ‘analysis’ step in the P-process model for strategic health communication. The model suggests that the following should be covered in this step: situational analysis and audience/communication analysis (Health Communication Partnership, 2003).

The components of the situational analysis include:

1. Determining the severity and causes of the problems based on existing data.
2. Identifying factors inhibiting or facilitating desired changes in relation to social, cultural and economic challenges to the target group.
3. Developing a clear statement that sums up the problems to be addressed.
4. Carrying out formative research using qualitative and quantitative measures to establish the current status and serve as a baseline against which to measure the programme.

The components of the audience/communication analysis include:

1. A participation analysis done to identify partners and allies, to segment the primary, secondary and tertiary audiences, and to identify field workers and potential change agents;
2. A social and behavioural analysis carried out by assessing the knowledge, attitudes, skills and behaviours of individuals, and by identifying networks, socio-cultural networks and community dynamics at the community level; and
3. An assessment of communication and training needs by analysing the media access and use by the target audience, and the communication capacity of the partners and allies.
A summary of the situational analysis is presented in Chapter 5, and includes health status indicators and the social and service provision factors that impact on the women living in the West Coast / Winelands region.

The audience analysis, regarded as the first primary data collection for the WHH project, aimed at developing an understanding of the internal and external factors that facilitate and inhibit the key health-related behaviour, i.e. smoking, drinking alcohol, and poor nutrition. In addition, the related social, cultural and economic challenges of the farm-dwelling women were explored. Qualitative methods were used to explore the facilitating and inhibiting factors relating to causes of LBW and to develop an understanding of the dynamics and socio-cultural networks at a community level, from the perspective of the target women and the service providers.

Although a formal ‘participation analysis’ was not planned, a process of engaging with relevant stakeholders and potential allies was carried out. Some of the participants played a key role throughout the three phases, strengthening the participatory action research nature of the project.

4.2 Objectives

1 To carry out a situational analysis of the Vredendal and Stellenbosch areas in terms of the context and indicators of women’s health;

2 To establish what the important factors relating to rural women’s health are, in particular their knowledge, attitudes and beliefs regarding smoking and using alcohol;

3 To establish the current access to and use of health literacy media, counselling, and lay support; and

4 To establish the perceived need for health promotion for women of childbearing age, the contents of existing media, and guidelines for content and structure of new health promotion media such as the WHH.
4.3 Methods

4.3.1 Setting
The Western Cape consists of six regions, including Cape Town as the only Metropole, and the West Coast forming one of the regions demarcated by the health services. According to the Census of 2001 (Statistics South Africa, 2005), the population of the Western Cape at 4 500 000 forms just over 10% of the South African population and, unlike most other provinces, the coloured race group dominates (54%). In terms of languages, Afrikaans is the first language for 55% of the population of the Western Cape, with Xhosa at 24%, English at 19%, and various other languages at 1,6%.

The health department regions do not match the municipal regions, and at the time of initiating the study it was the West Coast / Winelands regional office of the health department that made a request for the Healthy Childbearing Programme to be undertaken.

4.3.2 Participatory structures and engagement
At the beginning of Phase I, participatory structures in the form of a reference group were initiated in both sites. A reference group (health service and NGO representatives) meeting was held at the beginning of the Project at both sites. Thereafter, meetings were mainly held with service providers and NGO representatives or with key individuals at provincial, regional and local level at specific stages in the Project.

Discussions were held with the relevant staff members of the WFP and the Dopstop Association, to negotiate the extent to which they would be available, as research assistants, throughout the three phases.

4.3.3 Data collection methods

Situational analysis related to women’s health
A combination of the situational analysis approach of the P-process (Health Communication Partnership, 2003) and the methods proposed for a district
situation analysis (McCoy and Bamford, 1998) were used to plan and carry out data collection. The scope included:

- The geography, communities and socio-economic profile of the districts, and the political and policy environment;
- The severity and causes of the problems based on existing data;
- The health and other services available; and
- Factors inhibiting or facilitating changes in relation to social, cultural and economic challenges for the target group.

Since I was fairly familiar with the social determinants of health and some of the health-related services in Stellenbosch prior to this Project, more emphasis was placed on data collection in the Vredendal area.

The methods included structured interviews with key service providers at both research sites, observations of the general environment, and accessing statistics from various sources.

The framework proposed by McCoy and Bamford (1998) for conducting a rapid situational analysis of health districts was used for data collected in both sites and reported on in Chapter 5. It includes a summary of data to describe the severity of the problem of LBW, the demographics and socio-economic characteristics of the farm workers, as well as a description of key services. Information is also drawn from preliminary studies and other literature.

**Focus group interviews**

Qualitative data collection methods were deemed most appropriate for obtaining information on health-related behaviour since it is determined by a complex set of determinants, including attitudes, beliefs and other psychological factors, which would be best captured through focus group discussions and in-depth interviews (Bertrand, 2005). Since perceptions, attitudes and experience of nutrition and substance use are sensitive matters, it was decided to embed the data collection on these topics within health issues and the living context, in general.
Focus group interviews have been used for many decades in social science research and marketing, and can be used as a ‘self-contained’ method, or in combination with other methods. The most important aspects of preparing for a focus group are the selection of the participants and the design of the questions to stimulate the discussion. The group should be constituted of around eight people who have either cultural or social characteristics in common or identify with a common issue to be discussed. Depending on the topic, a heterogeneous or homogeneous group is constituted by recruiting purposively in order to generate rich information (Liamputtong and Ezzy, 2005).

The focus group should be facilitated by a moderator who poses a few prepared open-ended questions during the interview in order to stimulate discussion between the group members. The value in the discussion is in the voicing of ideas and experiences by the participants that may not occur in individual interviews. The moderator may need to be trained in order to carry out the facilitation appropriately (Kitzinger, 1995).

The language used in the focus group interview should be that of the participants in order that rich data can be generated. The moderator should be fluent in this language and, if necessary, the transcripts of the tapes or notes can be translated into the main language of the researcher, for the analysis.

The number of focus groups that should be held on one topic or variable is difficult to predict since, ideally, new data or perspectives should be collected until ‘saturation’ is reached and no new insights are found. However, this approach needs to be balanced with pragmatic issues of time and budget. Whether to offer incentives to participants and what type of incentives may be appropriate will depend on the context. The researcher needs to demonstrate appreciation for the time and effort of the participants, but not create dishonest participation through lucrative payment. Providing tokens, gifts, and refreshments is commonly used, rather than monetary rewards (Liamputtong and Ezzy, 2005).
The quality of a focus group interview can be measured by four main criteria:

- **Range** – should cover a range of issues relevant to the research question, and should have the potential to reveal unexpected issues;
- **Specificity** – should provide data that is specific to the experiences and perspectives of the participants;
- **Depth** – the interaction needs to be such that the perspectives are explored in some depth; and
- **Personal context** – the data collection and analysis needs to take into account the personal context of the participants and how this may influence their responses (Liamputtong and Ezzy, 2005: 95).

**In-depth interviews**

In-depth interviews aim to elicit information about the meanings and interpretations of events for the participant. The overall purpose and use of an in-depth interview is similar to the focus group interview since the interview collects qualitative data based on the verbal response of the participant to the broad questions posed by the interviewer. It is particularly useful for the exploration of issues that are sensitive or complex, and is more likely to represent an honest opinion or perception than a focus group interview is (Patton, 2002).

The interview can range in structure from structured, where many questions that elicit short responses are posed, to unstructured, where a few very broad questions are posed, and probing questions are used to achieve in-depth exploration of the issues. The length of an interview can range from half-an-hour to a few hours, and may be held over a number of sessions. However, they are most commonly single interviews of up to 90 minutes (Liamputtong & Ezzy, 2005).

Questions, or themes, to be used in the interview, which attempt to answer the research questions should be prepared in advance, but not necessarily presented in a strict order or wording, but rather adapted to the context and flow of the interview.
While the interviewer is mainly the listener in the interview, some responses or probing questions indicate to the participant that the interviewer is very interested in their conversation, and is encouraging more ideas and descriptions. Generally in-depth interviews are either tape recorded or the interviewer takes notes. The transcripts are then used in the qualitative analysis process.

4.3.4 Sampling and process

*Situational analysis*

*Sampling and interviews*

Eight officials of various organisations were contacted in Vredendal and appointments made for individual interviews. A snowballing technique was used to identify the interviewees, beginning with the district hospital matron (Joubert and Erlich, 2007). The participants included: the hospital matron; two clinic sisters; the regional public health official; the environmental health officer; a social worker from Social Services; a minister of religion; and an advice office official. Semi-structured questions were used to obtain a description of their organisation and their understanding of the context and needs of the surrounding farm-based population.

No formal interviews were conducted in Stellenbosch since I was familiar with a number of the officials of government services and NGOs as I had played a role on the Management Committee of the Dopstop Association for a few years, and supervised a student in a preliminary study of the Healthy Childbearing Project.

*Secondary data*

Various sources of data were accessed from websites and reports, as well as some personal communication. Sources that provided information on demographics, health status and service utilisation were mainly sought
Focus groups with women on farms

Sampling

Two groups of six women in Stellenbosh and another two groups of five women in Vredendal each participated in two focus group discussions in this phase (i.e. eight focus groups altogether). They were homogeneous groups since they were all women who lived on farms and were operating as groups for purposes beyond the research process.

The participants from Stellenbosch were volunteers from a group of farm workers who were being trained by WFP as peer leaders in health matters. The focus group sessions were integrated into their programme with WFP. The participants in Vredendal were volunteers from a group of farm workers who were being trained as farm health workers by the Kaapse Vroueforum. While all these women may be slightly better educated or motivated than the average farm workers and other working class women in this region, they were selected since it was anticipated that they were better able to express their thoughts on the issues to be explored in the focus group interviews than a random group of women would be, but were also able to represent the typical women in these areas. It was also hoped that they would gain insight into the development of health education materials that could be used in their future roles as peer leaders and farm health workers.

Data collection tool and process

The first round of discussions with the four groups focused on the knowledge, attitudes, and practices related to women’s health and pregnancy in particular. The questions were design to illicit information relevant to the primary audience analysis referred to in 4.1. The second round of discussions focused on what women would like to see in a health handbook and how they thought it could be used to promote their health (Appendix II).
The discussions were facilitated in Afrikaans by the NGO-based research assistants based on open-ended questions that were prepared by me. These research assistants received brief training in the process of facilitating a focus group, and understood the purpose of all the questions. (Kitzinger, 1995). The discussions were taped and the research assistants wrote notes on their observations and interpretations of what was said, and any other thoughts the discussions had stimulated in them.

**Focus groups and key informant interviews with service providers and experts in the field**

*Sampling*

Key service providers in the different health programmes such as nutrition, substance use, HIV/AIDS and antenatal services were selected based on the key roles they play at the different levels of the health system. Relevant service providers were identified at provincial, regional and local levels in the government health services. Experts in the field were identified because of their recognised expertise in the field of women’s health using a snowballing technique, and were mainly based at tertiary institutions. Those at the local level represented the secondary audience, while those at the regional and provincial level represented the tertiary audience in the audience analysis.

*Data collection tool and process*

Where possible, the health officials at each level were interviewed as a group, and the experts based at tertiary institutions or working as independent consultants were interviewed individually by me. The interviews explored their understanding of the factors influencing women’s health in the region, and identified the key information that they thought should appear in the handbook. The interviews also covered the communication skills and setting necessary for the best use of the handbook as an interactive tool. The interviews were carried out by me on an appointment basis, lasting up to an hour each, using an interview guide (Appendix III). Some were tape recorded, while others were recorded by me in the form of notes.
Document review

Other preliminary studies

Informative work was done by four masters in public health students within the broader Healthy Childbearing Project. I was the supervisor for two of the studies, reviewed in Chapter 2 (by D Tversky and L Maart). These studies served to confirm the observations that had been made by me during my years of working in the Western Cape health and social services sectors; i.e. that women using PHC services were not receiving the health education or support they required in order to improve their quality of life, health status, and the chances of having a normal weight baby. Another point that was confirmed was that the farm women live and work in very resource-poor settings and although they have some basic knowledge of health promotion, their own limitations, and the environment, militate against better health-related behaviours.

Further useful information was derived from two other student research projects, by E Batiste and R Gordon, for which I was a co-supervisor. These are reviewed in Chapter 2, and again, provide confirmation that the WHH should include a strong focus on substance-use reduction, and that the role of health promoters in antenatal care can be strengthened by better availability of appropriate educational print media.

Existing educational media and policy guidelines

Samples of the media available to the women in the two clinics at the time of the research were collected. Other material relating to women’s health topics was found in an ad hoc way from various sources. These included a few handbooks, similar to the one to be developed, that were sourced from other parts of the country or internationally.

Other documents that proved to be valuable were the government policy guidelines and reports such as the National contraception policy guidelines (Department of Health, 2002), the Saving Babies Report (Medical Research
Council, 2006), and the Guidelines for Maternity Care in South Africa (Department of Health, 2002).

4.3.5 Analysis

Situational analysis
Summaries were made of the interview notes collected in Vredendal. The knowledge I already had of key services and the context in the Stellenbosch area were also documented. Informative statistics were extracted from the secondary data sources to describe the population in terms of relevant demographic and health-status indicators. An overall summary of the data was drawn up by integrating the information from the two areas and following the structure suggested by McCoy and Bamford (1998). This manual provides guidance on the process of gathering data in a rapid situation analysis of a district health system and a suggested format for the presentation of the information. The main sections relevant to this study was the geographical, demographic and socio-economic descriptors; the health status indicators of the population, and the health and other services available. The situational analysis served to provide me with insight into these areas, as well as an opportunity to begin the community entry process and become familiar with some of the key role players and relevant institutions.

Qualitative data from primary, secondary and tertiary audiences

Data management
The taped interviews and focus groups were transcribed by a transcription service at the University of the Western Cape, in whichever language they were conducted. I am English speaking, but fluent enough in Afrikaans to analyse the Afrikaans transcriptions without English translations. Some of the key informant interviews were not taped, but notes were kept during the interviews. These notes formed the part of the data to be analysed. All the transcriptions and notes were filed in a ring binder for easy reading and storage.
**Data analysis**

Grounded theory was used as the framework for analysing all the transcripts and notes (Pope and Mays, 2006). Open coding was used to identify key phrases and these were grouped to generate categories using an inductive approach. Axial coding was then carried out in which codes, categories and patterns were used to develop propositions from which a framework / matrix of interrelated factors could be assembled (Creswell, 1998). Consensus opinions in the group as well as minority opinions and examples were equally important. Finally, selective coding was performed in which the data from primary, secondary and tertiary audiences were mainly used to develop a social and behavioural analysis of the primary audience, but some issues pertaining to the secondary and tertiary audience as partners were also extracted. The Health Action Model served as the framework through which this final stage of analysis was explicated – provides a theory to explain the social processes surrounding the phenomenon (Holloway, 2005).

The second set of issues dealing with ideas for the contents and use of the WHH were also analysed by coding the data and generating categories. Frequencies of concrete ideas were summed to assist in the decision making as to what to include in the WHH and what to exclude.

Two sets of themes were generated – firstly, to provide an understanding of the knowledge, attitudes and beliefs related to women’s health on the farms; and, secondly, to clarify what participants expected the design and contents of the WHH to include.

**Data interpretation**

Finally, a list of key factors relating to women’s health was inserted into the Health Action Model (Tones, 1987) to provide a framework for understanding the internal and external factors influencing the typical farm based women’s health related environment and behaviour.
Also, based on the data, a list of grouped ideas was tabulated to inform the brief for the contents and specifications of the handbook. The ideas were presented in rank order per section.

**Document and materials review**

Ideas were drawn from all the collected materials in order to inform the development of the new handbook, and ensure that key messages in the currently used media from the clinics were considered in the WHH brief.

Policy guidelines and government reports that related to the specific topics suggested by the participants were read in order to inform me, and to identify guidelines that needed inclusion in the contents of the WHH.

Various pages with content or illustrations deemed to be useful for inclusion into the actual wording or design of the WHH were tagged for ease of reference during Phase II.
CHAPTER 5 PHASE I FINDINGS AND DISCUSSION

5.1 Introduction

This is a rather long chapter as it contains the results of the situational analysis and the results of the data analysis of the qualitative data collection carried out with the primary, secondary and tertiary audiences in Phase I of the Project.

The chapter begins with a chronological summary of the main occasions at which participation was elicited from the audiences. This summary will be presented at the beginning of the results for each phase in order to record the extent to which participants were engaged in the process of developing the WHH.

5.2 Summary of participatory process in Phase II

April 2003 – Paarl Hospital meeting
Vredendal Hospital meeting
Interviews in Vredendal for situational analysis

April 2004 – Provincial Department of Health meeting
Meeting with Women on Farms Project and Dopstop Association.

May – September 2004 – Focus groups and key informant interviews at both sites and at regional and provincial level
5.3 Situational analysis

5.3.1 Geography

The West Coast / Winelands health region does not correspond exactly with the local government boundaries. Although Stellenbosch is included in this health region, it falls in the Cape Winelands District Municipality (beige area on the map, and previously called Boland Overberg Region) and not the West Coast District Municipality (pink area on the map in Fig 4), and is only 40 km from Cape Town. The town and farming area of Vredendal falls in the Matzikama Municipality and is approximately 200 km north of Cape Town (Figs 5.1 and 5.2 below).

Figure 5.1. District municipalities of the Western Cape Province
Figure 5.2. West Coast and Cape Winelands Municipalities
5.3.2 Demography and socio-economic issues

The Western Cape is known for its rich agricultural yield that includes wheat, fruit and, most importantly, wine and spirits. Farm workers are some of the worst paid in the country, have poor levels of education, and live in a situation where there are few resources for their families to break out of the poverty cycle and marginalised situation (London et al, 1998a). They are also vulnerable to eviction from farms on which they may have lived all their lives, rendering them homeless and without skills to find work in another sector (Aiber, 2003)

The Matzikama area is sparsely populated in comparison to the Stellenbosch area even though they are both mainly agricultural areas. The relatively low unemployment level in both areas (16% and 17%) is mainly due to the agricultural industry – it is difficult for people to have accommodation in the area without being employed on the farms (Table 5.1). This is in contrast to the national unemployment rate of 42% (Statistics SA, 2001). The difference in the proportion who are better educated, between the two areas, is due to the fact that Stellenbosch has a well-established university that contributes as a major boost to the town’s average education level. However, the farm-based people in both areas are likely to have very similar education levels, with the majority not having completed secondary schooling.
Table 5.1  Demographics of Matzikama and Stellenbosch municipal areas based on the Census (Statistics SA 2001)

<table>
<thead>
<tr>
<th></th>
<th>Matzikama local municipality</th>
<th>Stellenbosch local municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>50 208</td>
<td>177 705</td>
</tr>
<tr>
<td>Percentage unemployed</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Adult education levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Some primary</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>Completed primary</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Some secondary</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td>Grade 12/ Std 10</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>Higher/ tertiary ed</td>
<td>6%</td>
<td>17%</td>
</tr>
</tbody>
</table>

The poverty rate of district municipalities is ranked throughout the country according to the percentage of households with expenditure <R800 per month. The District Health Barometer reports that the West Coast and the Cape Winelands municipalities are ranked no. 1 and 2, respectively, meaning that they are the least poor in the country. This is likely to be due to the high employment rates in the area, compared to other municipalities, but does not mean that there are only a few poor households in the area, since wages are very low (Barron et al, 2007).

Most of the farms in the area have vineyards, but some have a combination of vineyards and vegetables or plant nurseries. Some women are employed on the farms while others are unemployed, but live on the farm with a farm working husband / partner. Although there are some schools, many farm children do not attend.

The legacy of the dop system contributes to the problem of alcohol dependence and weekend binge drinking. ‘Papsak’ wine is common and workers buy this as the cheapest form of wine. The problem of alcohol abuse is fuelled by ‘smokkelhuise’ (illegal informal liquor and dagga selling). Sensible
drinking is not really practised, but rather an ‘all or none’ mode of consumption.

Social problems related to poor wages and alcohol abuse are well recognised, but little is being done about these problems on some farms, while on other farms the farmers are taking some initiative to develop better living conditions and opportunities for the farm workers. Very little is available in terms of sport and cultural activities. The factors such as poor wages, inadequate housing and poor schooling are similar in both areas. However, since Stellenbosch is a large town, and close to the city of Cape Town, the access to education is better than in Vredendal, and the opportunities for farm-working families are not as limited.

Factors such as mechanisation of farming processes and making use of seasonal workers are a threat to the job and housing security of the workers who live on the farms. The new legislation relating to security of tenure is resulting in farmers dismissing workers who live on the farm and employing more seasonal workers. Generally, workers are not aware enough of their rights and not yet able to lobby for better conditions.

Insights from the officials revealed that farm workers are not planning their families, and that many couples live together without getting married. The man is viewed as the head of the household and wants to have children, especially sons. The men are not very supportive in pregnancy and see it as a woman’s role to produce their children. Abuse in pregnancy is fairly common and is more common while the abuser is under the influence of alcohol. There is peer pressure for young women to have a child, and this is possibly strengthened by the possibility of accessing a child support grant. Churches are quite active in the area and could be instrumental in promoting healthier lifestyles. Schools are institutions at which issues of lifestyle among the youth could be addressed.
5.3.3 Health status and health services

Since the project is mainly concerned with reducing LBW, health indicators related to maternal and newborn health were reviewed.

A summary of the data from many sources was found in the SA Health Review of 2008 (Health Systems Trust, 2008), and is presented in Table 5.2. Most data is originally from the SADHS 2003 (Department of Health et al, 2004b).

<table>
<thead>
<tr>
<th>Table 5.2</th>
<th>Indicators of health status and services in the Western Cape and South Africa (Health Systems Trust, 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Western Cape</td>
</tr>
<tr>
<td><strong>Child health</strong></td>
<td></td>
</tr>
<tr>
<td>Low birth weight 2003</td>
<td>18,1%</td>
</tr>
<tr>
<td>Stunting under 5 years</td>
<td>34%</td>
</tr>
<tr>
<td>Wasting under 5 years</td>
<td>6,2%</td>
</tr>
<tr>
<td><strong>Women’s health</strong></td>
<td></td>
</tr>
<tr>
<td>HIV prevalence (antenatal survey 2007)</td>
<td>12,6%</td>
</tr>
<tr>
<td>Contraceptive prevalence rate</td>
<td>76%</td>
</tr>
<tr>
<td>Maternal mortality ratio</td>
<td>70/100 000</td>
</tr>
<tr>
<td>Current smoking by women</td>
<td>29%</td>
</tr>
<tr>
<td>Current alcohol use by women</td>
<td>29%</td>
</tr>
<tr>
<td>Risky alcohol use by women (of the current drinkers)</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Health service utilisation</strong></td>
<td></td>
</tr>
<tr>
<td>Antenatal coverage</td>
<td>89%</td>
</tr>
<tr>
<td>Delivery in health facility</td>
<td>92%</td>
</tr>
<tr>
<td>Deliveries by trained staff</td>
<td>91%</td>
</tr>
</tbody>
</table>

Although the Western Cape has the lowest HIV/AIDS prevalence in the country, based on the antenatal survey (12,6% in 2007), it has by far the highest TB rate at 841/100 000 in 2001 (Department of Health, 2002). The maternal mortality rate is among the lowest in the country at 70 per 100 000
live births, with the national figure at 110 in 2003 (Table 5.2). The antenatal attendance is good (89% - Table 5.2) with ‘unbooked’ deliveries at around 5.7% (Odendaal, 2004).

The LBW rate for the Western Cape was 18.1% in the period October 2003 to March 2006 (MRC, 2007). Within the West Coast area the rates vary from 9% to 27% from one local municipality to another, with Matzikama having a rate of 21% in 2002 (DHIS data – personal communication). The Western Cape infant mortality rate is the lowest in the country at 31/1000 in 2002 (Western Cape Department of Health, 2005).

Alcohol use and smoking by women, and poor nutrition in children, are all at higher levels than the national averages, indicating serious lifestyle and poverty related health problems (Table 5.2). FAS is as high as 74 / 1000 in some high-risk areas. Maternal risk factors for drinking heavily in pregnancy in the Western Cape include low socio-economic status; being farm based rather than urban; low body mass index; having had a previous FAS-affected child; smoking; having a partner who drinks heavily (May et al, 2005; Viljoen et al, 2005).

The government health care services in the Western Cape continue to be fragmented by being offered by different authorities. In the West Coast/Winelands there are three different authorities: Provincial Administration of the Western Cape (PAWC) responsible for hospital services; regional services, responsible for curative clinic services; and municipal services, responsible for preventive and promotive services, including the mobile clinics.

The Vredendal and Stellenbosch areas have extensive public health services including district hospitals, community health centres, clinics and mobile services. Generally, the mobile services follow specific routes and visit each service point every month. An official at the regional level who was interviewed was of the opinion that health promotion is not taken seriously and that it was difficult to include health education into the mobile services because of time and staffing constraints. Another respondent mentioned that
‘booking’ (first antenatal visit) for women under 20 weeks is not promoted enough. In some clinics only certain PHC services are offered on certain days, for example, from May 2002 the services at the Vredendal North clinic were differentiated by day of the week, with pregnant women being seen on a Monday and Wednesday only.

According to the District Health Barometer (Barron et al, 2007), the clinic supervision rate of 22% in the two municipal areas under review is very poor and is ranked 38 and 40 respectively, meaning that the clinics were not receiving regular supervision.

The Vredendal Hospital is situated centrally in the small town, and serves as the maternity service and trauma unit for a wide area. It is a public district hospital with one private ward. The hospital is a “baby friendly hospital” that promotes exclusive breastfeeding. Stellenbosch Hospital is larger and serves a larger population. Generally, women stay for 12 hours after a normal birth, and up to three days after a caesarean section birth.

5.3.4 Health communication resources

I initially observed that most posters in the Vredendal clinics were in English, but it was noted that these had been changed to Afrikaans in a later visit. Any written information that was provided to women was photocopied and in small print. Radio Namaqualand is the local radio service, and Ons Kontrei the local newspaper. Apparently, people like t-shirts and badges when health campaigns are implemented.

In Stellenbosch there were more pamphlets and posters in the clinics. There were colour pamphlets from the Department of Health on various different topics, but these were sometimes not available. The main radio that farm-based people listened to was Radio KC, and the main newspaper was ‘Die Eikestad’.
5.3.5 Farm health workers

In the Stellenbosch area there are some well established farm health worker programmes, although they are not present on all farms (personal communication with Dopstop Association). These trained lay health workers liaise with the farmer and farm workers to promote health on the farm, and facilitate access to clinics, mobiles and emergency services when necessary. They have basic health knowledge, first aid skills and can treat minor ailments. Some are dedicated ‘directly observed treatment supporters’, and have been shown to have improved the TB cure rate (Daniels et al, 2005).

In the Vredendal area some farm health workers had just been selected in 2002 and were to be trained and supported by the Kaapse Vroueforum. This is an organisation involved in rural upliftment projects.

5.3.6 Other sectors which impact on health

In comparison to Vredendal, Stellenbosch is better developed and has more resources in terms of government services and NGOs.

The social services are present in both areas and attempt to cover vast areas, struggling to make a difference with vulnerable groups such as young mothers, abused children, and workers on farms where the farmer does not adhere to minimum standards of employment. Rehabilitation for alcohol dependence is more available in the Stellenbosch area through the South African National Council for Alcohol and Drug Abuse and one or two in-patient rehabilitation centres, compared to the Vredendal area where there are no substance-abuse treatment services. According to the key informants, people mainly stop drinking heavily through religious conversion.

Apparently, a few community development organisations have been initiated in Vredendal, but have not been sustainable. There is an advice office in Klawer that is the only farm worker focused organisation. Apparently, the unions find it difficult to operate in the area as they are denied access to the farms.
Although there is some pressure through the Ethical Trade Initiative to adhere to minimum standards of living conditions and wages for workers, there is little enforcement.

In comparison to Vredendal, Stellenbosch has many well established NGOs that reach out to the farm dwellers. The Dopstop Association, Women on Farms Project, and Stellenbosch Aids Action are all contributing to the upliftment of farm workers, and serving as watchdogs for human rights abuses.

5.3.7 Conclusion to situational analysis

It is clear that many of the women living on the commercial farms in the region are at high risk for delivering LBW babies as so many of the risk factors described in the literature seem to fit their profile. The direct risk factors for LBW are prevalent: high rates of smoking; alcohol use in general and in pregnancy; and poor nutritional intake, resulting in under nourishment and anaemia. Most pregnancies are not planned and many are only confirmed around 12-16 weeks, or later, by which time much damage could have already been done to the neurological development and general growth of the fetus. Although family planning services are available, the women are under pressure to have children and also, to a certain extent, have a fatalistic view of their life regarding taking control of their fertility. The intergenerational effects of LBW and ongoing poor lifestyles are evident in many women being of small stature and underweight, and not gaining enough weight during pregnancy.

On a social and cultural level the negative lifestyle habits are reinforced by a general acceptance of drinking and smoking by men and women, and little societal pressure to reduce these during pregnancy, despite some awareness of the negative consequences on the fetus. Even women who do not drink and smoke are likely to have a partner or other household members who cause her harm through passive smoking, and stress as a result of alcohol-related problems such as interpersonal violence and little money for food and clothing. Owing to the poor environment and lack of opportunities for recreation, the weekend bingeing pattern continues, with only church-related
activities serving as a distraction. This situation influences the youth to take up smoking and drinking at an early age. For those who are not able to further their studies, working on the farm is one of the few employment opportunities they will have. In this way the cycle of being trapped in a small community in a limiting environment is perpetuated, and the result is another generation with poor life skills and negative behaviours.

Health care services are available, but often not easily accessible because of distance, transport costs and the restrictions placed on workers by the farmers not to go to a clinic unless they are very ill. The quality of the services is questionable, partly because of the skills and attitudes of the staff towards farm workers, and because of resource constraints for counselling and support. There are few organisations the farm workers can receive any assistance from, especially related to smoking and alcohol problems.

There are a few factors that could militate against some of the harmful behaviours and the impoverished environment in which the farm workers live. The women do have some knowledge and awareness of what a healthy pregnancy is, and most believe that a bigger baby is a more desirable outcome than a small baby. Although there are some beliefs that are commonly held relating to how the cord may end up around the baby’s neck or how one may cause early labour, none of these myths actually cause any harm. The church is a significant institution for the farm workers and in many families provides the moral guidelines regarding habits such as drinking, but not for smoking.
5.4 Findings: Perceptions of women’s health

5.4.1 Participants and analysis process

A series of focus groups and key informant interviews was carried out and the results are presented in the form of themes. Table 5.3 provides an overview of the participants and their relationship to the project.

Table 5.3 Participants in focus group discussions and interviews

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Data collection method</th>
<th>Number</th>
<th>Description of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>30/05/2004</td>
<td>Stellenbosch</td>
<td>Focus Group</td>
<td>10</td>
<td>Group A: Female farm workers who were part of a leadership training programme with WFP</td>
</tr>
<tr>
<td>19/06/2004</td>
<td>Stellenbosch</td>
<td>Focus Group</td>
<td>11</td>
<td>Group B: Female farm workers who were part of a leadership training programme with WFP</td>
</tr>
<tr>
<td>14/07/2004</td>
<td>Bellville</td>
<td>Key informant interview</td>
<td>1</td>
<td>Professor of nursing at a Western Cape University</td>
</tr>
<tr>
<td>14/07/2004</td>
<td>Malmesbury</td>
<td>Focus Group</td>
<td>5</td>
<td>Senior officials in West Coast/Winelands Regional Health Services</td>
</tr>
<tr>
<td>15/07/2004</td>
<td>Cape Town</td>
<td>Meeting / discussion</td>
<td>2</td>
<td>Senior officials in Western Cape Provincial Gov Maternal &amp; Child Health</td>
</tr>
<tr>
<td>27/09/2004</td>
<td>Bellville</td>
<td>Key informant interview</td>
<td>1</td>
<td>Professor of Obstetrics and Gynaecology at a Western Cape University</td>
</tr>
<tr>
<td>28/09/2004</td>
<td>Vredendal</td>
<td>Focus group discussion</td>
<td>2</td>
<td>Nurses of the Vredendal PHC service</td>
</tr>
<tr>
<td>29/09/2004</td>
<td>Vredendal</td>
<td>Focus group discussion</td>
<td>6</td>
<td>Group A: One male and 4 female farm workers with training as farm health workers</td>
</tr>
<tr>
<td>29/09/2004</td>
<td>Vredendal</td>
<td>Focus group discussion</td>
<td>5</td>
<td>Group B: Five female farm workers with training as farm health workers</td>
</tr>
</tbody>
</table>

I was the discussion facilitator for one of the farm worker groups in Vredendal, while the Dopstop research assistant facilitated the other Vredendal group, in the same large room. I therefore had a better sense of these participants than
those in Stellenbosch, where the focus groups were facilitated by the NGO-based research assistants from Dopstop and Women on Farms Project. All the interviews and focus group discussions with the health service providers were conducted by me, and most were tape recorded and short notes also taken during the data collection.

The transcripts of all the focus groups and interviews were analysed using a combination of content and discourse analysis. Most of the discussion was fairly concrete and lent itself to content analysis. However, the way in which certain health-related behaviours were described, the stories that were told to illustrate their experience, and the reaction of the groups to some of these, reflected deeper meanings and interrelationships that revealed important discourses within their lives.

In order to remain true to the inductive process, no pre-listed categories were applied to the transcripts and notes; rather, codes were allocated to each sentence or phrase of the transcripts (open coding). After this process codes were grouped into sub-categories (axial coding), and written up as results for this stage of data collection. I was interested in what was not said in the discussions as much as what was said, as I had some expectations of what were likely concerns regarding the health of the participants and some sense of what were more sensitive topics than others.

Finally, the Health Action Model was used as a framework for abstracting from the data and developing a framework for understanding the internal and external factors relating specifically to substance use by women in the West Coast /Winelands Region.

5.4.2 Theme 1: The obvious health determinants

All four of the farm worker group discussions started off with a textbook type reply to ‘what keeps a woman healthy’, and stated in brief responses that healthy food, exercise, and good personal hygiene are essential. Interestingly, the focus on healthy food mainly included fruit and vegetables, but a balanced diet was also mentioned.
It is to eat healthily, get exercise, and learn not to stress. She should relax and not get angry but learn to handle difficult situations, to be calm. And to not smoke and drink would be a good thing. (Group A, Stellenbosch)

The content of the initial responses referred more to physical health, but the mental health-related factors followed, with all groups mentioning drugs, alcohol and smoking. Some offered comments about stress and managing difficult situations, while others highlighted spiritual health and being proud of oneself, as important. Their relationships with their partners were expressed in different ways – some identifying that they need to be presentable for their partners, and others implying that their partner can be a source of stress.

A woman must know that if she looks in the mirror and her husband comes home, then he must be able to say to her ‘my love, you are beautiful’, or he must just give her a hug – that is a healthy life for her. (Group A, Vredendal)

If he is maybe an alcoholic then he will oppress you. (Group B, Vredendal)

In one group from each area environmental factors were mentioned. It was stated as a duty of the farm health worker to encourage the cleanliness of the farm workers’ houses, and to throw rubbish into the drums. Environmental factors were also emphasised as barriers to health when stories of rubbish dumps full of flies and toilets that are blocked were described.

The other group introduced the issue of the dangers to a woman while pregnant, firstly in the form of a question about what medication should not be taken in pregnancy, and then highlighting the problem of chemical exposure while working on the farm. Overcrowding was identified as a factor in the spread of TB.

When a woman is pregnant, I want to know what medication should she use, how and when, and what the pros and cons are of medication in pregnancy.
Also, when a woman works on the land with poisons, there are disadvantages of the poisons, but advantages of working… And, what she should and should not eat – these are all things a pregnant woman must know. (Group B, Stellenbosch)

Only one group mentioned the use of the clinic for screening as part of maintaining one’s health, and linked this with sexual health.

A woman should go regularly to the clinic, she must have tests done, and she must protect herself from diseases, not wander around, and keep to one man. If you are married, only be with him, and likewise he must know that is his wife or girlfriend…. And he must know that if her wanders around then a condom must be used. Protection. Use a condom, yes. (Group A, Vredendal).

Health service providers felt that they provide information on various health issues, but were concerned that youth still behave in an ‘ignorant’ way.

5.4.3 Theme 2: The underlying issues and barriers to health

Little detail on the factors influencing their health was offered by the farm workers early on in the discussion, but once they had revealed more of their own opinions or personal stories, more information was shared. In most of the group discussions and key informant interviews, the seriousness of the challenges of poor resources and the harsh environment were revealed when the effect on the children was described. Participants described how a combination of exposure to smoke, little money for food, alcohol abuse and high levels of interpersonal violence, results in sickly children and, worse still, child neglect and abuse.

We didn’t talk about the dangers of smoke for the children. I think it is very dangerous for the children if we smoke in the house. Children can get lung cancer, and I read that children get ear infections and runny noses, and some are sickly with asthma.
And many women who drink have children who are often sick. If you are drunk you won’t think about your children that needs food.
A few weeks ago there was a man that fell asleep after drinking. He was with his two children in the house, and it caught fire. He and one of the children died…. It is a danger of drinking and smoking together. (Group A, Stellenbosch)

I have often seen that if the man is drunk then he doesn’t know how to dry his child, and to dress the child properly. Then the child is dirty, and if a fight breaks out, the child is in the way and gets hit … (Group B, Vredendal)

You can just see the child drank too much on the weekend. He goes to school on Monday morning, and when I check the books later you should see how he wrote – all skew and shaky. (Group A, Vredendal)

Health service providers agreed that women generally know about the negative consequences of substance use in pregnancy, but that it requires individual motivation to change habits. It was, however, questioned if farm women really make the connection between the lifelong disabilities of FAS and the alcohol they consume in pregnancy.

I don’t know if people really understand FAS and the link between the disability and alcohol. (Key informant)

There are three or four generations living on the farm so the role model of substance abuse is the norm … it’s so part of their life, with no reason to stop! People don’t see the long term effect, just live for today and not 10 years’ time. (Health services group, Malmesbury)

The alcohol problem can be attributed to the ‘dopsystem’, and low socio-economic status. Smoking has always been there in the coloured population, and it is seen as OK. (Health services group, Cape Town)
According to the farm workers, the influence of the environment and role models on the adolescents is highlighted by the ease with which young girls get involved in transactional sex.

*They drink because they don’t have anything to do so they sit at the shebeens, there are no other activities on the farm. Except netball, but is everyone here a netball player?*

*I am thinking of the places in town where there are age restrictions but they look older and then they have access to alcohol…*

*There are young ones that sell their bodies, and don’t even care if it is a married man, but just to get a drink in their hands. There are many young girls who do this around here.*

*Imagine I am a young girl, and he has bought me some wine in the yard, and he buys a beer for himself and we drink together. In the end we are drunk and I am obliged to sleep with him – now I must look after him. (Group A, Stellenbosch)*

The relationship between the farmers and farm workers was highlighted in various ways, sometimes representing positive relationships, but mostly holding the farmer responsible for farm workers’ poor living conditions, poor recreational resources, and the availability of alcohol on credit.

*He didn’t give them paint, and the houses look like pig sties… the walls of the house are black …it is poverty and there isn’t even electricity…. He should, as the employer, call people together and sit and talk about these things so they can see that he cares for us, he motivates us, talks with us – there must be communication between employer and employee. (Group A, Vredendal)*

*In most situations there is a farm shop and the farmer offers you groceries and wine on credit. They make a big profit, and at the end of the week they take it off your wages and you get a little back, and you sit with nothing. You go to the shebeen and use the little you have, knowing you can go back to the farmer and buy on credit. (Group A, Stellenbosch)*
In situations where the farmer gets involved, things do improve. (Health services group)

The clinic services also featured in relation to the quality and accessibility of the health services. Through various case examples the participants described their dissatisfaction with the mobile and fixed clinic services. The problems range from the infrequent visits of the mobile clinics to the farms to the inadequate health information provided and medication available.

You don’t have money, maybe just your taxi fare, and at the main clinic they say there is no more medicine, you must go to the chemist. No, the medicine of the chemist is so expensive. They don’t want to give you information, and they don’t want to help you sometimes.

I think another problem with the mobile clinic is that they don’t do their farms visits regularly. On some farms you hear people say that they only come after two or three months. I think it is a big problem for the farm workers that they don’t get the necessary health services. (Group A, Stellenbosch)

5.4.4 Theme 3: Dealing with substance use

Underlying causes of substance use

Health and social problems relating to alcohol misuse were mentioned more than smoking in the initial broad discussion of health determinants and barriers to health. When specific questions were posed to the groups regarding smoking, many women offered personal experiences as well as general observations.

The regional health service providers expressed strong views that the high levels of smoking and alcohol use by women on the farms were related to the role models in the families, poverty, poor recreational alternatives, and the fact that women picked up the habits very young.
So you have poverty, high cost of living, role models, limited entertainment areas. They seem to rely on the alcohol and cigarettes as a form of entertainment, and they don’t eat very well on top of it. (Regional Health Officials, Malmesbury)

**Giving up smoking**

Many ideas were listed as potential ways of reducing or giving up smoking. The more ‘home-based’ ideas included: having supportive friends, family or church peers; dealing with the craving by sucking sweets or chewing gum; doing other activities to distract from the smoking habit; and doing more exercise such as walking and jogging.

… there’s a woman who is very thin and she said to me she wants to give up smoking. I suggested to her that she ensure she has a packet of sweets or chewing gum. If she feels the craving for smoking, she should take one and eat rather. (Vredendal, Group A)

We need a more supportive approach like Smokenders programme. Health care providers need to take more interest in their patients (Key informant)

Other ideas included the use of commercial products such as Nicorettes from the chemist, or the use of a target setting programme that was promoted by a visitor from Cape Town.

Or she can go to the chemist to get something to stop smoking. You get a sticker to wear, and you get Quit spray that you can use to give up and stop smoking. (Stellenbosch, Group A)

However, many participants spoke of themselves or other people using will power only and giving up smoking based on a single decision. The decision was prompted by various situations; for example, being ill with TB, falling pregnant, or just deciding that it was time to give it up. Others promoted praying as a means to gain the strength necessary for giving up.
I smoked for a long time, then I had a child. When I had the child I decided that I had to bring up the child and that I could no longer use the stuff, I just gave up smoking and drinking. (Vredendal, Group B)

Much discussion took place about the difficulties of giving up, which mainly related to the dynamics of smoking, and the external factors that prevent a person from quitting easily. Some of the reasons were related to being addicted to the nicotine, needing the calming effect in stressful situations, and even environmental factors related to the smoke breaks on farms, and others smoking in their presence.

I said it would be easy, but when I started stressing again, and got depressed about everything, then I started smoking again. The most difficult is when you're in a group of friends where everyone is still smoking, and you stay in that group. Then you will always see the necessity of just smoking with them. (Stellenbosch, Group A)

Yes, she says it is for her nerves. Smoking becomes a hobby. Some use it for relaxing. No, it’s a habit. (Stellenbosch, Group B)

It’s a habit, and difficult to live without. There is a lot of peer pressure on young people to take up smoking, and even try dagga. (Vredendal nurses’ group)

And people at work take a smoke-break, then if you who don’t smoke you must continue working. Then you think I would rather sit and smoke. You get it three times a day, fifteen minutes each.

Yes, if you try then they say to you ‘no, you won’t be able to, you can’t’. They want to put you down. They say ‘Why do you want to quit smoking? Tobacco is not strong’. 
Many people smoke after eating, and can’t do anything else. They must smoke after eating. (Vredendal, Group B)

One of the key informants proposed that the smoking habit, even if only in the form of a few cigarettes a day, should be seen as an addiction, and treated as such.

It is substance abuse, not just use. It needs an addiction approach. Things like putting prices up doesn’t reduce the use, because it’s an addiction. (Key informant)

**Giving up drinking alcohol**

Strategies suggested for giving up alcohol use were similar to those for quitting smoking, and included using church groups for support, visiting non-drinking friends on the weekend, and doing other activities as substitutes. Becoming ill or falling pregnant were also cited as reasons for giving up, while others suggested a once off decision can be made to give up. The AA organisation was mentioned as a potential support group. A few participants in different groups suggested that giving up smoking was more difficult than giving up drinking.

I just decided to give up drinking. I was drinking one weekend and must have drunk too much, then I was ‘papdronk’ (laughter from others). Then I felt ‘no, I can’t go on like this’. (Vredendal, Group B)

A few participants made the connection between pregnancy and the potential damage to the fetus, either in relation to their own lives, or advice they gave to pregnant women.

I showed the young woman the poster on fetal alcohol syndrome and said to her that her baby will look like the one on the poster. Then she said she did not want her baby to look like that and be like that… then I said ‘today is a special day if you give up’, just by showing her the poster. (Vredendal, Group B)
The personal and environmental factors that serve to promote ongoing use of alcohol are many, and form a complex web of strong forces. The main issue seems to be that weekend binge drinking is so much part of life on the farms, that it is hard to withdraw from the habit and the social life that goes with it.

*Everyone is drinkers.*

*Those that are drunk come and shout at you.*

*Yes, then the man said 'why do you shout back when you are drinking 'under the blanket'.* (Vredendal, Group B)

*Then you get men who force their wives to drink with them so that he just causes trouble.* (Stellenbosch, Group A)

*Sometimes it is problems that push them to drinking.*

*Like abuse, marriage problems, physical abuse…*

*And I think an aspect is where poverty comes in, if I am dependent on you because I don’t have money for alcohol, but I try to fit in with the group of friends.*

*And that is maybe where the sex life comes – where you have sex with a man because he can buy you a drink or give you money, because people don’t have money to buy for themselves.* (Stellenbosch, group B)

*Near us lives a woman that does not drink in the week. She is a very nice woman and we talk a lot with her. But, on the weekend then she makes sure that she has wine so that when her husband comes back from his wanderings and hits her, she says, as long as she is drunk then she does not feel it, and only tomorrow is she sore.*

*That’s when a man can beat you to death!* (Stellenbosch, Group A)

Various stories were shared of extreme interpersonal violence and sexual abuse while the perpetrator was under the influence of alcohol. In some cases the perpetrator and the victim were under the influence.
The availability of cheap alcohol was identified as a major issue, as well the system of being able to buy on credit, by both the health service providers and women on the farms.

I think it is difficult to give up drinking because on the farms there are many shebeens. They give young children alcohol and make them drunk. I reported this matter, but … (Vredendal, Group A)

The availability of support or rehabilitation services emerged in some groups, and the sentiment was that minimal support to give up alcohol was available, and that inpatient rehabilitation was not usually effective.

The rehabilitation is by Social Services. Many young women in Vredendal-North were sent away, and the one, she looks good now. I saw her again on Sunday, but it’s as if they are all shaky.

Yes, the men are sent away, but he comes back and just drinks more of it.

I feel that there should be someone in our community that can go from farm to farm to get people together and talk about this and explain what is happening with drinking and smoking. They can also explain how they could save because there are some of the people that don’t know how to spend their money. (Vredendal, Group A)

5.4.5 Theme 4: Sources of health information

Participants in the farm worker focus groups were asked where they could obtain health related information. Many different sources were listed, but mostly in a very impersonal way, suggesting that there are known sources, but not many of the women actually made use of them.

A range of print media were mentioned as sources of health-related information, including magazines, newspapers, pamphlets at government services, NGOs and shops. The library was also listed. Private health services such as the general practitioner and the pharmacist, as well as public health services, were named as sources of information in the health services.
Significant people who could be approached for information included the clinic staff, the farmer, police and social workers

*I think the closest available information is at the clinics, and on the farms when the mobile clinic visits. I think there is also a responsibility of the farm owner’s side to ensure that the farm workers get the information.*

*There are no farm health workers in this area.* (Stellenbosch, Group A)

*And then in Shoprite there are pamphlets that you can take to read. I take some often, and recently I also took some from the clinic. I took them and discussed them with the people and gave one to each and said they should read the important information in them. And to think that on my farm there are people who have heard of TB, but don’t know what it is.* (Vredendal, Group A)

*The health media needs to be in the right language.* (Health management group, Malmesbury)

Exposure to health messages through the television and radio was also mentioned by one group.

*Sometimes they listen on the radio, and on TV they see lots of illnesses.* (Stellenbosch, Group B)

The health service officials admitted that although some pamphlets and locally made information sheets are available to patients at the clinics, they are not usually provided with an explanation or discussion. At a provincial level no specific materials or programmes have been developed to use in substance-use education or counselling for smoking, although a pilot research project was being carried out in collaboration with a research organisation. It was mentioned that the HIV epidemic may have dominated health promotion efforts, to the detriment of other epidemics.
Midwives ask for pamphlets and we don’t even have anything… there is so much emphasis on HIV/AIDS, we’ve lost the other things. Smoking is left off health department priorities. (Health management group, Cape Town)

Although some health service providers knew of some initiatives in the past, none had ever seen or used a woman-held health record or handbook.

5.5 Discussion

The information collected through the situational analysis, focus groups and key informant interviews served to provide rich information on the context in which the farm-based women live, their own understanding of their health and factors influencing their health-related behaviour, and the perceptions of the service providers. This discussion reflects on some of the general women’s health related issues, and then focuses on substance use in particular through the application of the HAM (Tones, 1987; Tones & Tilford, 2001). The conditional matrix to be used in grounded theory development that was proposed by Strauss and Corbin (1998) has similar components to those of the HAM - i.e. contextual conditions; causal conditions; intervening conditions; and consequences.

5.5.1 Health issues and services

The reproductive health indicators show that the women in this mainly rural population have some of the highest rates of LBW (up to 27% in the Cedarberg, and 21% in Matzikama, where Vredendal is located), but relatively low rates of ‘unbooked’ deliveries (3% – 7%). There is satisfactory basic understanding by the women of how to live healthily, but access to suitable and affordable food and a clean environment is a challenge. None of the groups spoke about HIV directly and only some mentioned STIs as health problems. Although the HIV rate is lower in the Western Cape than in other parts of the country, it is still a major concern, especially as it tends to be overlooked as a health issue by the farm-working women themselves. Interestingly, no women mentioned the use of the health services for screening services such as pap smear, VCT or dental checkups.
As a province the Western Cape has some of the best health and development indicators in the country (such as low IMR and MMR). However, the indicators of poor health (such as high TB, LBW and FAS rates) affect the poorer communities, especially the farm-based communities, disproportionately. In addition, the HIV-infection rate continues to rise amongst people in the West Coast/Winelands. The role of alcohol abuse in the high levels of violence, accidents and fetal alcohol syndrome has long been recognised but, with few policies and resources to make any significant change in these outcomes, the morbidity will continue to be at unacceptably high levels.

It was clear from the interviews that the health and social services and NGOs are struggling to meet the enormous health and social challenges of people who live in small isolated groups on large farms, especially in the Vredendal area. The health services offered by mobile clinics are viewed by the women as inadequate since they visit the farms about once a month only.

5.5.2 Roles and relationships

Women in this area of the country seem to be disadvantaged in a number of respects as they have poorer levels of education than their urban counterparts, have poorly paid menial work, and are exposed to two layers of patriarchal oppression – that of their partner and the farmer.

The women expected to have loving and respectful relationships with their partners, but often have to deal with emotional and physical abuse and fulfil the expectations of their partners for child bearing and rearing with very limited resources. Their relationships are further complicated by their accommodation often being dependent on the employment of their partner on the farm, regardless of their employment status. The relationship with the farmer is also complex since the women have expectations that the farmer should be caring and supportive towards them in a fatherly way but find he does not provide certain basic housing and amenities. Another complicating factor is that the farmer facilitates alcohol abuse by allowing farm dwellers to buy alcohol on a credit system. These dynamics, and the lack of alternative
job opportunities, seem to contribute to high levels of stress and hopelessness (Doyal, 1995). While they take pride in their roles as partners and mothers, much of what the women describe resonates with what Graham (1987) describes as ‘caring in poverty’ resulting in low levels of physical and emotional energy. The women also recognize that the lifestyles of the adults do not provide suitable role models for the children.

5.5.3 Environmental concerns

Although women in the focus groups were able to describe the common causes of both the physical and mental health problems at an individual level, and an environmental level, the barriers to dealing with the determinants were overwhelming and largely beyond the control of individuals.

Some of the environmental issues they highlighted included passive smoking, poor rubbish removal, blocked toilets, overcrowding, and chemical hazards on the farms. While the farm health workers acknowledge that dealing with some of these factors falls within the scope of their work, they felt relatively powerless to change the situation to any marked extent.

As Chomitz et al (1995) suggest, women will not be able to modify their behaviour without support from the health care system, society and influential people in their lives. Similarly, the Ottawa Charter places emphasis on systems-level reforms and, in this context, including maternity-related provisions is necessary for providing a supportive environment in which individuals can take more responsibility for their health (WHO, 1987).

5.5.4 Substance abuse

The extent of the problem of smoking and drinking is acknowledged by all parties, and the women on the farms have some ideas about how to reduce the substance abuse. The dominant stories described women giving up drinking or smoking in a sudden way, sometimes as a result of religious conversion, and other times because of health problems or social responsibilities.
As the discussions with the women progressed issues of sexual abuse of women and children, transactional sex by young women, and general child neglect emerged. These extreme social problems were linked to alcohol abuse and poverty, and viewed as very prevalent.

The HAM has been used as a framework within which to summarise the factors that relate to substance use in pregnancy since substance use is one of the risk factors for LBW that is common in the target population and is behaviour that could be changed on an individual level (Tones, 1987). Tones proposes the use of the HAM to analyse the many factors influencing substance misuse, and the planning of ‘multi-factorial strategy’ to reduce the problem through educational and other health promotion interventions.

The behavioural intention (in the middle of the diagram – Figure 5.3) is stated as the ‘decision to cut down or quit substance use in pregnancy’. The internal psychological factors that influence substance use behaviour are divided into the normative system, the belief system, the motivation system, and self-concept and self-sentiment. The facilitating and inhibiting factors that determine whether positive health behaviour takes place relate to the external environment as well as the skills of the individual to achieve the changed behaviour. These will now be explained based on the analysis of the formative stage of the project.

The women are exposed to a normative system in which smoking and drinking by women is accepted, even at a young age. Since many women smoke and drink, and have friends and partners who do likewise, the peer pressure to use substances easily outweighs the influences against substance use. The historical influence of the dop system cannot be ignored since there are many women still of reproductive age who experienced the dop system directly, while others have been exposed to family members who abuse alcohol. Therefore, the norm is to use alcohol rather than not to use it, and this in turn influences the women’s attitudes and beliefs.
Another important community norm is the expectation to bear children and prove fertility - for men and women. So, while it is initially frowned upon to have an unplanned pregnancy, especially as a teenager, the long-term sense of worthiness as an adult is strengthened.

At the cognitive level, the farm dwellers have inadequate health literacy, since, although they have basic knowledge of some key issues in promoting health, there are some concepts such as the need for regular screening, such as pap smear and VCT, that are not included in their ‘healthy lifestyle’ concept. Some women display low intellectual ability and are not able to discuss basic health issues such as family planning, and reproductive cycles. This low ability could be due to the intergenerational effect of alcohol abuse on neurological functioning and the poor social educational context in which they were reared (Streissguth, 2007). Further, they would not have had easy access to magazines that contain health-related information because of the prohibitive costs of these, as was expressed in the focus groups. They mostly rely on free pamphlets from shops and government services for information and are influenced by mass media such as television and radio.

The motivation system is the affective component of the inter-related systems. There were various indications that the women have a fatalistic attitude towards life and feel hopeless about ever breaking out of their impoverished life. Exposure to domestic violence directly or indirectly has an added negative effect on their mood and self-motivation. However, religion was mentioned by various participants and is seen as a positive force in relation to the need for support and in reducing alcohol use, in particular.

**Application of the Health Action Model to substance abuse**

The HAM framework proposes that in order for behavioural intention to lead to healthy behaviour, a person’s self-concept and self-sentiment are important modifiers. Tones (1987) proposes that a person’s locus of control is influenced by his or her belief in the extent to which they can take responsibility for change: Those with internal locus of control believe they control their lives and are responsible for the successes and failures, while those with external locus
of control tend to believe that their actions are limited by fate, chance and powerful others. Based on the way women revealed their own and others’ struggles with daily life it could be deduced that many of them display low self-esteem and self-worth, as well as poor determination and readiness to change their smoking and drinking habits, indicating a more external locus of control.

Work done by Kruger and van der Spuy (2007), amongst farm women in the Western Cape, assists in explaining the psychological process of women dealing with many stress factors on the farms. Although Kruger and van der Spuy focus on the denial of pregnancy by two women on Western Cape farms, a range of issues is very eloquently explained in the conclusion in relation to the denial of pregnancy:

It may be concluded that a psychoanalytic understanding of the identity, order, and the abject might be useful in illuminating not only the women’s failure to disclose pregnancies, but also their failure to report or seek help for bodies that are beaten and bodies that are ill (e.g. with HIV/AIDS). In other words, if there is indeed a more pervasive tendency in low-income communities to not acknowledge feelings, thoughts, actions, decisions and conditions that can also be construed as problematic (particularly those related to the body), this tendency may also not simply be related to a conscious decision to keep secrets but may also have to do with what can be understood as an almost unconscious survival strategy of the disempowered. The tendency to not talk about or report or acknowledge problems has severe consequences for health decision-making, help-seeking behaviours, and treatment adherence – for example, contraception, HIV/AIDS testing, coping with HIV diagnosis, substance use during pregnancy, staying in violent relationships, not reporting child sexual abuse, getting help for depression, and so forth (Kruger and van der Spuy 2007:18,19).

Shifting to the more external factors that influence substance use by the women, it is obvious that the negative influences include the easy access to both alcohol and cigarettes, or tobacco. In addition, the negative attitudes of service providers towards women who abuse substances, especially in pregnancy (Everett and Steyn, 2005), and the general resource-poor environment that feeds into boredom and poor life skills results in the substances playing a key role in their lives. While smoking is seen as useful for dealing with stress, alcohol is used more to create entertainment and pass the time, especially on weekends. The addictive nature of both also cannot be
ignored. However, there is poor access to alcohol rehabilitation services, and no organisation that focuses on assisting people to quit smoking. The women perceive the rehabilitation service where some people are ‘sent away to’ as being ineffective.

On the positive side there are some factors that serve to prevent some women from using substances at all, or at least use them very little. A supportive family and set of friends is key. The screening and counselling at the clinics sometimes serves to strengthen women’s ability to manage their stress and not abuse substances.

The mapping of all the factors in the HAM framework can be used to identify those that are facilitators and can be enhanced by an intervention, and those that are negative for the women and which should be minimised. These could be referred to as leverage points (Corcoran, 2007). In relation to the development of the women’s health handbook, it is possible that some aspects within the belief system, motivation system, self-concept and self-sentiment that need boosting can be incorporated overtly or covertly into elements of the handbook. Admittedly, it is more difficult to influence wider community norms, social determinants of health and inhibiting factors through the handbook. However, by providing a tool that could enhance the participation by women in health consultations, the attitudes of the service providers may be shifted to be more trusting of the women’s abilities to live more healthily.
**Figure 5.3  Application of the Health Action Model (Tones, 1987):**

Factors influencing substance use in pregnancy

**Health action / behaviour**
Reduction or continuation of smoking and/or drinking in pregnancy

**Facilitating factors**
- Support of family & peers
- Self regulatory strength
- Clinic screening and specialist counseling
- Triggers for quitting
- ANC health education

**Inhibiting factors**
- Stress and boredom
- Poor life-skills & unsupportive partner
- Easy availability of cigarettes and alcohol & culture of weekend binges
- Chemical dependence or habitual use
- Judgmental attitude of nurses

**Behavioural Intention**
Individual decision on substance use in pregnancy

**Self concept**
- Low self esteem & self worth

**Self sentiment**
- Lacks determination and conviction to change habits

**Belief system (cognitive)**
- Poor health literacy – value of ANC & effects of substances
- Ignorance or denial of pregnancy
- Low level of education

**Motivation system (affective)**
- Fatalistic view of life
- Poor drive to change
- Feeling of hopelessness in poverty
- Exposure to domestic violence
- Poor role models
- Religiosity

**Normative system (social)**
- Culturally acceptable to smoke and drink
- Significant others and peers smoke and drink
- Historical influence of ‘dop’ system on drinking
- Expectation to bear children
5.6 Findings: Form and contents of WHH

5.6.1 Participants and analysis process

The remainder of this chapter summarises the ideas from the focus group discussions and the key informant interviews on the form and contents of the planned WHH, and provides some reflection on these. This set of findings leads to the next chapter that outlines the approach to the design and pilot testing of the WHH.

The data on the possible contents, format, utilisation and potential barriers to achieving successful use of the WHH were collected during the same discussion with the health service providers referred to in section 5.4.1. However, for the farm workers these questions were posed at specific focus group sessions, some of which took place on the same day as the first discussion. The main prepared questions were utilised in the discussions with the focus groups and the key informant interviews. The only additional key informant was an experienced midwife working in the private sector in Johannesburg. She was unfamiliar with the context and issues pertaining to the lives of rural women in the Western Cape, but had extensive experience in midwifery and developing educational material for pregnant women.

An A5 size school exercise book with a plain pink cover was used in the discussions to refer to the proposed size of the WHH, but no other materials were used that may have influenced the ideas of the participants on the farms, or key informants. During the discussion with the health service providers at regional and provincial level an existing module on ‘keeping healthy in pregnancy and while breastfeeding,’ that had been developed by the provincial Health Department for use by health promoters, was also referred to.

As the interviews progressed, ideas from previous ones were reflected to the participant(s) for assessing their level of support for the idea; e.g. is the idea
of having a flap at the back of the WHH for clinic cards a good one? In this way the strength of support for some of the ideas that I found interesting was tested.

The data was analysed using content analysis with coding of the proposed ideas, and then grouping of these codes into five main themes: utilisation issues; health records; records of counselling; topics for information; and local resources list. The tables below summarise the ideas that emerged from the data analysis and do not identify who made each suggestion. The number of times a specific topic was mentioned is represented in the second column and the ideas are ranked according to the frequency of occurrence. Verbatim participant comments were extracted from the transcripts that served to motivate for the topic or highlight how the issue should be presented. These are listed in the third column of each theme summary.

Since there was general agreement that the A5 size would be appropriate for a woman to carry with her, most of the discussions focused on contents and utilisation issues. Most suggestions made related to what should be included in the WHH; however, there were some ideas of what not to include also. I was also interested in the level of interest in the idea of the WHH as an indication of the likelihood of successful uptake by women and service providers. This was deduced from the reactions of the various participants and the extent to which they contributed relevant ideas. In general, there was overwhelming support for the idea and purpose of the WHH. However, there were some voices expressing caution, especially regarding placing additional expectations on nurses in clinics, and the cost of reprinting the WHH in the future.

Theme A, on utilisation of the WHH, has sub-categories under which the issues are listed in rank order.
### 5.6.2 Theme A: Utilisation issues

<table>
<thead>
<tr>
<th>Issue</th>
<th>Number of times mentioned</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Point of service to be issued and used</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHH to be used in health promotion</td>
<td>2</td>
<td>Can be used to strengthen messages of health promotion sessions. If they don’t want to believe you then you can show them in the book.</td>
</tr>
<tr>
<td>Useful to a range of health workers</td>
<td>2</td>
<td>We as farm health workers can help people fill in their personal details, or ask the clinic to fill in from the clinid records.</td>
</tr>
<tr>
<td>WHH to be issued at family planning</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>WHH to be introduced to GPs</td>
<td>1</td>
<td>Some women go to private GP in pregnancy, then deliver in public facility.</td>
</tr>
<tr>
<td>Use with ABET classes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Emergency situations</td>
<td>1</td>
<td>If a person is taken to hospital unconscious and can’t give their details, then the book will help.</td>
</tr>
<tr>
<td>Filling in records</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Format and accessibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of detail &amp; language</td>
<td>5</td>
<td>Need WHH not to be too detailed. Not high words, just ordinary words. Large letters.</td>
</tr>
<tr>
<td>Pocket for clinic cards</td>
<td>2</td>
<td>Need pockets for keeping the revised ANC card and related medical care records. The farm health worker who is managing the TB treatment can fill in the card and put it in the book.</td>
</tr>
<tr>
<td>Relationship to other existing materials and guidelines</td>
<td>2</td>
<td>WHH needs to build on and relate well to existing materials. There have been other similar initiatives</td>
</tr>
<tr>
<td>Issue</td>
<td>Number of times mentioned</td>
<td>Quotes</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Colour pictures</td>
<td>2</td>
<td>Many older people page through the newspaper even though they cannot read, and they look at the pictures. I think the book must have pictures in it.</td>
</tr>
<tr>
<td>ANC card in middle of WHH</td>
<td>1</td>
<td>What about the card being in the middle, and it gets pulled out?</td>
</tr>
<tr>
<td>Fit of clinic card with WHH</td>
<td>1</td>
<td>I am concerned about where the clinic card fits this boekie, so maybe the card needs to be part of the book.</td>
</tr>
<tr>
<td>Name of book</td>
<td>1</td>
<td>Must be a nice name. Family health book.</td>
</tr>
<tr>
<td>Language</td>
<td>1</td>
<td>Written in Afrikaans.</td>
</tr>
<tr>
<td>Laminated cover</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### Potential barriers to success

<table>
<thead>
<tr>
<th>Issue</th>
<th>Number of times mentioned</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of printing</td>
<td>2</td>
<td>We are in a terrible spot financially.</td>
</tr>
<tr>
<td>Nurses not likely to write info in 2 places</td>
<td>1</td>
<td>The nurses don’t want to write twice. Rather make a copy of the ANC card and put in WHH.</td>
</tr>
<tr>
<td>Time to use with patients</td>
<td>1</td>
<td>ARV counseling is taking up to an hour, so unrealistic for ANC.</td>
</tr>
<tr>
<td>Motivation of health workers</td>
<td>1</td>
<td>Resistance from health workers is a problem, but you only need one who is motivated and you will overcome it. Clients will be keen.</td>
</tr>
<tr>
<td>Need more health promoters and CHWs</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The ideas that emerged within Theme A showed that participants agreed that the WHH could be useful at various service points such as in family planning, antenatal, and emergency services, as well as in consultations with private general practitioners for continuity of care. However, in-depth health education was seen as the role of the health promoters or community health workers /
farm health workers. The WHH would therefore serve as a resource for these workers.

The low literacy level of the intended users of the WHH was discussed repeatedly. The inclusion of pictures and the use of plain language and large font was seen as the solution to making it more accessible. It was clear that Afrikaans would be the most suitable language for the first version as the majority of the primary audience would be Afrikaans speaking, and not really literate in English. Durability and attractiveness was also highlighted and it was felt that the cover needed an appealing design with a catchy title. Using a colourful laminated cover would be necessary.

For themes B to E the topics were listed in rank order and those of the same rank (mostly those mentioned once or twice only), were listed in order of life cycle position - i.e. having relevance earlier in the life cycle of a woman to later in the life cycle. The only sub-categorisation in Theme B was to separate those topics that were proposed to be included in the records section of the WHH from those that were identified that should not appear in the WHH.

5.6.3 Theme B: Health records section

Table 5.5 Categorisation of topics for health records

<table>
<thead>
<tr>
<th>Issue</th>
<th>Number of times mentioned</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topics suggested for inclusion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth weight &amp; gestation</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Blood pressure</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Blood group</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>VCT</td>
<td>2</td>
<td>Had it or not, and promote knowing your status.</td>
</tr>
<tr>
<td>Cervical screening</td>
<td>2</td>
<td>Include cervical screening at 30, 40 &amp; 50 yrs.</td>
</tr>
<tr>
<td>Chronic conditions</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RH factor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Number of times mentioned</td>
<td>Quotes</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Allergies</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td>1</td>
<td>Syphilis seems to be more open than HIV status.</td>
</tr>
<tr>
<td>Family planning</td>
<td>1</td>
<td>Usually open about family planning, so should be OK.</td>
</tr>
<tr>
<td>Miscarriages</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Checklist that matches education sessions</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Delivery &amp; complications</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kangaroo care</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Phototherapy</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Postnatal depression</td>
<td>1</td>
<td>This is under-recognised.</td>
</tr>
<tr>
<td>Immunisation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Child development</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>First menstruation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Journal of memories</td>
<td>1</td>
<td>Own writing on gynae problems.</td>
</tr>
<tr>
<td>Menstrual calendar +</td>
<td>1</td>
<td>Add own codes for risky sex or other significant things.</td>
</tr>
<tr>
<td>First signs of menopause</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Items not to be included</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV status</td>
<td>1</td>
<td>HIV disclosure is not acceptable. Some disagree and say result should be in WHH.</td>
</tr>
<tr>
<td>Regularity of sex</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Number of sexual partners</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The items suggested for inclusion in the records section were wide ranging and some were quite creative. There was some concern about very sensitive or private information being recorded such as the HIV status, regularity of sex, and the number of sexual partners.
5.6.4 Theme C: Records of counselling

Table 5.5 Categorisation of topics for counselling

<table>
<thead>
<tr>
<th>Issue / topic</th>
<th>Number of times mentioned</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic violence</td>
<td>1</td>
<td>Need space for social work notes.</td>
</tr>
<tr>
<td>Smoking and drinking counselling</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The section on counselling was not discussed much, resulting in limited ideas for this section.

5.6.5 Theme D: Topics for information section

Table 5.6 Categorisation of topics for information section

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of times mentioned</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding</td>
<td>6</td>
<td>Breast is best and cheapest.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difficult going back to work, need to express and put in fridge.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use cabbage leaves on breasts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breast-feeding versus bottle-feeding.</td>
</tr>
<tr>
<td>Healthy living</td>
<td>5</td>
<td>Don’t always focus on the abnormal.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Healthy living in pregnancy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relaxed living.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eating plan with foods that we have.</td>
</tr>
<tr>
<td>Physical care in pregnancy</td>
<td>5</td>
<td>Don’t lift heavy things.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wear comfortable shoes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tight clothes in pregnancy harm the baby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Myth that having sex during pregnancy is feeding the baby.</td>
</tr>
<tr>
<td>Danger signs in pregnancy</td>
<td>4</td>
<td>How to avoid premature labour, and abruptia placenta.</td>
</tr>
<tr>
<td>Topic</td>
<td>Number of times mentioned</td>
<td>Quotes</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Substance use</td>
<td>4</td>
<td>Link all health issues to smoking and drinking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advice on smoking.</td>
</tr>
<tr>
<td>Nutrition in pregnancy</td>
<td>4</td>
<td>Know about dangerous medication.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cravings can have bad effect on baby.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Iron tablets in pregnancy – people just throw them away.</td>
</tr>
<tr>
<td>Baby handling &amp; illness management</td>
<td>4</td>
<td>Home remedies for baby’s illnesses.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don’t have money to go to doctor.</td>
</tr>
<tr>
<td>Fertility cycle</td>
<td>3</td>
<td>People don’t know about the vagina and cervix and how menstruation works, and how babies are made.</td>
</tr>
<tr>
<td>PAP smear</td>
<td>3</td>
<td>There are those that think it is for cleaning them so that they can fall pregnant.</td>
</tr>
<tr>
<td>PMTCT</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Parts of the body</td>
<td>2</td>
<td>know parts of the body and types of conditions specific to women</td>
</tr>
<tr>
<td>Importance of clinic visits</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>2</td>
<td>Preventing illnesses from the environment where you stay.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevent injuries around the home.</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>STIs</td>
<td>2</td>
<td>Signs of STIs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women should be able to get and use female condoms.</td>
</tr>
<tr>
<td>FAS</td>
<td>2</td>
<td>Dangers leading to FAS.</td>
</tr>
<tr>
<td>Signs of falling pregnant</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Stages of pregnancy &amp; fetal development</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>(pictures)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giving birth</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>What is a Caesar cut?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other ways of giving birth like water birth.</td>
</tr>
</tbody>
</table>
Although the participants were not specifically requested to think of topics on pregnancy, most ideas were related to pregnancy, child birth and breastfeeding. However, substance-abuse issues were also recognised as important. A range of other topics related to HIV prevention and care, environmental causes of ill-health and mental health issues were mentioned.
### 5.6.6 Theme E: Local resources list

#### Table 5.7 Categorisation of resources for listing

<table>
<thead>
<tr>
<th>Resource</th>
<th>Number of times mentioned</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rape assistance</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Trauma counselling</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Domestic violence</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alcoholics Anonymous</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Ideas for including the contact details of local resources were mainly related to psychosocial problems such as interpersonal violence.

By the end of this phase of the project I was able to start visualising the form the WHH would take, and had some understanding of the key features that could lead to its acceptance and use by the primary and secondary audiences. Besides the concrete ideas and concerns that were expressed by the participants, critical relationships were established between me and the provincial, regional and local service providers.

Moos (2003) suggests that the key services that should be part of routine care and assessment for women’s health include: preventing unplanned pregnancy; pre-conceptual and genetic counselling; fitness and nutrition; psychosocial assets and stressors; health promoting and protecting behaviours. These align quite closely to the scope of topics suggested for the WHH by the research participants, although genetic counselling was not specifically mentioned. Mora (2000) stresses the importance of nutritional education in order to improve pre-pregnancy weight for those women at risk of a LBW baby. Both Mora (2000) and Moos (2003) highlight the importance of folic acid as an essential micronutrient supplement for high-risk women.

Owing to the high rates of smoking and alcohol use among the primary audience of the WHH, assessment and education relating to substance abuse needs to be added to the scope defined by Moos (2003). Work by Kahn et al...
and Woodby et al (1999) found that smoking needed to be addressed in an integrated way within women’s regular health-care contacts. Strategies to achieve this included counselling, tailored self-help materials and social support. Various authors (Beckman, 1994; Blumenthal, 1998; Ernst et al, 1999; Green, 2006) propose that alcohol-abuse-related domestic violence requires a multifaceted approach that includes counselling and support. This counselling needs to recognise the social context of the violence and the gender issues that compound the interpersonal dynamics. The use of screening and brief interventions as outlined by Babor and Higgins-Biddle (2001) and Fleming and Manwell (1999) could be supported by the interactive nature of the WHH. Also, Brady (1998) reminds us that people with alcohol problems do respect what health workers say, and that an empathetic worker who provides useful information can influence the drinker to cut down or even quit.

5.7 Conclusion to Phase I
Rich information on the context of the rural women and their perceptions of how to be healthy was obtained in this formative phase of the project. Sufficient ideas were collected from the rural women and experts on which the structure and contents of the WHH in Phase II could be based. There were no clear differences in the ideas expressed by the primary, secondary and tertiary audiences regarding the contents and format of the WHH. However, little emerged regarding how to improve the often unsatisfactory interaction patterns between health workers and women using the health services. Much of the literature reviewed in Chapter 2 considers the need for supportive and respectful interaction in order to improve the levels of health literacy of service users and influence behaviour change.

The participants, especially those belonging to the secondary and tertiary audiences, understood that they would be consulted again once a draft of the WHH had been developed. This served as the beginning of the advocacy process required whenever an innovation is introduced to a system.
The challenge in Phase II was to provide cues within the WHH to encourage positive interaction between health worker and the service users, as well as provide appropriate health-related information. The development of a draft WHH was therefore undertaken in Phase II using a combination of the results of Phase I, references in the literature, South African policies and guidelines, and sample materials collected within and beyond the country.
CHAPTER 6  PHASE II METHODOLOGY

6.1 Introduction
Phase II broadly followed Step 2 and Step 3 of the P-process (Health Communication Partnership, 2003). Step 2 is the ‘strategic design’ step and Step 3 is the ‘development and testing’ step. The PAR process was continued into this phase, with many of the same stakeholders involved as in Phase I and some substitutes for those in the primary audience who were not available for the pre-testing of the draft WHH.

6.2 Objectives
1. To outline the communication objectives for the development of the WHH based on Phase I results and against which the communication tool could be measured;
2. To develop a draft of the WHH – version 1;
3. To pre-test the draft with the primary (female farm workers), secondary (health workers) and tertiary (regional and provincial health officials and experts) audiences;
4. To make changes to the WHH in preparation for Phase III – version 2.

6.3 Approach and process
On the basis of the P-process model, the components of the strategic design process included:
1. Establishing communication objectives;
2. Developing programme approaches and positioning;
3. Determining channels;
4. Drawing up an implementation plan; and
5. Developing a monitoring and evaluation plan.

The components of the development and testing process included:
1. Development of the actual media;
2. Testing concept and messages with primary, secondary and tertiary audiences;
3. Revising the media based on the pre-test results; and
4. Retesting the material before final production.

These nine steps were not followed exactly, but were adapted to fit the development of the WHH in the following way:

The communication objectives (point 1 above) were partially developed in the original conceptualisation of the Project. However, in order to ensure that the effectiveness of the WHH is measurable, these objectives were made more specific at this stage of the Project. These are listed below under ‘communication and positioning objectives’.

The positioning of the WHH (point 2 above) as a woman-held health record and information source was confirmed by the positive feedback received on the overall concept in Phase I. The assumption made was that some of the internal and external factors negatively influencing a woman’s health (as presented in the HAM) - in particular her reproductive health - could be positively changed through the use of the WHH by a woman.

The communication channel (point 3 above) was determined in the early stage of the project when I decided to develop the printed handbook that each woman would have their own copy of, and use in interactions with the health workers and for her own reference. Therefore, no other media was considered at this stage. However, it was recognised that ongoing communication with the health service providers would be critical for introducing the final WHH as a standard health promotion tool.

The implementation and evaluation (points 4 & 5 above) of the final version of the WHH were not planned, as the en masse dissemination of the WHH would be beyond the scope of this project. It would be the responsibility of the health department to carry this out. The focus of Phase II was to develop and pre-test the WHH (points 6 & 7 above). The development of the WHH utilised principles outlined by the WHO (1994) for the home-based maternal record, and the work by key authors on developing media for people with low literacy levels (Hubley, 2004; Doak et al, 1996).
The pre-testing of version 1 of the WHH was difficult to plan in advance as it depended on the speed and complexity of the development of the draft WHH, and the availability of suitable primary, secondary and tertiary audience representatives. I had not developed this type of material before, and therefore, in collaboration with the Media and Training Centre in Cape Town, each step was planned once the previous one had been achieved. The in-depth pre-testing was intended to provide feedback on the contents, utility and possible barriers to successful implementation. By the end of Phase II revisions were made to various aspects of the WHH (point 8 above), and version 2 was ready for pilot testing in the field in Phase III (point 9 above).

6.4 Communication and positioning objectives
The HAM that was used to summarise the key factors influencing the health-related behaviour of the rural women in Phase I was used to guide the development and positioning of the WHH. Although many of the negative factors listed in the model cannot be easily changed through educational and health-service improvements, there are some factors in each of the domains that could be improved.

6.4.1 Communication objectives
1. Improve the general health literacy of women in the rural Western Cape through access to appropriate print media;
2. Encourage an improvement in the self-esteem and self-efficacy of the rural women to make personal health-related behaviour changes;
3. Increase the level of demand for good-quality services by the rural women by increasing the women’s confidence to discuss their health issues and needs with health and other service providers;
4. Increase the level of knowledge and possible actions to be taken to reduce smoking and alcohol use in general, and specifically in pregnancy;
5. Increase the possibility of better planned pregnancies, early and regular attendance at the antenatal care for each pregnancy, and better planning for delivery; and
6 Increase the possibility that women at high risk of poor pregnancy outcomes, or chronic health conditions, are identified and managed effectively by the health services.

6.4.2 Design objectives

The WHH was designed in such a way that:

1. The purpose of the WHH was clear to the primary, secondary and tertiary audiences;
2. The contents was meaningful and accessible to the majority of farm-based women of reproductive age (aiming at an educational level of between five and eight years.);
3. The format and appearance was attractive enough for the WHH to be valued by the recipients and durable enough to last a number of years;
4. The number of pages was sufficient to accommodate the main records and information topics identified in Phase I, but still appropriate for carrying in a handbag to the clinic or hospital;
5. The layout of the health records section was clear and easy for completion by the health service providers, and the health information could be utilised to support health promotion sessions;
6. The unit cost of reprinting the WHH in the future was kept to a minimum so that it could be reproduced by the government health services on an annual basis;
7. The electronic version was easy to update or change in the future; and
8. There was sufficient interest from and acceptance by the key stakeholders for the dissemination of the handbook and its utilisation for its intended purpose.

6.5 Methods of development of draft handbook

6.5.1 Topics and literacy level

I developed the contents and style of the handbook on the basis of the Phase I results and other sources of information. The decision to include or exclude a topic that had been proposed in Phase I was based partly on the ranking it
received in the analysis, its relevance to priority diseases and risk factors for LBW based on the literature, local epidemiology (presented in Chapter 1 and 2), and the scope of the WHH as decided on by me. The scope of the handbook was defined as all health-related topics pertaining to women’s health during reproductive years and some birth and newborn topics. Since there is much material available on childcare, and a strong focus by the health services on the baby clinic services, most of the suggestions related to baby handling, feeding and childhood illnesses were excluded. Limiting the scope to mainly health of the women was also intended to strengthen the focus on the health of the woman in general and challenge the notion that she is just the vessel for producing a baby.

While it was recognised that some of the primary audience have very low education levels, the majority have officially passed Grade 7. Also, since the WHH is to be kept by the recipient it is not necessary that it is read all at once, but can be read in small sections, as and when there is interest in a particular topic. It was therefore decided to include background information on most of the topics and not just the key ‘health actions’ to be taken. In this way the underlying concepts may be better understood and the desired health action more readily followed (Nutbeam, 1998).

6.5.2 Development of the text and pictures

The principles of developing accessible health education materials outlined by various authors were borne in mind when the text was written and the illustrations were designed (Doak et al, 1996; Wilson et al, 2003; Hubley, 2004).

Examples of relevant information, policy guidelines, checklists, and graphics, from the health department and other sources were used as reference material for writing the text and developing the illustrations for the WHH. The general principle applied was that the key health messages and explanations should support the current health department policies and guidelines, and promote the same health actions as other major health communication organisations such as Soul City.
Part of the interactive section was designed to prompt and record a brief intervention session between the health worker and patient, focusing on smoking and drinking reduction. The items were based on the counselling process as suggested by Rollnick et al (1999) and Babor and Higgins-Biddle (2001).

Since it was essential that the language of the WHH matched the primary audience, it was translated into Afrikaans before the pre-testing process began.

6.5.3 Format

The A5 format was decided early on in the development process, but the number of pages and writing style were not confirmed until all the topics were confirmed, and pages were allocated accordingly. The WHH needed to have a total number of pages that was a multiple of 4 due to the way the printing process took place; i.e. A4 pages are used and printed on both sides, then folded, collated and stapled or ring bound to form the A5 book. I was open to all suggestions on the name, cover design, colours, binding, overall appearance and utility of the WHH.

6.5.4 Layout and production

The layout, art work and printing of the WHH was contracted out to the Media and Training Centre (Cape Town). The first draft was spiral bound with a pink patterned cover, a photo of a pregnant farm worker on the front, and a title of ‘A women’s health journal’ or ‘n Vrou se gesondheidsboekie’. It had four colour-coded sections, and 32 pages. Only 10 copies were produced (five English and five Afrikaans) for review by the secondary and tertiary audiences. (Cover of WHH version 1a in Appendix XI). After this version had been tested with these audiences, some changes were made, and version 1b was then tested with the primary audience.
6.6 Pre-testing methodology

Some of the main questions to be answered in this pre-testing were guided by checklists developed by Doak et al (1996), which point to key characteristics of the organisation of the material, the writing style, appearance and appeal. These were expanded on in the framework proposed by Wilson et al (2003):

- Organisation – Attractive cover; appropriateness with regard to need-to-know material; no more than 3 – 4 points made at a time; clear headers and summaries; expected behaviour highlighted.
- Writing style – text is in active conversational voice; minimal medical jargon is used; and it is interesting to read.
- Appearance – ample white space; uncluttered; lower case and uppercase used appropriately; font no less than 12 point.
- Appeal – Material is culturally, gender and age appropriate; logic, language and experience match the intended audience; material is interactive via questions and suggested actions.

The approach that was used in the pre-testing of the WHH favoured qualitative methods since the various quantitative scales and mathematical formulae for assessing readability referred to by Wilson et al (2003) are not standardised for the South Africa population and do not take into account the perceptions of the materials, but tend to just focus on the words and sentence structure.

6.6.1 Focus groups & key informant interviews

Secondary and tertiary audience pre-testing

I developed semi-structured questions to use in eliciting feedback from secondary- and tertiary-level audience representatives (Appendix IV). I used a convenience sample by recruiting participants of the 24th Conference on Priorities in Perinatal Care in Southern Africa (2005), held in Langebaan, on the West Coast. It is an annual conference at which research on a variety of issues relating to perinatal health care in South Africa is presented.
Participants who were known to work in women’s health in the Western Cape were approached. The perspectives of both doctors and nurses were sought. They were requested to spend 15 to 30 minutes giving spontaneous feedback individually, or in small groups, while looking at the draft WHH version 1a. A few individuals requested a copy to take and read, and agreed to provide feedback by e-mail or by marking suggestions on the draft. Concerns about the Afrikaans translation arose, and one key informant, who works in the target district, offered to make changes to the 1a Afrikaans version. Various changes were made on the basis of the feedback received and version 1b was then used in the primary audience pre-testing focus groups.

**Primary audience pre-testing**

It was planned that the same farm-based women who participated in Phase I focus groups would be asked to review the draft handbook, by responding to a few semi-structured questions while handling and reading the WHH draft. This process was to be facilitated by the same research assistants in a focus group at each site. However, the collaborating organisation in the Stellenbosch area was not continuing with their programme within which the Phase I focus groups had taken place. It was therefore not possible to piggy-back the further development of the WHH on their training programme with a consistent group of farm women. A similar problem was found in the Vredendal area, where the farm health workers who participated in the Phase I focus groups were not available for reviewing the draft.

As an alternative sampling strategy, a group of women was drawn together in the Cape Town area and in the Paarl area in order to test version 1b of the WHH. The group in the Paarl area was selected to represent rural women. The Cape Town group were selected to be similar in education and culture to the Stellenbosch women. The groups were facilitated by a research assistant with an anthropology background, who also did the follow-up interviews in Phase III. A consent procedure was followed with the group, and verbal consent obtained before the focus group proceeded. A schedule of semi-structured questions was provided by me for use by the facilitator in these two focus groups (Appendix V).
The focus group discussions were run in Afrikaans, followed an interactive process, and focused on different sections of the WHH:

- Participants were given copies of the draft as part of a pre-testing exercise to determine whether they found the material user-friendly, useful, attractive and whether they understood content. The session began with five minutes for them to explore the WHH.
- After the purpose of the WHH was clarified by the facilitator, loose pages from the personal records section were given to each participant and they were asked to fill in whatever details they could (except their name) in 15 minutes.
- Participants were asked to look at the diagrams explaining the menstrual cycle and to explain it to another person.

Process notes were compiled by the facilitator and an observer and were e-mailed to me soon after the groups had taken place.

6.6.2 Analysis

I used content analysis to extract all the feedback on the WHH from her own interview notes (secondary and tertiary audiences), and the notes made by the research assistant (primary audiences). The proposed framework on the evaluation of health educational material by Wilson et al (2003) was used to interrogate the various features of the WHH against the responses of the various audiences. Besides the assessment of the ‘patients’ and their environment, which was done in Phase I of this project, Wilson et al (2003) describe the materials evaluation in terms of organisation, writing style, appearance, and appeal.

The suggested changes or queries written on the drafts, and language corrections, were summarised onto a master copy. Where conflicting or unrealistic suggestions were made, I used my own judgement as to what would best fit with the objectives of the WHH.
6.6.3 Development of final version for Phase III

On the basis of the feedback received from the various audiences in this phase, version 2 of the WHH was finalised, and 400 copies were printed in preparation for the field piloting in Phase III. The image of the WHH was bolder with a blue and red cover, and no picture on the front. It remained 32 pages, but with format and text changes to almost every page, and better Afrikaans translation (Appendix XII).
CHAPTER 7 PHASE II FINDINGS AND DISCUSSION

7.1 Introduction
The testing process followed in Phase II proved to be critical in the WHH development process both in relation to the contents and layout of the WHH, and the advocacy process among key stakeholders at various levels in the health services. This chapter reports on the feedback received from the interaction with the secondary and tertiary audiences first, since they provided feedback on version 1a of the WHH, after which feedback from the primary audience on version 1b is presented.

7.2 Summary of participatory process
March 2005 – Presentation of paper on first phase and version 1a of the WHH at Conference on Priorities in Perinatal Care in Southern Africa in Langebaan (West Coast), and interviews with individuals and groups of tertiary audience to obtain feedback on version 1a of WHH.
May 2005 - Focus groups with primary audience on version 1b of WHH

7.3 Findings of feedback on WHH version 1a

7.3.1 Participants and analysis process
Fourteen respondents either participated in a focus group or an individual interview (Table 7.1).

Table 7.1 Secondary and tertiary audiences

<table>
<thead>
<tr>
<th>Type of respondent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor in public service</td>
<td>3</td>
</tr>
<tr>
<td>Nurse in public service</td>
<td>4</td>
</tr>
<tr>
<td>Provincial health dept</td>
<td>4</td>
</tr>
<tr>
<td>Health promoter in clinic</td>
<td>1</td>
</tr>
<tr>
<td>Nursing academic</td>
<td>1</td>
</tr>
<tr>
<td>Farm-based NGO worker</td>
<td>1</td>
</tr>
</tbody>
</table>
The data gathered from the interaction with the participants was in the form of notes taken by me while in conversation with the participant, notes made by some participants on a draft WHH, or e-mail correspondence.

### 7.3.2 Feedback on WHH version 1a

The data was summarised under various key areas. Quotes that illustrate the feedback are presented in the Table 7.2.

#### Table 7.2 Summary of feedback on WHH version 1a

<table>
<thead>
<tr>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall concept</td>
</tr>
<tr>
<td>Phenomenal idea, great idea. Nice and colourful.</td>
</tr>
<tr>
<td>Cover, size, layout and images used</td>
</tr>
<tr>
<td>Could decorate cover with a collage of various women.</td>
</tr>
<tr>
<td>Could have ring file so that specific pages could be added.</td>
</tr>
<tr>
<td>Concern about image of woman with head scarf – looks too conservative or a poor farm worker.</td>
</tr>
<tr>
<td>Need ‘sign-post’ along side strip.</td>
</tr>
<tr>
<td>Unnecessary to separate ‘records’ from ‘interactive records’.</td>
</tr>
<tr>
<td>Rather have more pages and info more spread out.</td>
</tr>
<tr>
<td>Introduction and contents list</td>
</tr>
<tr>
<td>Like idea of space for photo.</td>
</tr>
<tr>
<td>Have an introduction that motivates its purpose to staff.</td>
</tr>
<tr>
<td>Too much info on contents.</td>
</tr>
<tr>
<td>Personal details</td>
</tr>
<tr>
<td>Don’t have marital status.</td>
</tr>
<tr>
<td>Space for home and farm address.</td>
</tr>
<tr>
<td>Space for hospital sticker.</td>
</tr>
<tr>
<td>Medical records</td>
</tr>
<tr>
<td>Fewer columns in the tables.</td>
</tr>
<tr>
<td>Need more logical flow of questions for medical record.</td>
</tr>
<tr>
<td>What about mental health record?</td>
</tr>
<tr>
<td>Dental checkup – a luxury and not standard.</td>
</tr>
<tr>
<td>What about recording tobacco &amp; snuff also.</td>
</tr>
<tr>
<td>Age when menstruation began.</td>
</tr>
<tr>
<td>Record of pregnancies in chronological order.</td>
</tr>
<tr>
<td>Use of the word ‘termination’ rather than ‘abortion’.</td>
</tr>
<tr>
<td>Gestation in months rather than weeks.</td>
</tr>
<tr>
<td>Menstrual calendar – demo of how to use rather than full.</td>
</tr>
<tr>
<td>Feedback</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>calendar. Cross reference to breast-screening page.</td>
</tr>
<tr>
<td>‘School of pregnancy’ is rather quirky. What about pregnancy education’</td>
</tr>
<tr>
<td>‘pregnancy info sessions’. ‘Childbirth preparation’ also suggested.</td>
</tr>
<tr>
<td>Preparation for labour – add baby bottle to baby kit. Also add sanitary towels and baby cap.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Counselling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not sure of value of these pages.</td>
</tr>
<tr>
<td>Could add a no smoking and no alcohol signs to illustrate respective pages.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAP smear – policy is 1 test every 10 years after age 30.</td>
</tr>
<tr>
<td>Feeling anxious or depressed – add: stress can lead to hypertension and decreased resistance to infection.</td>
</tr>
<tr>
<td>Healthy and unhealthy foods should both be listed.</td>
</tr>
<tr>
<td>Add something on child spacing.</td>
</tr>
<tr>
<td>Good to have reproductive health cycle explained.</td>
</tr>
<tr>
<td>Why not start reproductive cycle with ovulation?</td>
</tr>
<tr>
<td>Drinking of water – must be clean water.</td>
</tr>
<tr>
<td>Dangers at work – should have larger heading, and need to add hazards such as dust and noise. Add: make use of Health and Safety representative.</td>
</tr>
<tr>
<td>Alcohol information should advocate quitting totally.</td>
</tr>
<tr>
<td>Pregnancy planning – add: if you have a chronic disease and take medication, it may need to be changed before pregnancy.</td>
</tr>
<tr>
<td>There is an issue about free pregnancy tests, need to check.</td>
</tr>
<tr>
<td>Emphasise booking early for ANC.</td>
</tr>
<tr>
<td>ANC visits standardised: 1st booking, 28, 34, 36 wks.</td>
</tr>
<tr>
<td>Add visual disturbance as danger sign in pregnancy.</td>
</tr>
<tr>
<td>C section – not routinely offered in public service.</td>
</tr>
<tr>
<td>Add signs of going into labour.</td>
</tr>
<tr>
<td>Mammogram only on referral.</td>
</tr>
<tr>
<td>Chest X-rays are OK in pregnancy.</td>
</tr>
<tr>
<td>Post natal depression is missing.</td>
</tr>
<tr>
<td>Diagram of pregnant woman &amp; effects of smoking &amp; drinking – she needs to have a head and complete arm! Could shade</td>
</tr>
<tr>
<td>Feedback</td>
</tr>
<tr>
<td>------------------</td>
</tr>
</tbody>
</table>
| the internal organs.  
Child health should include community IMCI, danger signs in a sick child, formula feeding for HIV+ child, kangaroo care can be done by other adults also.  
Add info on domestic violence, stress and rights.  
There’s too little on HIV |

<table>
<thead>
<tr>
<th>Literacy level</th>
<th>Concern about density of text, small font, and some complicated pictures.</th>
</tr>
</thead>
</table>

| Language use | Many grammatical and spelling errors.  
Poor Afrikaans language translation.  
Need a Xhosa version. |
|---------------|--------------------------------------------------------------------------|

| Utilisation and sustainability | Concern that a previous child health booklet was not sustainable due to cost.  
Probably best given out at ANC.  
Doctors need to know of the WHH and its purpose in public and private.  
Training may not be necessary if introduction page is good.  
Women will use it but need encouragement.  
Not all clinics have health promoters.  
Staff turnover can be a problem. |
|-----------------------------|--------------------------------------------------------------------------|

### 7.4 Feedback on WHH Version 1b

#### 7.4.1 Participants and analysis process

Version 1b was created by incorporating many of the suggestions from the secondary and tertiary audiences, with my new insights. It was this version that was then presented to the focus groups representing the primary audience. The two focus groups that were held to pre-test the handbook were facilitated by a staff member from the Media and Training Centre and the research assistant who later followed up other participants in Phase III.

The rural focus group took place in Paarl with 10 participants between 35 and 50 years old, while the periurban group took place in an area of Cape Town.
with 11 participants between 18 and 35 years old. They were all said to be literate and gave consent before participating.

7.4.2 Interaction with the WHH

Although the feedback was brief and it was frustrating for me not to have been present in the focus groups, there was overwhelming interest in the WHH from the participants.

Participants in both groups were very interested to read the contents. They did not spend much time analysing the cover but immediately started browsing through the book. Nobody checked the contents page. Participants generally stopped at sections of the book that were of personal interest to them to read in more detail. Nobody took out the cards at the back of the book to check. At the end of the five minute period, participants had to be asked to stop reading. There was a clear indication that they were interested in the contents. (Group facilitator)

After exploring the WHH the participants were asked what they thought it is for. The main response was that it was about women’s health and that it provided information. None suggested that it was for recording information in. Once the facilitator had clarified the purpose of the handbook their response was positive, and they indicated that there was a need for such a book.

It is a very good thing
There is so much that a woman doesn’t know about her body. (Cape Town group)

When asked if there were any additional topics that they would like to see in the book, they were not able to suggest any. All participants, except one in the Cape Town group, did not have difficulty understanding the instructions or completing the information. They completed some of the personal details. One participant in the Cape Town group and three in the Paarl group knew their blood group. Participants in the Paarl group had difficulty recalling details of their pregnancies and births, and only two participants filled in detail regarding
their first menstrual period. Four women in the Paarl group completed the detail on their name, address etc, and, only one in the Cape Town group.

Regarding the expected interaction with health workers in filling in or discussing topics in the WHH, the women were unanimously pessimistic and gave various examples of unhelpful staff. One participant suggested: No, they won't make time for such things.

### 7.4.3 Accessibility

Apparently the Paarl group had difficulty with some of the diagrams and were therefore not asked to explain the one about the reproductive cycle. In Cape Town all except one participant could understand the diagrams. The person who had difficulty was the same person who found difficulty in completing the “personal records”. Most participants said that they would be able to explain the other diagrams to someone else, but found the diagram explaining the menstrual cycle problematic. Two participants, who said that they had learnt about it in school, were able to understand these diagrams. The women had difficulty understanding that Day 1 of the cycle was when menstruation started and that ovulation occurred on about Day 14. From the questions asked it was clear that they were not aware that each woman had her own individual cycle.

When asked what they liked and disliked about the book, the comments related to the accessibility and the contents.

*It’s presented in a simple way.*

*It is easy to understand.*

*The language is simple and understandable.*

*Men could learn a lot from this.* (Paarl Group)

### 7.4.4 Perceptions of cover and other illustrations

The version that was presented to the group had a photo of a pregnant farm worker standing in a field holding a large gardening fork. This picture stimulated varied reactions, some positive and some negative.
It shows that a woman can still work during pregnancy.
The woman is suffering.
The woman is doing heavy men’s work.
She’s happy.
It is interesting, and makes me want to look in the book. (Paarl Group)

Some suggestions were made for alternative illustrations:
Maybe there should be also two children in the picture. (Cape Town Group)

Other views were that there should be a range of women representing the diversity of the population in the picture or that the woman should not be pregnant as this would make older women think the information was not for them. Participants were satisfied with the name of the book and did not suggest any alternatives.

In the reproductive-health information section the picture depicting a naked woman was objected to by one woman who felt it was inappropriate. But the majority felt that it was necessary to show the detail of the female reproductive organs.

7.4.5 Usefulness and contents

They were unanimous about the usefulness of the book. Many of them said that they had learnt something new. One participant in Paarl found the information on breast examination particularly helpful. Another participant in the same group said that she found the information on depression very useful because people experiencing those symptoms often believe that they are alone and need to know that what they were feeling was “normal”. There were no negative comments or suggestions for any changes.

It was important to ascertain which personal information may be too sensitive to record. Both groups felt that it was important for a woman to have a record of her health and said that often they could not remember when last they had been for a pap-test, for example, and that the book could serve as a reminder. The facilitator probed issues of confidentiality. Both groups expressed the
need to record all information. Some participants in the Cape Town group said that they would hide the book from their partners because it was *none of their business*. The women in the Paarl group, who were older, said that it was important that somebody in the family should know where hospital records were kept so that in the event of illness they could access them easily. They were much more open about the book, and did not feel the need to withhold information from their partners.

The only suggestion for any additional health information was from one participant who wanted a page with “the ten golden rules of women’s health”. Additional contact numbers for resources that could be included at the back were suggested, including child-abuse, domestic violence, and local numbers for already listed services. All participants seemed to like the idea of the pocket at the back and agreed that it would save them searching for their hospital or clinic cards.

All participants indicated that they would like to have a copy. In fact, they wanted to take the draft copies with them.

### 7.5 Discussion

It was mainly the design outcomes that were reflected on in relation to the feedback received during Phase II. The extent to which the audiences interacted with the WHH and were prepared to offer suggestions was used as an indication of the clarity of the purpose of the WHH and its potential usefulness for the intended users.

#### 7.5.1 General acceptability of contents and purpose of the WHH

The interaction with the secondary and tertiary audiences was very fruitful and enabled me to prepare a more suitable version of the WHH for testing with the primary audience within this phase. The interaction also served to continue the participatory process as many of the participants were the same as those interviewed in Phase I (Salem et al, 2008). Advocacy for the acceptance of the WHH as a service provision tool in future was occurring through the interaction with the key local, regional and provincial officials. The
practicalities of reproducing the WHH in future and disseminating it through strategic women’s health programmes was starting to be given real consideration.

Participants took the research process seriously, with some secondary and tertiary audience members offering to take a copy and give feedback related to language, accuracy of information, and flow of the sections. These aspects were in line with the elements or organisation and writing style as suggested in the framework by Wilson et al (2003). Since I am not a medical doctor or nurse, it was comforting to know that experienced midwives and public service doctors had vetted the medical information. Some challenging issues arose in the interviews regarding whether to provide medically sound information or the policy guideline; e.g. a woman should have a pap smear every year, versus the policy guideline of the Department of Health that states that every woman should be provided with a pap smear every ten years. It was agreed that the policy guidelines should be adhered to so as not to raise unrealistic expectations of the public services. This approach is in line with the suggestion by the WHO (1994) for the development of woman-held maternal records.

Participants were broadly in support of promoting patient participation in medical decision making, as outlined by Frankel et al (2007), but were sceptical about the time available for consultations and the ability of farm women to take an active role in their health promotion. There was also some concern about the density of the information and complexity of some of the diagrams.

### 7.5.2 Attractiveness and durability

The colourful cover and pictures in the WHH was observed to be appealing to all the audiences, although there was some reservation about the image of the woman depicted on the cover. Durability, as well as the flexibility to add other pages, was debated with some tertiary audience members who recognised the potential for the WHH to support programmes such as prevention of mother to child transmission of HIV (PMTCT).
The disappointment expressed by the primary audience in the focus groups that they could not keep the draft used in the group process was a strong indication that they were interested in its contents and wanted one for themselves. Their approach to looking through it, whereby they flipped to different pages without necessarily going through the contents page, could be an indication that they do not regularly read printed media in this format.

7.5.3 Accessibility for primary audience

However, the fact that some could reflect new bits of information they learnt during the process of the discussion indicates that at least some were able to read and assimilate the text. The issue of the menstrual cycle being a complicated diagram needed to be taken seriously and an attempt made to redesign it in the next version. Reflecting on the theory of health literacy by Zarcodolas et al (2005), it seems that some women barely have ‘fundamental literacy’, making it difficult for them to read and comprehend simple text. And others, who have fundamental literacy, struggle with ‘science literacy’ which restricts their ability to understand biological and technological concepts.

Some of the participants were not able to remember information related to their previous pregnancies such as the birth weights and any complications. This is similar to what Maart (2003) found in the same population, and only serves to support the need for such a woman-held record to be kept up to date, in collaboration with the health workers, so that high-risk women can more easily be detected.

In developing version 2 of the WHH at the end of Phase II the principles offered by Doak et al (1996) to improve the accessibility of the WHH were applied, but it became clear that the density of information and complexity of the WHH would not suit all women in the primary audience, and it would be most accessible to those with at least Grade 7 education. However, the possibility was mentioned that family members with better literacy could assist women with the more difficult sections of the WHH.
7.5.4 Potential for supporting interactive consultations

Some comments were made that implied that the primary audience was not convinced that health workers would give adequate attention to the WHH, and provide the required supportive interaction. This seems to be a recurring observation from both the women and the health workers at different levels, and concurs with the report by Tlebere et al (2007) that highlights problems of interpersonal and intercultural competencies of health providers in South Africa. Kickbush (2001) proposes that people need functional health literacy, interactive health literacy, and critical health literacy, however, many of the primary audience of this Project struggle with functional health literacy and are not able to make demands of service providers as their interactive health literacy is inadequate.

The positive reaction to the idea of the pocket at the back for clinic cards confirmed that this design feature should be included in future versions. However, there were not really any other suggestions for what should be added or left out of the contents, making me wonder if they were able to really critique the WHH. There are very few who have both the knowledge and confidence to display ‘critical health literacy’ and, therefore, find it difficult to assess what should be in the WHH or not, or if there are other ways of presenting the information. It is possible that many women in the primary audience lack the ‘cognitive and social skills’ necessary to engage with the health workers and make demands for relevant information (Nutbeam, 1998).

7.6 Conclusion

There was very positive feedback from all audiences involved in this phase regarding the overall purpose and organisation of the WHH, the attractiveness, and the contents. Probably the most serious reservations that were expressed revolved around the accessibility of the information for women with low functional literacy, and the effort that would be required by service providers to enter information in the records section. Their feedback was very valuable for making adjustments towards the next version. Various sections of the WHH were revised and more plain language was used. The
contents page was made much more simple, and the sections were colour coded to make the information more navigable.

By the end of Phase II, with version 2 of the WHH ready for field testing, most of the design outcomes had been achieved, and the ‘communication and positioning objectives’ were about to be tested.
CHAPTER 8 PHASE III DESIGN AND METHODOLOGY

8.1 Introduction
At the outset of this Project the development of the WHH had a number of proposed outcomes relating to the improvement of the health literacy of the primary audience, and the facilitation of a supportive relationship between the women and the health service providers. These outcomes would also include a change in behaviour, especially related to substance use and nutritional patterns. This evaluation phase (Phase III) was limited in scope and timeframe so the results form part of a short-term summative evaluation in the real setting. In relation to the P-process model, Phase III included the final strategy in the ‘development and testing step’ (i.e. field testing of the WHH), and the first part of the ‘implementation and monitoring step’ (i.e. the final version of the WHH was reproduced and disseminated).

Although a detailed cost analysis was not carried out, some data relating to the cost of the reproduction of the WHH was collected. This has implications for the wider dissemination of the WHH and the annual reproduction of the WHH by the health service authorities in the future.

The long-term sustainability and impact of the WHH were not included in this final phase of the Project. A full programme evaluation in the future needs to include short- and long-term assessments of outcome and impact indicators, so that a conclusion on the effectiveness of the WHH in contributing to the reduction of LBW for women can be made.

I had originally intended to design the evaluation indicators and methods in collaboration with the primary, secondary and tertiary audiences based on the Utilisation Focused Evaluation 12 step model (Patton, 2002). This would have involved interacting with these audiences so that they played a part in deciding the content, focus and methods of the evaluation, as well as considering the implications of the findings. However, owing to the limited
involvement of the key NGOs and service providers in the whole research process, and difficulty in accessing the same groups of women from the phase I focus groups, the evaluation was designed independently by me. However, many of the principles underlying the 12 key steps in planning and implementing an Utilisation Focused Evaluation were adhered to, such as engaging the service providers in the data collection and engaging them in planning the final WHH product and its dissemination.

Methods of evaluating a health education intervention were informed by health promotion evaluation authors such as Tones & Tilford (2001), Hubley (2004), and Wilson et al (2003). By involving the same local service providers (secondary audience) as respondents in the formative, design and evaluation phases of the development of the WHH, there was satisfactory participation by the secondary audience in the action research cycles.

8.2 Objectives

1. To assess the short-term change in knowledge by recipients of the WHH in specific health-related facts;
2. To assess the extent of change in smoking and drinking behaviour after recipients had received the WHH;
3. To assess the recipients’ overall perception of accessibility and usefulness of the WHH for themselves and others; and
4. To identify potential barriers to the successful implementation of the WHH on a wider scale.

8.3 Methods

The field test of the WHH (version 2) needed to be as realistic as possible, and, because of time and financial constraints, could only aim to evaluate process indicators and short-term impact. Nutbeam (2000:263) proposes an outcome model for health promotion actions and suggests that:

These include such outcomes as improved knowledge and understanding of health determinants, and changed attitudes and motivations in relation to health behaviour, as well as improved self-efficacy in relation to defined tasks.
In relation to the WHH, it was of interest to measure the effects of the WHH on knowledge, attitudes, and behavioural intention, as well as on lifestyle change in relation to substance use. The general feedback on the potential utilisation of the WHH was important for making adaptations to the test version 2, in order to produce the final version.

A quasi-experimental design was planned with both qualitative and quantitative data collection methods utilised (Joubert and Ehrlich, 2007). A pre-test / post-test approach was utilised on a cohort of participants, without a control group. This is a common study design for the evaluation of interventions in public health communication-related programmes (Bertrand, 2005). Although the design is weaker than a randomised controlled trial, it is more realistic in the community-based setting where randomisation and having large numbers participating would have been expensive and time consuming (Victora et al, 2004). It was anticipated that the results would not provide ‘probabilistic evidence’ but rather ‘plausible evidence’ of causal effects, and could be termed an adequacy evaluation using a longitudinal design (Habicht et al, 1999). According to Victora et al (2004) there are three prerequisites for valid adequacy evaluations:

a) The causal pathway must be relatively short and simple;

b) The expected impact must be large; and

c) Confounding must be unlikely.

A field test was carried out with a cohort of pregnant women being given the WHH (version 2) in a particular month. A sub-sample of them was followed-up about two months later to assess the outcome of the use of the WHH. Antenatal services were used since during pregnancy is when women are most likely to be concerned with their health-related knowledge and habits and, therefore, are possibly more receptive to using the WHH. Since ANC coverage in the area is good, the recruitment of participants and the establishment of baseline measures would be easier than in any other part of the health services.
Interviews were conducted with secondary audience members to obtain feedback from them on the field testing process and their perceptions of the WHH. Once the final version of the WHH (version 3) was prepared, 10 000 copies were made, and promoted through presentations at key meetings and launches at the two research sites. An interview was conducted with the coordinator of the Resource Centre at which the stock of the WHH was stored to assess distribution and future needs.

8.3.1 Setting
The field testing was carried out in the two clinics and a mobile clinic in the Vredendal area, and in the Cloetesville and Klapmuts clinics in the Stellenbosch area. The service providers in these settings were involved in recruiting participants (primary audience) and issuing the WHH, thus continuing the participatory development and testing of the WHH.

8.3.2 Data collection and sampling

*Pre- and post- questionnaire for primary audience*

*Sampling*

In order to assess the effectiveness of the WHH (version 2) for women in general it was important that the service providers did not select particular women, but rather that they offered every new antenatal patient a WHH.

Since there was no easily available data on which to base an estimate of how many new ANC patients they enrol each month, the sample size was determined by the number that they were able to enrol in the study in a one month period across the clinics and mobile services. A supply of 100 copies of the WHH was provided to each of the two areas on the understanding that as many women who fitted the criteria of being a new ANC patient should be recruited as possible. In fact, 103 women were enrolled over a six-week period in total before I informed the service providers it was time to stop the enrolment.
The sample size and selection for the follow-up (post-test) questionnaire was largely determined by the reliability of women keeping clinic appointments made for them by the service providers. In addition, some participants were found by accompanying the mobile clinic to the farms. The availability of the research assistant and cost of her time and transport were also factors that limited the number of participants followed up in the field. The final number of participants in the follow-up group was 39.

Process

The nurses and a health promoter who are based at the antenatal services in Stellenbosch and Vredendal were introduced to the handbook testing process and tools through a meeting at each site. They were asked to offer every new ANC patient the opportunity to participate in the field test of the WHH version 2 (Appendix XII). They were to firstly read through the patient information and consent document, and then to ask women for their written consent to participate (Appendix VI). They administered the baseline (pre-intervention) questionnaire and filed it, and gave the participant a numbered WHH to take with them. Although having the regular staff administer the baseline questionnaire may have influenced the data quality due to the participants not wanting to give honest answers, it would have been too costly to have research assistants based at the clinics daily, awaiting new ANC patients.

Approximately two months later a research assistant interviewed a convenience sample of the handbook recipients to re-assess their knowledge and substance use behaviour and to illicit their feedback on the WHH. The participants were interviewed at the clinic, by appointment, or on the farm where they resided. Besides administering the questionnaire the research assistant requested to look at the participant’s WHH and, where possible, made a photocopy of any handwritten entries. The questionnaires, photocopies and brief observational notes of the research assistant were all given to me for the analysis.
Data collection tools for primary audience

Baseline questionnaire:
An information and consent form, and a four-page questionnaire were drawn up and translated into Afrikaans. The questionnaire consisted of 18, mainly closed, questions. The first nine questions were demographic and reproductive-health related. The next six covered quantity and frequency of alcohol and cigarette usage by the participant and her partner in the past month, and are commonly used questions in substance use research (Babor and Higgins-Biddle, 2001). The final three questions were open-ended knowledge questions relating to key reproductive health issues that women in general should know about if they are to maintain good reproductive health and which were covered in the contents of the WHH (Appendix VI).

Follow-up (post-intervention) questionnaire:
This followed a similar format to that of the baseline questionnaire, but was a little longer (40 questions), and did not repeat the demographic and reproductive-history questions. The questions relating to the quantity and frequency of cigarette smoking and alcohol use were repeated, as were the knowledge questions. This was done in order to be able to assess if there was any change from the ‘before’ to the ‘after’ knowledge and substance use habits. It contained additional questions on the use and perceptions of the WHH (Appendix VII).

Validity and reliability
Measurement instruments are usually evaluated for reliability (precision and repeatability) and validity (real measure of what is intended to be measured) (Joubert and Ehrlich, 2007).
The pre and post-intervention questionnaires developed for this study were very straight forward tools, mostly requiring unprompted factual responses to the demographic and reproductive health status of the participant, making the reliability and validity of most questions strong. The substance use questions were drawn from internationally used measures of alcohol and cigarette use, and are therefore recognised as valid measures. Although no piloting of the
questionnaire was done to assess the validity of some of the questions relating to the feedback on the utilisation of the WHH, the analysis took into account that the women may have over-estimated the value of the WHH.

**Key informant interviews**

**Sampling**
All the local service providers who enrolled women as participants in the field test, or were key role players in its development, were interviewed in the weeks after the WHH follow-up interviews had been completed. This amounted to four in Vredendal and two in Stellenbosch.

In addition, the co-ordinator of the Resource Centre at which the stock of the WHH (version 3) were stored was interviewed.

**Process**
The research assistant or I scheduled an interview with the service providers, and made notes of the responses to the questions during the interview.

Approximately a year after the launch of the WHH (version 3), the co-ordinator of the Resource Centre was interviewed by me in her office. The notes taken in the interview and the distribution list of the WHH were added to the data for this phase.

**Data collection tools**
The service providers were interviewed using a semi-structured interview guide to illicit their feedback on the women's reactions to receiving the WHH, their own perceptions of the WHH, and the systems issues related to the ongoing use of the WHH in clinic consultations (Appendix VIII).

The co-ordinator of the Resource Centre was interviewed using key questions to cover the functions of the centre, the dissemination of the WHH, and her perceptions of the future uptake of the WHH.
Copies of entries in the WHH

Since one of the objectives of the WHH was to promote continuity of care through woman-held health records it was decided to collect examples of where the participants or health workers had made entries in the WHH.

Sampling and process

Where possible, photocopies were made by the research assistant of any pages of the WHH with hand written entries belonging to the women who were followed up for the post–test interview. Where women were followed-up on the farms the photocopying was not possible. The number to be copied was not predetermined as it depended on whether women had written anything in their WHH, and if photocopying was possible.

Production of the final version of the WHH (version 3).

On the basis of the analysis of the data collected in the field-testing process of version 2, a final version of the WHH was produced (version 3) and the translation into Afrikaans was re-checked. The main elements of the design were adjusted to address issues of literary accessibility, attractiveness and usefulness (Appendix XIII).

Once the final version had been prepared and was ready for printing, quotes on the cost of printing various batch sizes were obtained. Since it was the end of the Project any remaining funds in the grant were made available for the print run. Finally 5000 English and 5000 Afrikaans copies were made at a unit cost of R5.50.

Promotion and dissemination of WHH (version 3)

The promotion of the final version took the form of presentations to key stakeholder groups in the region and a launch at each of the study sites. The launches were intended to give feedback to the secondary audience representatives, acknowledge their role in the Project, and advocate for the ongoing use of the WHH.
The Media and Training Centre was initially requested to hold the stock of the final version, and to despatch it according to the requests from the health department and any NGOs who made a well-motivated request for copies. By the end of 2006, the remaining stock was transferred to the Resource Centre in Wynberg where various organisations and the public usually access health education materials. Data was kept by both organisations of the requests for the WHH so that I received feedback on its dissemination. This gave an indication of its popularity and potential for future reprinting.

8.3.3 Analysis

**Quantitative data**
The pre- and post-intervention questionnaires were captured using Epi-Data, and then exported to SPSS (version 15). Simple frequencies were calculated for the responses to each question for the pre- and post-intervention data sets. A comparison was made between the whole group and the sub group who were followed up to ensure that the baseline characteristics did not differ significantly. A comparison was then made between the pre and post-test answers on key indicators of knowledge and substance use, i.e. smoking and alcohol use, using the Pearson chi² test of significance and the Fishers exact test where appropriate.

The list of places to which the WHH (version 3) was distributed and the number of copies was reviewed and conclusions made regarding the types of organisations and the volumes they had requested (Appendix X).

**Qualitative data**
The responses to open-ended questions on the use and perceptions of the WHH in the post-test questionnaire, and the interview notes of responses by the service providers, were analysed for their content. The photocopies of hand-written entries into the copies of the WHH were reviewed and notes made on the appropriateness and clarity of the entries. A summary of these was reported on as part of the qualitative analysis. A more deductive analysis was done than in the previous phases of the Project since clear questions relating to the utilisation of the WHH needed to be answered. Categories were
developed and themes made in order to summarise the responses from the
service providers and the observations of the WHH entries (Patton, 2002).

The interpretation of the data was framed in part by interrogating questions
such as those posed by Salem et al (2008) and Corcoran (2007) for the
evaluation of health education materials:

- Is the WHH likely to be used in the health care context?
- Are messages clear and consistent?
- Are messages and materials relevant to the audience?
- Is the communication tool likely to generate interaction?
- Are messages and materials appealing?
- Who is likely to find the WHH appealing and how should it be
distributed?

Conclusions were drawn from this analysis regarding changes required to the
WHH, and the potential service-provider / patient communication system
barriers in the future.
CHAPTER 9 PHASE III FINDINGS AND DISCUSSION

9.1 Introduction

This chapter documents a range of findings, including the analysis of the pre- and post-intervention questionnaires administered in the field testing, and the interviews with service providers in Vredendal and Stellenbosch areas. The final changes made to create version 3 of the WHH are summarised and the promotion activities and dissemination pattern are described. The data from the Resource Centre are integrated into the thematic findings.

The analysis of the responses of all the women who received the WHH at the antenatal services (103 participants) provides cross-sectional information on typical antenatal service users, while the pre- and post-intervention analysis (39 participants) provides information from which the impressions of the WHH and its impact on knowledge and practice are deduced.

The interviews with service providers are presented as themes that emerged from their feedback on the potential use of the WHH in various settings in the future, and possible changes required to its contents or the modus operandi for introduction into the services.

The final processes of the development of the WHH that are included in this chapter are: the process of generating the final version of the WHH (version 3), having 10 000 copies printed; launching the WHH in the region; and documenting the dissemination to NGOs and Department of Health structures up to a year later.

9.2 Summary of participatory process in phase III

July 2005 – August 2005  Involvement of ANC service providers in enrolling women in the WHH field test in both sites
September – December 2005 Follow-up of a sample of women participants and local service providers

February 2006 Presentation of initial results of field test of WHH at Provincial Reproductive Health Month Seminar in Cape Town

June 2006 Presentation by the Director of Media & Training Centre of WHH (version 3) to West Coast/ Winelands Health Management meeting on my behalf.

July 2006 Launch of WHH (version 3) at meetings with service providers in Stellenbosch and Vredendal

May 2007 Interview at Resource Centre in Cape Town to assess dissemination of the 10 000 copies

9.3 Findings of field test of WHH (version 2)

9.3.1 Characteristics of participants

The recruitment of pregnant women totalled 103 from the antenatal services in the two sites over a six week period in 2005. Approximately double the number was recruited in Vredendal (71) as in Stellenbosch (32). Owing to the overall small numbers, the data have not been split between the two sites, but rather analysed as one group.

Demographic and reproductive history data were analysed and are presented as simple frequencies and percentages. Where it was feasible every consecutive pregnant woman who attended the antenatal services were recruited into the pilot study by a service provider; therefore, the results provide an overview of the characteristics of women usually using this service.

The average age was 24 and the majority of women had a Grade 8 to Grade 10 education level (50.5%), while 28.2% had completed Grade 11 or Grade 12 and 18.4% had Grade 7 and below. Only 2.9% had any tertiary level education (Table 9.1).
Table 9.1 Education levels of participants (N=103)

<table>
<thead>
<tr>
<th>Highest grade passed</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any grades up to Grade 7</td>
<td>19 (18.4%)</td>
</tr>
<tr>
<td>Grade 8 to 10</td>
<td>52 (50.5%)</td>
</tr>
<tr>
<td>Grade 11 or 12</td>
<td>29 (28.2%)</td>
</tr>
<tr>
<td>Some tertiary</td>
<td>3 (2.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
</tr>
</tbody>
</table>

The proportion who had given birth to none, one, or more babies before was approximately a third each (Table 9.2). Although there was no relationship between when they were recruited into the pilot and when they had confirmed their pregnancy, Table 9.3 shows that the group of participants represented various stages in pregnancy with three to eight month stages being evenly represented, with fewer below three months or above eight months. According to the women, 56.3% confirmed their pregnancy within the first trimester, 30.1% in the second trimester, and 2.9% in the third trimester. It should be noted that 10.7% were not sure or gave no answer.

Table 9.2 Number of previous births

<table>
<thead>
<tr>
<th>Number of previous births</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>33 (32)</td>
</tr>
<tr>
<td>1</td>
<td>34 (33)</td>
</tr>
<tr>
<td>2</td>
<td>23 (22.3)</td>
</tr>
<tr>
<td>3</td>
<td>8 (7.8)</td>
</tr>
<tr>
<td>4</td>
<td>3 (2.9)</td>
</tr>
<tr>
<td>5</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
</tbody>
</table>
Table 9.3  Stage of pregnancy when recruited, and stage of pregnancy when confirmed (N=103)

<table>
<thead>
<tr>
<th>Stage of pregnancy (months)</th>
<th>Stage of pregnancy when recruited n (%)</th>
<th>Stage when pregnancy was confirmed n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>8 (7.8)</td>
<td>43 (41.7)</td>
</tr>
<tr>
<td>3</td>
<td>15 (14.6)</td>
<td>15 (14.6)</td>
</tr>
<tr>
<td>4</td>
<td>19 (18.4)</td>
<td>17 (16.5)</td>
</tr>
<tr>
<td>5</td>
<td>15 (14.6)</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>6</td>
<td>15 (14.6)</td>
<td>3 (2.9)</td>
</tr>
<tr>
<td>7</td>
<td>7 (6.8)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>8</td>
<td>14 (13.6)</td>
<td>2 (1.9)</td>
</tr>
<tr>
<td>9</td>
<td>7 (6.8)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2 (1.9)</td>
<td>5 (4.9)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (1)</td>
<td>6 (5.8)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
<td>103 (100)</td>
</tr>
</tbody>
</table>

Table 9.4  Last main family planning method used

<table>
<thead>
<tr>
<th>Family planning method</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injectable</td>
<td>44 (43.1)</td>
</tr>
<tr>
<td>None</td>
<td>42 (41.2)</td>
</tr>
<tr>
<td>Pill</td>
<td>13 (12.7)</td>
</tr>
<tr>
<td>Condom only</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
</tbody>
</table>

Regarding the planning of the pregnancy – 51% said it was unplanned and 41% had not been using any contraception before pregnancy. The injectable contraceptive was most popular (43%), with the pill being second most used (12.7%). However, 41.2% said they did not use contraceptives (Table 9.4).

9.3.2 Comparison of alcohol drinkers and non-drinkers at baseline

Since alcohol use was a key behaviour of interest, a comparison was made of the characteristics of those reporting drinking alcohol during pregnancy versus
those not. There were only two characteristics that were shown to be significantly different at the 0.05 level, and one which was nearing significance. The most significant results are shown in Table 9.5 and Table 9.6. Those who were drinking were also likely to be smoking (p= 0.013), and scored lower on the knowledge question related to the reasons for a pap smear (p= 0.023). There was a tendency for those who were drinking in pregnancy to confirm their pregnancy later than those who were not drinking (p= 0.078) (Table 9.7).

Table 9.5 Correlation between current smoking and current alcohol use (pre-intervention) N=101

<table>
<thead>
<tr>
<th>Smoking in past month</th>
<th>Alcohol use in past month</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>33</td>
<td>6</td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>30</td>
</tr>
</tbody>
</table>

Pearson chi2 (1): p = 0.013

Table 9.6 Correlation between current drinking and knowledge of reasons for pap smear* (pre-intervention) N = 100.

<table>
<thead>
<tr>
<th>Score out of 3*</th>
<th>Alcohol use in past month</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>42</td>
<td>25</td>
</tr>
<tr>
<td>1</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>29</td>
</tr>
</tbody>
</table>

* There were three acceptable reasons for why women have a pap smear done, and each participant’s answer was scored according to this schedule.

Pearson chi2 (2): p= 0.023
Table 9.7 Correlation between confirmation of pregnancy and current alcohol use (pre-intervention) N=96

<table>
<thead>
<tr>
<th>Stage of pregnancy when tested (months)</th>
<th>Alcohol in past month</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Don’t know</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>27</td>
</tr>
</tbody>
</table>

Pearson chi2 (7): p = 0.078

9.3.3 Comparison of pre- and post intervention group

Around two months after the first participants were recruited 39 were followed up. Of the 39 followed up 22 (56.4%) were in Vredendal, and 17 (43.6%) were in Stellenbosch. Since those followed up were not randomised, but were a convenience sample of those who could be easily traced, it was important to establish if the follow-up group had the same characteristics as the whole group on key pre-intervention measures. It is shown in Table 9.8 that none of the p-values are significant; therefore, it can be concluded that there is no significant difference between the whole pre-intervention group and the sub-sample followed up for the post-intervention interview.
Table 9.8 Comparison of whole sample and follow-up sample at baseline on substance-abuse measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Pre-intervention n = 103</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>64 (62.1%)</td>
<td>0.720</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>33 (32%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>6 (5.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
<tr>
<td>Smoking before pregnancy</td>
<td></td>
<td></td>
<td>Fisher's exact</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>62 (60.2%)</td>
<td>0.756</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>40 (38.8%)</td>
<td>Chi-squared</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
<tr>
<td>Alcohol before pregnancy</td>
<td>Yes</td>
<td>46 (44.7%)</td>
<td>0.996</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>54 (52.4%)</td>
<td>Chi-squared</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>3 (2.9%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
<tr>
<td>Alcohol in the previous month</td>
<td>Yes</td>
<td>30 (29.1%)</td>
<td>0.881</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>72 (69.9%)</td>
<td>Fisher's exact</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
<tr>
<td>Partner smokes</td>
<td>Yes</td>
<td>64 (62.1%)</td>
<td>0.638</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>38 (36.9%)</td>
<td>Fisher's exact</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
<tr>
<td>Partner drinks</td>
<td>Yes</td>
<td>64 (62.1%)</td>
<td>0.491</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>39 (37.9%)</td>
<td>Chi-squared</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

9.3.4 Cohort analysis

A total of 39 participants were followed up across both sites by the research assistant. The mean time between receiving the WHH and the follow-up interview was 38 days, with the median being 44 days. However, the range of four to 71 days was wide since it took about six weeks for the participants to be recruited and given the WHH, while the follow-up interviews were carried out in a short space of time - over a few days. One of the 39 records could not be matched to a pre-intervention questionnaire; therefore, the cohort analysis
was carried out on the 38 records only. In order to assess the consistency of answers between the pre-intervention and post-intervention interviews certain questions for which one would expect the same answer were compared. As illustrated in Table 9.9, there were no significant differences between the answers given in the two interviews, implying that the participants were fairly consistent in how they answered questions pertaining to pre-pregnancy substance use habits and to their partner’s substance use habits.

Table 9.9  Assessment of consistency of reporting in pre and post-intervention (N=38)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Pre-intervention</th>
<th>Post-intervention</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking before pregnancy</td>
<td>Yes</td>
<td>23</td>
<td>21</td>
<td>0.851</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Alcohol before pregnancy</td>
<td>Yes</td>
<td>17</td>
<td>18</td>
<td>0.556</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>20</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Partner smokes</td>
<td>Yes</td>
<td>24</td>
<td>23</td>
<td>0.809</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>13</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Partner drinks</td>
<td>Yes</td>
<td>26</td>
<td>29</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>12</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The key measures of any change that may be attributed to receiving the WHH were the substance-use behaviours and the knowledge of key women’s health topics. A cohort analysis in Table 9.10 reveals that there was no significant change in the number of women smoking in pregnancy (p=0.569), although the number of cigarettes per day of those who smoked declined slightly (2.48 to 2.28). The only significant change was the reduction in the number of women who were drinking alcohol in pregnancy. The change from 12 women using alcohol at the time of receiving the WHH to four women when followed up, was found to be significant (p= 0.028).
Table 9.10  Comparison of smoking and drinking between pre- and post-intervention interviews of cohort. N=38.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Pre-intervention</th>
<th>Post-intervention</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking in last month</td>
<td>Yes</td>
<td>22</td>
<td>19</td>
<td>0.569</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alcohol use in past month</td>
<td>Yes</td>
<td>12</td>
<td>4</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>26</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

In terms of knowledge there were three main questions in which a change in knowledge could be measured. These related to the reasons for having a pap smear, the danger signs in pregnancy, and the causes of LBW.

Table 9.11  Analysis of change in knowledge at post-intervention interview (N=38)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score</th>
<th>Pre-intervention</th>
<th>Post-intervention</th>
<th>P value &amp; average scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems in pregnancy requiring health service visit Score out of 8</td>
<td>0</td>
<td>3</td>
<td>8</td>
<td>P=0.093</td>
</tr>
<tr>
<td></td>
<td>1-2</td>
<td>25</td>
<td>23</td>
<td>Pre = 1.82</td>
</tr>
<tr>
<td></td>
<td>3-5</td>
<td>10</td>
<td>6</td>
<td>Post = 1.46</td>
</tr>
<tr>
<td></td>
<td>6-8</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Reasons for pap smear Score out of 3</td>
<td>0</td>
<td>27</td>
<td>22</td>
<td>P=0.57</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>9</td>
<td>12</td>
<td>Pre= 0.34</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>Post = 0.49</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Causes of low birth weight Score out of 4</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>P=0.264</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>Pre=1.71</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>30</td>
<td>25</td>
<td>Post=1.78</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
None of the questions were answered any better on follow-up and, in fact, the question relating to danger signs in pregnancy was answered more poorly at the post-intervention interview, with the average score dropping from 1.82 to 1.46, with a p-value of 0.093. Although the average scores for the other two knowledge questions increased from pre- to post-questionnaires, the changes were not significant (Table 9.11).

9.3.5 Feedback on utilisation and perceptions of the WHH

Many of the questions asked of the participants at the post-intervention interview related to their utilisation and perceptions of the WHH. When asked what they did after they had received the WHH, 52% said they had read the whole WHH, while 24% said that they had read part of it (Table 9.12).

Table 9.12 Action taken after receiving WHH (N=38).

<table>
<thead>
<tr>
<th>Action taken</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read whole WHH</td>
<td>20 (52%)</td>
</tr>
<tr>
<td>Read part of WHH</td>
<td>9 (24%)</td>
</tr>
<tr>
<td>Can't remember / don't know</td>
<td>9 (24%)</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
</tr>
</tbody>
</table>

Some information in the record-keeping section had been filled in for 24 (63%) of the WHHs, but in only 21% was it by the woman alone (Table 9.13). The analysis of the extent to which the WHH may have been looked at by people other than the woman it was given to revealed that the most likely person to have been shown the WHH was a female relative (Table 9.14).

Table 9.13 Person who filled in some records into the WHH

<table>
<thead>
<tr>
<th>Person who filled in</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health worker only</td>
<td>9 (24%)</td>
</tr>
<tr>
<td>Self only</td>
<td>8 (21%)</td>
</tr>
<tr>
<td>Self and health worker</td>
<td>7 (18%)</td>
</tr>
<tr>
<td>Nothing filled in</td>
<td>14 (37%)</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
</tr>
</tbody>
</table>
Table 9.14  Sharing the WHH with other people

<table>
<thead>
<tr>
<th>Person who saw WHH</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult female relative</td>
<td>13</td>
</tr>
<tr>
<td>Adult male relative</td>
<td>10</td>
</tr>
<tr>
<td>Adult female non-relative</td>
<td>5</td>
</tr>
<tr>
<td>Adult male non-relative</td>
<td>2</td>
</tr>
<tr>
<td>Own child</td>
<td>6</td>
</tr>
<tr>
<td>Non-related child</td>
<td>0</td>
</tr>
</tbody>
</table>

The accessibility of the WHH for the women was assessed by using a four-point scale for ease of reading and comprehensibility of the pictures (Table 9.15). Most women reported that the writing (72%) and pictures (70%) were either very easy or easy to understand, but some found the writing (28%) and pictures (30%) a bit or very difficult.

Table 9.15  Accessibility of writing and pictures (N=36).

<table>
<thead>
<tr>
<th>Rating of accessibility</th>
<th>Writing</th>
<th>Pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very easy</td>
<td>4 (11%)</td>
<td>5 (14%)</td>
</tr>
<tr>
<td>Easy</td>
<td>22 (61%)</td>
<td>20 (56%)</td>
</tr>
<tr>
<td>Bit difficult</td>
<td>9 (25%)</td>
<td>11 (30%)</td>
</tr>
<tr>
<td>Very difficult</td>
<td>1 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Although there were specific questions asked in relation to what was read, what was learnt, and what was new to the women, they could list any number of topics or none at all. The most useful result was found to be the cumulative frequencies of the topics remembered by the women. The effects of alcohol and smoking was the most frequently remembered topic (by 25 women), followed by healthy eating (18) and reducing alcohol and smoking (15) (Table 9.16).
Another way of assessing the utilisation of the WHH was to determine if it was used to carry clinic cards. It was well utilised for this purpose with 82% of women saying they had put clinic cards in the back flap (Table 9.17).

Table 9.17 Use of WHH to carry clinic cards in back flap (N=39).

<table>
<thead>
<tr>
<th>Use of WHH for clinic cards</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32 (82.1%)</td>
</tr>
<tr>
<td>No</td>
<td>6 (15.4%)</td>
</tr>
<tr>
<td>No response</td>
<td>1 (2.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>39 (100%)</td>
</tr>
</tbody>
</table>

One of the questions relating to their perceptions of the WHH was whether they thought it could be appropriate for teenagers. There seemed to be a lot of support for this, with 82% saying it would be useful for teenagers (Table 9.18).

Table 9.18 Perception of potential use of WHH for teenagers (N=39).

<table>
<thead>
<tr>
<th>Use of WHH for teenagers</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32 (82.1%)</td>
</tr>
<tr>
<td>No</td>
<td>4 (10.3%)</td>
</tr>
<tr>
<td>No response</td>
<td>3 (7.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>39 (100%)</td>
</tr>
</tbody>
</table>
9.3.6 Feedback given by service providers and research assistant

Interviews were conducted with six key service providers who either were responsible for handing out the WHH in the pilot phase, or worked closely with those who were issuing the WHH. Four were interviewed in Vredendal (a nurse on the mobile service; a nurse at the central clinic; the hospital matron; and a farmer’s wife who was involved with the co-ordination of farm health workers). Two service providers were interviewed in Stellenbosch (the nurse in charge of antenatal services; the health promoter who worked in two major clinics). The research assistant who carried out the post-intervention interviews with the women and some of the service providers also submitted her own reflections. In addition, the photocopies of some of the handbooks of the women who were followed up were reviewed to assess the extent to which they were filled in and to check for any misunderstanding about how to fill in certain information.

The transcripts, observation notes and photocopies of some WHHs were analysed using coding and the development of themes from the codes. Five themes emerged that were closely aligned to the questions posed in the semi-structured interviews.

**Theme I: Potential utilisation by health workers**

All those interviewed reflected on the staff shortages in the health services, and while some thought the nurses could find time to work through the WHH with the women, others suggested it may be better for a health promoter or farm health worker to do this.

*So I don’t know, there won’t be much time. It will depend how many people are in the waiting room and how many staff there are.* (Nurse)

With regard to the role of farm health workers, it was suggested that the farmer’s wife assist the farm health workers to use the WHH, and the farm health workers could use the WHH when they do their health talks. Some
were confident that the nurses would make use of the WHH and interact with the women over it, but observations by the research assistant of the poor interaction between the women and a nurse suggested otherwise.

*I think there needs to be strong collaboration between the farmer's wife and the health workers to make this thing work 100%.* (Farm health worker co-ordinator)

In general, it was felt that it was unnecessary to train nurses in the utilisation of the WHH as the content was assessed to be common knowledge for them. However, it was proposed that the farm health workers should have a session in which the WHH is worked through with them and the expectations of them made clear.

*...it covers mainly the things that we do every day in the community so I don't think training is needed.* (Nurse)

*The books can't just get handed out. The farm health workers need to have a session to go through the handbook and be given an explanation of what is expected of them.* (Farm health worker co-ordinator)

There was some concern about how health workers would understand the place of the WHH in relation to the antenatal card, so an introductory session to explain the purpose of the WHH could be useful.

**Theme II: Accessibility and scope of WHH**

Much concern was expressed over the accessibility for women who have poor levels of literacy or poor intellectual level. A dilemma was explained that women with the highest risk factors are those who may not be able to read and understand the information.

*If I look at where the risks lie, it is your teenagers and the uneducated people. The uneducated are not going to access the handbook so it needs to be conveyed to them.* (Hospital matron)
Some strategies for increasing access included having a video in the waiting room of the clinic that covers some of the topics in the WHH, or a tape recording of the handbook contents that could be taken home by an illiterate woman. One respondent was confident that a family member of any women who could not read would read sections for her.

_It made them curious to read the handbook. Even the woman who said she can’t read or write was going to ask her husband to write the things for her._ (Nurse)

Respondents said the pictures were important but that some needed to be explained to women. The reproductive cycle was highlighted a few times as difficult to understand, but important to go through with the women.

_I don’t think there are too many pictures and illustrations. They tell what is written and are important as it makes it easier to understand. And they are not all educated._ (Farm health worker co-ordinator)

The language of the WHH was mentioned as an issue since some of the clients were Xhosa speaking.

In general, respondents were satisfied with the range of topics included in the WHH, although some admitted that they had not read through it all themselves. Breastfeeding, and admission of children to hospital were identified as topics that could be added.

**Theme III: Interaction between service providers and women**

All except one of the service providers who were issuing the WHH and doing the pre-intervention questionnaires, reported that no-one refused to participate. The only refusals were in Vredendal Central Clinic where the WHH pilot study was explained to a group of pregnant women and, when they were asked to volunteer to participate, three refused. In the other settings it
seems that there was a strong sense of curiosity amongst the women, and all wanted their own copy.

*If you explain something then they will know it, but if you just give the handbook and they must work through themselves, it will be difficult.* (Nurse)

*There is one who said she plans to quit smoking….but the others just said they are going to smoke less……that one this morning, she won't give up smoking and drinking, but the others will stop drinking while they are pregnant.* (Nurse)

The interaction between the service providers and the women was described through a variety of examples. One nurse linked the pre-intervention questionnaire to the use of the WHH by suggesting that the women go and read up on the questions that they could not answer well. Another nurse suggested that women think about what should be added to the WHH. Others reported on how they worked through the information with the women when they first issued the WHH to them, and encouraged them to come back with questions. It seems that some did return with questions at a later appointment.

The sections requiring personal and medical information to be filled in were completed by some of the health workers, and some encouraged the women to fill in their own personal details at the front. Different sections of the records section were utilised, but emphasis was placed on the pregnancy topics since all the participants were pregnant at the time. One described the use of the smoking-counselling pages with a few women, and was convinced that one woman would manage to achieve her goal of quitting, while others would at least cut down. Another noted that the depression-related questions were useful and she had used them with some women.

*They are not ashamed to say to you that they drink (on the farms), they tell you they drink and how much.* (Nurse)
It was unclear to what extent women brought the WHH with them on subsequent visits. There was a relatively short time between when some received the WHH and when the staff were interviewed; however, some staff reported on how the women came back with their WHH and had prepared some questions to discuss.

Based on the review of the 14 photocopied handbooks it emerged that most of the information was filled in by the health workers (same handwriting in a number of the handbooks), and that very few of the interactive sections were utilised. Where an attempt was made to record previous births, almost none of them entered previous birth weights. Of concern was that where screening test were recorded, some recorded the result of the test, e.g. HIV neg, although the table actually required information on whether the result of a screening test had been received and not what the result was. Only one of the photocopies showed that a photo of a woman and child had been placed in the front of the handbook.

**Theme IV: Overall impression and usefulness**

It was unanimous that the WHH was well developed and attractive for the intended users. There was a sense that it covered an appropriate range of topics and stimulated women’s curiosity and interest, and had the potential to improve their knowledge. Aspects that were highlighted as important were the alcohol, smoking and HIV/AIDS sections. The idea of having the photo at the front was appreciated. However, there was some scepticism about the extent to which behaviour change by the users would actually take place. Also, it was emphasised that the WHH needed to be well supported by the service providers to have its intended effect.

*It will definitely broaden their knowledge, but the application - many will apply it but others will just read it because we told them to.* (Nurse)

One service provider, who is responsible for health promotion activities and giving talks to pregnant women, went so far as to say that the WHH would be
her ‘bible’ for her work with women in the future. Another asked when it would be approved and made available for all their clients.

**Theme V: Distribution**

The main question asked of the respondents regarding dissemination was ‘who should receive the WHH and through which service point’. It was agreed that the sooner in life the better, with most suggesting around 16 years old.

It was acknowledged by all the respondents that the WHH should be made available beyond the clinic, since not all women use the clinic, or book very late in pregnancy. However, within the clinic services it should be available in all sections and not just antenatal. Beyond the clinic various other services were suggested, including hospitals, churches, doctor’s rooms, and at women’s meetings on the farms.

One respondent went so far as to suggest that the WHH should be marketed by putting adverts in the local newspaper and announcing its availability through the radio.

All the clinics must do their bit and market it and give it out. And beyond that we can promote it through the newspapers and on the local radio. (Hospital matron)

**9.4 Discussion of findings**

**9.4.1 Demographics and baseline measures**

The demographic characteristics and baseline measures of the women who were recruited into the field testing were remarkably similar to those described in studies such as the one by Dhansay et al (1995) and Jackson et al (2007). The rates of smoking and alcohol use before and in pregnancy are much higher than the national average for women, based on the SADHS 2003.

Since the service providers who issued the WHH reportedly gave every woman attending ANC the option to participate, the sample should be
representative of the typical women attending ANC over a one-month period. It was not clear why more participants were enrolled in Vredendal area than Stellenbosch area, since, based on the numbers of women observed to be utilizing the Stellenbosch clinics (Cloetesville and Klapmuts), more would be expected to have been enrolled in Stellenbosch. It may have been due to the contribution of the mobile service in addition to the fixed clinics in Vredendal that made enrolment higher or, possibly, higher levels of commitment by the Vredendal staff.

It is an important finding that the sub-sample followed up (39) does not differ significantly in their baseline measures from the group of participants who received the WHH (103). The feedback and apparent change in alcohol use during the time that they had the WHH, therefore, could possibly be generalised to the whole sample that received the WHH.

The finding that those who were drinking in pregnancy when recruited into the field test were found to have confirmed their pregnancy later than the non-drinkers, were more likely to be smokers, and had poorer reproductive health knowledge implies that those drinking in pregnancy have various risk factors for poorer birth outcomes. The use of the WHH in an interactive way could, therefore, be even more critical for these women.

9.4.2 Perceptions and utilisation

It was pleasing that many of the farm-worker women reported reading the whole WHH after receiving it, but of concern was that quite a few could not remember how much of it they had read, if at all. This could be a reflection of them not understanding the question, or not wanting to say directly that they did not look at it. Personal or health-related information was entered into most of the WHHs, but only 21% of the women reported having done so independently. This indicates a high level of reliance on the health worker or a family member to enter the basic personal information, and the health worker to enter the health-related records. Although about 70% were satisfied with the accessibility of the contents and the pictures, it is of concern that 30% or more admitted some difficulty in understanding the text and / or pictures. This
potential problem with accessibility of the WHH for some women was also raised by the service providers.

The fact that many had shown the WHH to other people, especially family members, indicates that the contents may have potential to improve the health literacy of more than just the recipient, and that it was not hidden away. Only four participants were negative towards the idea of issuing it to all teenage girls.

Regardless of whether they read the WHH or entered anything into the records, over 80% were positive about its use to carry family members’ health cards in the back flap. This function of carrying the clinic cards will ensure that the WHH is taken to the clinic, and it will be incumbent on the service provider to use it for keeping the record section up to date, and using the education section to support pertinent discussions with the woman.

Since the health promoter responded very positively to having a stock of the final version of the WHH for use with her clients, especially in the antenatal education sessions, it may be that the health promoters will be the most appropriate service providers to use the educational information in an interactive way with their clients.

9.4.3 Effect on knowledge and behaviour

While it is disappointing that no clear improvement in knowledge on the key reproductive topics was achieved, it points to the need for structured discussions with service providers before knowledge can improve, or may just require having the WHH for longer. It could also be that the number of women followed up was too small a sample.

The change in alcohol use was quite dramatic, indicating that the WHH could have an impact on reducing alcohol use in pregnancy, thereby reducing LBW and FASD rates. Smoking was not significantly reduced and it is known that cutting back on cigarettes can be more difficult than reducing alcohol.
consumption. Smokers will need additional support over an extended period in order to influence the negative effect smoking has on LBW.

9.4.4 Dissemination

This final step in the Project followed an adhoc process of making a stock of the WHH (version 3) available on request. It was promoted through presentations to key stakeholders and the secondary audience representatives who had participated in its development. Positive feedback was received indirectly from the organisations who received batches of the WHH.

Since there was concern expressed by various audiences about the level of commitment and time available on the part of the clinic staff to interact with the women over the WHH, some introductory training and marketing of the WHH would be necessary.

On reflection I could have taken a more active role in encouraging the regional or provincial health department to plan for the sustainability of the WHH as a standard part of the women’s health services. A clearer marketing strategy could have been designed with these role players to ensure the uptake and utilisation of the WHH (Kotler and Lee, 2007).

9.5 Conclusion

There was no change in the knowledge of women who received the WHH (version 2) during the time they had possession of their WHH. However, there was a marginal, but not significant reduction in smoking, and a significant reduction in alcohol use during pregnancy.

The primary and secondary audiences were generally positive about the purpose and contents of the WHH, but indicated that some women could find the level of literacy required too high. The completion of the records section will mostly need to be done by the service providers, therefore they should receive training to introduce the WHH and their role in keeping the records up to date.
Although I had not devised any clear dissemination plan for the 10 000 copies of version 3 at the end of the Project, they were distributed to various government and non-government services on request in the year following the print run.

The WHH was well received by all audiences and there is enough evidence to show that it can influence the risk factors for LBW. However, for its sustainability as a standard tool in the women’s health services, the training of service providers, and an annual print run by the provincial health department, will need to be included in the operational plan and budget.
CHAPTER 10  REFLECTIONS AND RECOMMENDATIONS

10.1 Introduction

This final chapter serves as my reflection on the process of developing the WHH as a communication tool, and the extent to which the WHH is able to achieve its original objectives of promoting women’s health in the West Coast / Winelands region. Patton (2002a) suggests that the qualitative researcher needs to triangulate the insights gained from the different data with one’s own perspectives and voice. The P-process is used as a framework for the reflection, with the participatory process of the project being discussed first, followed by the three main audiences in terms of their roles in the steps: analysis; strategic design; development and testing; implementation and monitoring (Health Communication Partnership, 2003). Since the project scope did not include ‘going to scale’ the final step of the P-process, that is the implementation and monitoring, is referred to in the recommendations only.

Firstly, the discussion focuses on the participatory action research process that was followed and reflects on the extent and consistency of the participation.

Secondly, a discussion of the three main audiences summarises what has been learnt about their context and actions, across the three phases of the project, and identifies some issues for future health promotion programme developments. Since I was interacting with the audiences throughout the phases, this discussion goes beyond the information and interpretation set out in chapter 5 (Findings of Phase I).

The next section reflects on the evaluation of the WHH to identify the strengths and weaknesses of it as a record-keeping and health-communication tool, and how it could be improved on for future use.
Finally, recommendations are made for the future improvement and dissemination of the WHH in particular, and for the development of health-related communication tools in South Africa in general.

10.2 Participatory action research

The main principles that were subscribed to during the project were informed by de Koning and Martin (1996), Liamputtong and Ezzy (2005), and Kelly and van der Riet (2003). Knowledge transfer to and ownership of the research by the less powerful participants should occur, potentially leading to the transformation of power structures and relationships; the knowledge and lived experience of oppressed people should be valued; and the researchers should work in collaboration with local people (Barnes, 2000).

The three phases of the project were followed through as originally planned, even though the participation of a consistent group of farm women at each site was not possible. The WHH was developed through many rounds of consultation with the primary, secondary and tertiary audiences. A total of 163 primary audience members participated officially in one of the phases. The secondary audience was a more consistent group with seven in Phase I, nine in Phase II, and six in Phase III, with many being the same for each Phase. The tertiary audience consisted of four in Phase I, five in Phase II, and two in Phase III, with little consistency from one phase to the next, although a few, such as the NGO staff, were involved in a less formal way throughout the project.

At the outset I began with a specific set of objectives regarding the purpose of the WHH, but a ‘blank-slate’ as far as the contents and layout of the WHH goes. In this way, the content of the WHH was generated by the ideas of the multiple audiences and the variety of other health education materials that were reviewed. While the development and testing period lasting over two years was not efficient, on reflection, the steps taken were necessary to produce a very acceptable and attractive printed health promotion tool. The
thoroughness with which each page was developed, tested and revised, was essential to ensure an accessible record-keeping section, an accurate and appropriate health information section and an appropriate resource list at the back.

Inevitably, the final version was mediated by my perspectives. This could have led to, for example, a strong emphasis on substance abuse and, perhaps, too little emphasis on nutritional issues, due to the relative indepth experience I have on alcohol prevention programmes compared to nutrition.

Through the interaction with the research assistants, health workers and key informants it became clear that a range of people could be ‘agents of change’ and mediate the use of the WHH with the primary audience. The health workers (nurses, lay counsellors, and health promoters) who staff the mobile services and the fixed clinics in the rural areas, as well as the farm health workers, are all critical agents in the promotion of the use of the WHH by women on the farms. Although the WHH process may not have directly challenged the power imbalances between the farm women and the service providers, the WHH can in the future contribute to shifting the power towards the farm women as they develop more knowledge and assertiveness in their health care seeking behaviour and personal health promotion activities.

The project has achieved participation of key audiences that should contribute to a more comprehensive reproductive health programme as suggested by the WHO (2001:13):

> Almost without exception, those programmes that actively listen to women by eliciting their opinions and preferences come closer to achieving their health promotion objectives. Inviting the voices of women, incorporating their experiences, and understanding their roles as economic producers, household caretakers, and community members can measurably enhance the success of holistic reproductive health programmes.
10.3 Situational and audience analysis

10.3.1 Primary audience: women on farms

The depth and range of factors on a political, social and economic level that continue to militate against women on farms being able to ‘make healthy choices’ and engage in pre-pregnancy planning in order to deliver healthy babies, is overwhelming. The recent changes in the global macroeconomic factors will inevitably have a negative impact on the agricultural sector, especially in the export market for fruit and liquor products from the West Coast area, making the employment and housing for farm based families less secure. Although their employment rates are high, their income level is very low and is barely better than what they would receive through social grants.

Neither the macroeconomic challenges nor the disease profile of the population on the farms is going to improve quickly, and dealing with the challenges facing this marginalised population needs greater inter-sectoral planning and resource allocation than is currently the case. While some changes due to improved education services, living conditions, access to social grants, and labour legislation have occurred since the new government took office in 1994 (Republic of South Africa, 2008), the shift in well-established community norms relating to poor nutritional patterns and substance use, to healthier patterns, is likely to be slow and take effect only over generations.

The intergenerational effects of high rates of LBW and FAS serve to further retard the potential for community empowerment, as observed in the poor intellectual functioning and physical health of some of the participants during this study. As in many rural areas, there is the tendency for young people who were born on the farms to aspire to move to the towns and cities. While this may not be negative for those individuals, it is likely to perpetuate the cycle of those who are less capable remaining on the farms or becoming unemployed. None of the interpersonal or environmental stresses on the women’s lives are easily changed; however, given the appropriate individual and family support from service providers, and a gradual shift in community norms and
opportunities for improvements in their quality of life, there is potential for breaking the cycle of poverty and substance abuse.

The HAM (Figure 5.3) is used to guide the discussion of the insights gained into the factors influencing the women’s behavioural intention, and the external factors that moderate their health-related behaviour in relation to LBW. The normative, belief (cognitive), and motivation systems are considered, as well as the facilitating and inhibiting factors to changing health actions.

**Normative**

Throughout the phases of the project I was faced with the stark reality of the primary audience living in poverty and in a context where there are very entrenched institutional relationships (van Dongen, 2003). There is a symbiotic relationship between the farmer and the farm workers, which has both negative and positive aspects, but with the balance of power still clearly in favour of the farmer. The women engage in intimate relationships within a patriarchal community in which domestic violence and alcohol abuse are commonplace. These systems are likely to change very slowly and currently serve as strong inhibiting factors towards women rejecting substance use and taking control of their lives.

Collaboration between various stakeholders in the region is necessary to improve the basic conditions and opportunities for farm workers. It is proposed that this needs to take place in a way that challenges the established norms, and encourages both men and women, to consciously reject the acceptance of smoking and alcohol use.

The weekend binge-drinking pattern is well-entrenched, and although most of the women who practise this pattern of alcohol use would not be classified as dependent drinkers, their ‘acquired drive’ is towards participating in the next weekend’s drinking spree (Tones, 1987). They are not able to assess the negative consequences of the pattern as greater than the short-term pleasure they experience by participating in the bingeing. The high levels of alcohol use
(48% pre-pregnancy) and smoking (62% pre-pregnancy) by the participants in the field-testing process of Phase III are very similar to findings in other studies of women in the similar Western Cape context (Viljoen et al, 2005; May et al, 2007). The high levels of substance use are what distinguish the Western and Northern Cape from other rural areas in the eastern and northern provinces of the country. Interestingly, a recent study by van Wersch and Walker (2009), in which they used grounded theory to develop a conditional matrix on binge drinking as a social and cultural phenomenon in Britain identifies key factors influencing binge drinking that would mostly hold true for the Western Cape population focused on in this project. The domain that I found most revealing was that the respondents downplayed the negative consequences of the alcohol abuse and identified common strategies that are used to deal with things like a hangover, rather than cutting down on the amount of alcohol consumed. They also tended to remember positive experiences of the social binge drinking more than the negative, and revealed that the binge drinking culture was accepted as the norm in Britain. The main factors that inhibited binge drinking were related to working the next day, or having to drive a car.

Belief system (cognitive)

Nationally, the female literacy rate (for those over 20 years having passed Grade 7) is reported as 73.2% (RSA, 2008). It was found in the field testing in phase III that 81.6% reported having completed more than Grade 7, with many (28.2%) having completed Grade 11 or Grade 12. However, the fact that many had not read any of the handbook contents (24%), around 30% found the writing and pictures difficult, and there was no change in health knowledge after having the handbook for up to two months, suggests that there is a discrepancy between their formal education level and functional literacy. This could be due to the questionable quality of teaching in the historically Coloured rural schools, as well as poor experience of daily literacy activities (Banda 2003). It is likely that as they grow up on the farms they are not exposed much to the use of reading and writing in practical ways such as through a shopping list, sorting out dates on a calendar, and reading a daily newspaper.
With reference to the categories of health literacy proposed by Nutbeam (2000) - functional health literacy; interactive health literacy; and critical health literacy – it became clear that the farm based women are struggling to acquire functional health literacy due to poor basic literacy and limited access to appropriate information. Their ability to interact and discuss health issues with health workers is limited by the power dynamics and culture of the health consultations, and their lack of assertiveness to make demands for information and services. Very few women who participated in the project were able to offer creative ideas regarding the development of the WHH, or to critique its contents. This is an indication of their poorly developed critical health literacy, which makes it difficult for them to weigh up medical intervention choices and make demands on the health services for better quality services, and is a result of their weaknesses in functional and interactive health literacy.

Another issue related to beliefs is the strength of conviction behind a belief (Tones, 1987). Although most women superficially know of the dangers of smoking and drinking in pregnancy, the strength of the belief is weak and, therefore, does not contribute enough to the decision to quit or cut down substance use in pregnancy. It seems that the WHH can play an important role in strengthening their depth of knowledge and belief in the possible damage to their baby, and risk of pre-term labour, and lead to a reduction in substance abuse.

**Motivation**

It was difficult for me, being from a different social class and race from that of the farm women, to engage with the farm women in a way that would reveal their level of critical consciousness and motivation to overcome some of the constraints to a healthier lifestyle that they face daily. However, data collected by the research assistants in this project, and observations made by me over many years of working in the health and social services in the Western Cape, provide evidence to support the theory that although the women generally lack sufficient cognition and motivation levels to independently challenge the
obstacles in their daily life, if given the appropriate information and support, they will participate in actions to improve their skills and expand their horizons. There is clearly a reciprocal relationship between the belief and motivational systems, and a need for health promotion initiatives to influence the subconscious cost-benefit analysis in favour of positive health behaviour actions (Tones, 1987).

There is an honesty and candidness amongst the women and a culture of telling entertaining stories that facilitates lively interaction amongst them. It is this culture of positive interaction that could be utilised in group discussions, facilitated by adult educators or health promoters, to raise the levels of functional and interactive health literacy in order to strengthen their commitment to healthier lifestyles. Tones (1987) referred to the concept of ‘post-decisional feedback’ in relation to sustaining a change in behaviour and suggested that it could be from a social or environmental source. The WHH could be meaningfully utilised as a tool to support group discussions, thereby contributing to improved knowledge, values clarification and drive. The one-to-one feedback from a health worker could be provided through use of the interactive section designed to support setting of targets for substance use reduction, and setting follow-up consultations.

**External inhibiting factors**

The external factors that inhibit the possibility of the women practising health-promoting behaviours include the access to health and social services, as well as the broader social norms that influence their choices.

In the conceptual framework for categorising factors influencing substance abuse by women proposed by Alegria (1998), the ‘institutional resources’ related to women’s substance use is a key component. As pointed out by Rondo et al (1997) and Faden et al (1997), it is possible that any strategies, such as the WHH, may in fact miss the most high-risk people since they are the least likely to use the services in the West Coast / Winelands. It was found that there are very few resources to assist women to cut down on or quit smoking and alcohol abuse. Therefore, developing accessible and appropriate
in- and out-patient rehabilitation programmes remains a priority. I propose that the mental health services in the region be substantially boosted and that creative alternatives to the large urban based state rehabilitation centres be initiated and evaluated. I propose that flexible local ‘cottage’-type rehabilitation centres designed specifically for high-risk women should be initiated. This could be a programme run in a therapeutic milieu and include pregnant women and women with children they need to continue caring for during their stay.

A model such as the Seattle-based ‘Parent-child Assistance Programme’, in which paraprofessionals carry out home visits to high-risk women, could be adapted to the farm context in order to reduce this treatment gap. The paraprofessionals could be lay counsellors from the health services or NGOs, or farm health workers, who visit women in their homes and use a holistic approach to assist with access to appropriate services and support lifestyle changes in relation to substance abuse (Grant et al, 1999; Ernst et al, 1999).

The application of the notion of social capital in understanding the social factors that influence the women’s lives, especially the smoking and alcohol use, is of special interest. Most writers consider high levels of social capital as positive attributes in a community and regard it as health promoting (Baum & Ziersch, 2003). Within the farm worker communities that were engaged with in this project, a high level of interaction and support between families on the farm, and a strong sense of operating as an extended family, was observed. The networks that exist in the neighbourhood overlap with the work-based networks. However, the peer pressure to participate in smoking and drinking, and the social norms according to which substance use is acceptable were found to be a negative result of high social capital. Thus, social capital needs to be viewed as potentially having both positive and negative effects on health-related behaviour. Also, while the farm workers may experience high levels of social capital on the farms, they are largely excluded from the broader society due to their isolated existence and poor mobility. There are limited government or non-government organisations that the farm workers can be involved in or can draw resources from, especially in the Vredendal.
area. They, therefore, have limited benefits of social capital at a broader societal level.

**External facilitating factors**

The facilitating factors that could play a role in promoting health-related behaviour range from the broader socio-economic development initiatives to the local resources and community trends.

The Integrated Development Plans that are prepared annually by regions and are submitted for government funding include strategies for improving skills levels and opportunities. The plans for the West Coast are comprehensive but it is not clear how many proposed initiatives have taken root (Urban-Econ, 2006). It is also important that FAS has been recognised as a provincial priority with the health and social services, resulting in an increase in funding of relevant NGOs such as Dopstop Association and Pebbles (personal communication, 2006). The support of farm health workers through the health services, and NGOs such as the Vroue Forum and Dopstop Association, bodes well for increasing the support that families may receive in order to access services and social grants.

As the HIV infection rate grows in the rural Western Cape, communities are having to face the reality of community members falling ill, and are having to discuss prevention of HIV more openly than in the previous years. This could be a positive shift in the sense that condoms may become more readily used as protection and, at the same time, may prevent unplanned pregnancies. Also, health-service strengthening that comes with the provision of ARVs may have a positive spin-off for women’s health services in general.

### 10.3.2 Secondary audience: health workers

It has been recently reported that the per capita expenditure on primary health care services in the West Coast / Winelands is higher than in other parts of the country, but that the access to and quality of the services remains inadequate (Barron et al, 2007). Maybe the scepticism expressed by the farm-based women that the health workers would not utilise the WHH in
consultations with them is justified. The fact that the utilisation rate of ANC in the area is high and the 'unbooked' delivery rate is low implies that there is good ANC coverage. However, the LBW rate is an indication that substance use and under-nutrition continues during pregnancy, with little impact from ANC.

There was active participation by all the health workers who were invited to participate in site meetings, focus groups and interviews, at the different stages of the project. They all made valuable contributions to these interactions, but most were obliged to participate due to their position in the health system, and were not in a position to refuse. Only some of the health workers showed real excitement about the project or believed that the WHH would be very useful. Many of them had been in their jobs for many years and seemed hardened to the conditions on the farms. Some had difficulty believing that all women had the potential to learn new information, improve their ability to take charge of their lives, and change their health damaging habits. This attitude could be transmitted to the women verbally or non-verbally, negating the possibility that the women may respect the information provided by the health worker (Marincowitz, 2004).

Besides the possible lack of belief by some of the health workers in the potential of the women to change their behaviours, there are also logistical challenges to spending more time with women in the daily health-service provision. The roles of nurses, health promoters and lay counsellors are ever expanding due to the decentralisation of the health service and the emphasis on the primary level of care (Sanders & Chopra, 2001). While this shift to the primary health care approach may be appropriate to the community needs, unfortunately staff shortages and a lack of capacity to deliver holistic services seem to be common. The other concern is that users of the health services do not necessarily have the choice of consulting the same health worker during each visit, making the building of a trusting and deeper relationship unlikely.

The poorly developed mental health services at a primary level in the country is particularly problematic in areas such as the West Coast/Winelands, where
substance use is so high (Petersen et al, 2009). Screening, specialist
counselling and in-patient treatment are hardly available, so not only is the
substance abuse not being tackled, but any co-morbid mental health
problems, such as depression, are not being recognised either.

Since the number of primary health care staff is not likely to increase in the
near future, the further development of cadres of lay health workers may be
the only solution (Rohde et al, 2008). The successes reported of farm health
workers in the TB DOTS support work (Daniels et al, 2005) could be tried in
relation to mental health problems and substance abuse at a community level.
This system of farm health workers could be developed and sustained through
a strong partnership between the government health services and NGOs in
the area, and contribute to the achievement of a comprehensive primary
health care system where there is diversity in cadres (Lawn et al, 2008). A
new cadre of mental health specialist, called psychological counsellors, who
have a four year degree, was introduced in 2003 to strengthen counselling
and preventive services at a PHC level (Petersen et al, 2009). A psychological
counsellor could arguably support and supervise community health workers
and farm health workers in mental health promotion activities.

Although some of the secondary audience felt that training in the use of the
WHH was not necessary since all the information contained in it was common
knowledge to them, it became obvious during the field testing of version 2,
and follow-up of the dissemination of version 3, that an introduction of the
WHH to frontline staff is necessary. The training could serve to improve the
general interaction between health workers and patients towards a model of
‘participatory interactive care’, as well as to clarify the purpose of the WHH
and the expectations that both the health worker and the patient will use it
(Rendall-Mkosi et al, 2003; Marincowitz, 2004).

The WHH has certainly provided a health-education tool to the health workers
that did not exist before, and can replace some of the rather informal pages of
information that were being used in Vredendal, and the formal but fragmented
pamphlets that were being issued in the Stellenbosch area.
10.3.3 **Tertiary audience: regional and provincial**

Much effort was expended in engaging with the regional and provincial health officials over the course of the project in a genuine attempt to solicit their input in the design and positioning of the WHH. These efforts also intended to ensure that the WHH would be used as a key intervention either championed by the Health Promotion officials or the Maternal and Child Health officials in the future.

Although some of the officials provided important and constructively critical feedback at key stages in the project, there was no clarity on how such a health promotion tool should be introduced into the health system, and where the budget would come from to print, disseminate and monitor it in the future.

The work done by the Media & Training Centre was extended beyond the development and printing of the WHH to dissemination and promotion of the intervention, since they had the expertise in health communications and connections within the provincial health department. Despite their commitment to and belief in the value of the WHH, they were not able to lobby the health department to commit to a regular print run and dissemination plan for future years.

The current international revitalisation of the PHC approach through the district health system provides a possible opportunity to strengthen the status of health promotion, especially at the community level (Rohde et al, 2008). Since the Western Cape Health Department is committed to providing equitable and good quality services, a tool such as the WHH could play a crucial role in promoting an understanding of the key PHC programmes amongst community members, especially in the maternal, neonatal and child health services.

10.4 **The WHH strategic design, development and testing**

The mission of the National Department of Health (2004 – 2009) reads as follows: “to improve health status through prevention and promotion of healthy
lifestyles and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality, and sustainability” (Department of Health, 2004a:4).

Since this project was positioned to work within the current health system, the question is to what extent the WHH project has contributed to the achievement of the mission of the NDoH. In the reflection that follows, the WHH is regarded as the ‘input’ in the programme evaluation model.

10.4.1 Input and processes

The use of a print medium, as opposed to radio or DVD type medium, could be criticised since the reading culture is poor amongst the primary audience, and their functional literacy is lower than their reported educational attainment. Should we, in fact, be accepting that literacy and the culture of seeking and reading information will not change in this generation, and therefore leapfrog over the more conventional print media and utilise TV and DVD exclusively? While these audio-visual channels may be more effective for those who are exposed to them (Mathews et al, 1998), especially on a group basis, they would still require the health worker to mediate the messages in order to encourage individual knowledge improvement and motivation towards behaviour change. However, the value of developing and utilising reading skills for everyday life should be recognised rather than avoided, and supported as part of the empowerment of women. The print medium may also be the most useful for mediating the interaction between the service provider and the user, as well as ensuring the health and treatment records are always with the user.

Even where health workers are not in contact with the primary audience, there is the potential use of the WHH by the women independently (with or without assistance from family members), and use of it by family members and close friends. Some key informants also suggested that it could be a useful text for adult basic education classes, and the majority of the participants in the field testing were supportive of the WHH being made available to teenage girls. However, the WHH does not directly address influential people in the life of
the woman, such as her partner or friends; therefore, the handbook does not cover reducing the source of some of her stresses and pressures that lead to the substance abuse.

I recognise that the WHH is unlikely to have the desired impact unless it is accompanied by other communication approaches and social mobilisation on the social determinants of LBW. An added challenge is to reach the highest risk women who are less likely to quit substance use during pregnancy, and most likely to return to smoking and drinking after giving birth (Kahn, 2002).

A programme model which could be applied in the Western Cape farming context is the Communication for Behavioural Impact (COMBI) approach. Key to this approach is striving for an integrated programme by blending communication actions appropriate to the behavioural outcomes desired (WHO Mediterranean Centre for Vulnerability Reduction, 2003). The model proposes a participatory process to planning communication actions in five main areas: public relations and advocacy; community mobilisation; sustained advertising; interpersonal communication and counselling; and point of service promotion. With regard to the behavioural determinants of LBW, the interpersonal communication and counselling aspect is well served through the WHH; however, interventions are needed in the other four areas in order to support the use of the WHH, and the desired change in women’s health-related actions.

An example of such an integrated programme is the Indonesian one called ‘Smart Patients, Smart Providers and Smart Communities: Redefining roles in improving participation in reproductive health care delivery’. Besides the active coaching of patients to be more assertive and take more responsibility in the health consultations, other communication channels that model the desired communication are placed on radio, TV and on videos on mobile vans (Kim et al, 2003).

**10.4.2 Outcome**

The main short-term outcomes and the indicators of success of the provision of the tailored print media were set for specific knowledge and behaviour
changes. The attitudes of the women and the service providers towards the utility of the WHH were also elicited to assess the potential longer-term uptake of the intervention.

It was disappointing for me not to be able to apply the Utilisation Focused Evaluation approach more rigorously in the field testing phase, as this may have led to a more comprehensive set of indicators of success, and an evaluation that included the service provider / patient interaction, rather than the more limited focus on the women’s feedback and service provider feedback, separately. For example, one of the key steps would have been to plan with the secondary and tertiary audiences what they would do with the results of the evaluation. This may have led to more interest and buy-in regarding future reproduction, dissemination and use of the WHH.

The results of the field testing could be interpreted as insufficient evidence on which to promote the dissemination of the WHH, given that the only significant change in knowledge or behaviour was a reduction in alcohol use by those drinking in pregnancy, and a non-significant reduction in the amount of cigarettes smoked. However, since the purpose of the field testing was to assess the general utilisation and appropriateness of the WHH within the antenatal care clinic system, and by the women who live on the farms, information was gathered that led me to conclude that, besides the need for minor additions and format changes, the WHH had great potential for achieving all the objectives originally stated. It was also reassuring to find that almost all the nine points identified in the final report of the ‘Burden of Disease Reduction Project’ (Childhood Diseases Working Group, 2007) as critical for the primary prevention of LBW are all included in some way in the WHH. These points include: education of women in ANC; access to social grants; employment; transport availability; access to health services; nutrition to promote weight gain in pregnancy and sufficient micronutrients; smoking; pre-conceptual counselling; and alcohol use.

The fact that the printing costs were only R5.50 per WHH (in 2006), and that a number of government services and NGOs requested and distributed batches
of the WHH in the year after the 10 000 copies of version 3 were made available, is some indication of the need for such a tool.

LBW, whether due to preterm delivery or intratuterine growth retardation, could be reduced through the use of the WHH. This improvement could thereby contribute to the survival of more babies and a better start in life for those who may otherwise have suffered neurological and growth problems due to maternal smoking, alcohol use and poor intrauterine weight gain.

The WHH is unique since it combines the potential to promote interaction between health workers and women with access to health information for the woman at home. The interaction between the health worker and the woman using the WHH could be at many levels: as a discussion tool even when they have no specific health complaint; to promote better continuum of care through the record-keeping section, and the back flap that would contain various woman and child health cards; and as a source of information on a wide range of topics that are relevant to their general health and health-service utilisation.

10.4.3 Impact

The extent to which the WHH may have influenced the factors contributing to the health-related practices of women before pregnancy is unknown, since the WHH was released in the services at various sites to pregnant women only. A longer-term follow-up study would be the only way that the impact of the WHH could be determined. It needs to be determined if the health workers interact better with women as a result of the WHH; if the records are kept up to date and accurate; and if the woman learns from and acts on the information in the WHH, over time.

It may be that only if a significant result is found through a longer-term evaluation that the provincial or national health departments would consider mass reproduction of the WHH annually.
The high levels of smoking and alcohol use by pregnant women in the Western Cape reported in the literature was confirmed by the high proportion who reported use of these substances in the Phase III field testing data. On the basis of the high FASD rates reported in the literature, the high levels of weekend binge drinking found in Phase III of this project, and the known relationship between substance use and poor nutrition, alcohol use in pregnancy remains the largest contributor to the LBW in the region and requires interventions beyond those that are included in the WHH.

10.5 Project limitations

10.5.1 Scope

The project focused entirely on the development of the WHH as a tool, and although information was gathered regarding potential barriers to its use, such as health worker reluctance to make use of it, no additional strategies such as health worker training were incorporated.

Secondly, the project did not have a clear end point. Although the field testing was originally seen as the end point, it was realised that the mass reproduction and dissemination of the WHH was not well planned. Therefore, limited monitoring of the dissemination and impact was included.

10.5.2 Methodology of each phase

Phase I

In hindsight, I would have obtained better data through which to more accurately assess the cognitive and motivational components of ‘maternal health literacy’ (Renkert & Nutbeam, 2001) if more structured interviews with the primary audience had been held in Phase I, in addition to the focus groups.
**Phase II**

Engaging individual primary audience members in active reading and summarising of sections could have been a better assessment of readability of the WHH than the general approach used in the focus groups.

**Phase III**

No biological measures or markers were used to assess the women or monitor changes in substance use or nutritional status during the field testing of the WHH, so self-reported behaviours had to be relied upon in the baseline and follow-up questionnaires.

The evaluation was limited to a focus on the participants who received the WHH and did not monitor the interaction between the health workers and the women on the WHH.

The design of the pre-test / post-test on a cohort of women was weakened by the fact that no control group was recruited (Joubert & Ehrlich, 2007). The validity of the analysis of the field testing could be questioned, since I was both the creator of the intervention, albeit in a participatory way, and the interpreter of the results. Although every effort was made to remain true to the data, and accept negative feedback on any aspect of the design or intended use of the WHH, a more in-depth and balanced evaluation may have been achieved if more measures to ensure trustworthiness and authenticity were included throughout (Patton, 2002). The variety of methods of data collection and audiences enabled some triangulation of data and analysis; however, more could have been done to ensure ‘multiple perspectives, multiple interests, and multiple realities’.

**10.5.3 Project staff and the researcher**

Owing to the historical divides in the country, and the awareness I have to the influence of the class and language difference between her and the farm women, research assistants were mostly utilised for these interactions. While this may have ensured that the participants engaged more freely, it limited the opportunities for observation and participation in the data gathering by me.
researcher. In addition, the physical distance between Pretoria, where I live, and the research site (about 1400km) resulted in delays in the process of the research, and limited the extent to which I could become immersed in the research processes. At times I was not able to do in-depth analysis as I was relying on rather sketchy notes and verbal feedback from the research assistants.

The research assistants from the NGOs were not able to fulfil their originally envisaged roles due to the limitations placed upon them in their organisations. This also limited the involvement of a constant group of farm women through each phase of the project since the women in the Stellenbosch area were connected to another project of one of the research assistants which was terminated early.

10.6 Recommendations

10.6.1 Sustainability: Provincial and regional services
In order for the WHH to be reproduced in sufficient quantities for the whole province and introduced to service providers, the provincial health department needs to recognise the value of the WHH within an integrated primary health care approach (Lawn et al, 2008). This will require that they draw up a dissemination and monitoring plan, and allocate the necessary resources (Sanders and Chopra, 2001; Kotler and Lee, 2007). Although a senior official in the Western Cape Department of Health was interested in the mass production and dissemination of the WHH in 2008, it is not clear whether budget was allocated to this or not. Part of the plan needs to include training for service providers so that the WHH is accepted and used at all levels of the health service and is promoted through social mobilisation (Kim et al, 2003; Kotler and Lee, 2007).

10.6.2 Service provider training
The minimum amount of training required by health workers at regional and local level is approximately a one-hour introduction to the purpose and scope of the WHH, their role in interacting with the recipients, and in filling in some of the records (Stout, 1997; Flemming and Manwell, 1999). More effective
training, ideally over two days, should include training in screening and brief interventions for substance use alongside the basic information around the use of the WHH. This training should be adapted to different levels of local health workers, including the community and volunteer cadres, and aim to enhance their communication skills (Deehan et al, 1998; Rollnick et al, 2001; Marincowitz, 2004).

The role of farm health workers and health promoters should be better recognised, and they should be included in any training activity relating to the use of the WHH and appropriate communication skills (Daniels et al, 2005).

10.6.3 Future research

Following the training of service providers and the wide dissemination of the WHH a large-scale evaluation should be carried out. Indicators of its impact on various aspects of women’s health literacy and well-being should be decided on and appropriate research methods applied to assess these. The evaluation should use a range of methods and focus on trying to establish the utilisation and the impact of the WHH for the users, their families, and the service providers at various facilities who should be interacting with the users through the W HH (Poland, 1996; Derrickson et al, 2003). Routine data related to maternal and neonatal health could be used to monitor changes in pregnancy outcomes over time.

The reach/ coverage of the WHH to specifically assess its accessibility for the most vulnerable women and teenagers should be carried out, as well as its effectiveness with these vulnerable groups (Bertrand, 2005).

The sustainability in terms of cost, and fit of the WHH within the health promotion activities of the health system, should also be assessed. This is in terms of the printing and dissemination of the WHH and the ongoing training of new service providers at various levels to enable them to use it effectively.

The phenomenon of binge drinking, especially among women in the Western Cape should be further investigated so that more specific interventions can be
developed to shift the norms and enable women to acquire personal skills to better control their alcohol use (May et al, 1995; Keleher, 2004).

10.6.4 Reaching the high-risk women

The WHH needs to be a tool that is used in combination with other services, such as social services, to reach the high-risk women who may not be utilising health services regularly and living marginalised lives, or may be very resistant to attitude and behaviour change (Beckman, 1994; Cohen, 1998; Liepert and Reutter, 2005). It may be that the WHH would in itself be an incentive for women to attend ANC.

In addition, health promotion campaigns that utilise a variety of settings and channels of communication should be planned to complement the WHH and ensure that high-risk women are reached (Mathews et al, 1998; Tones and Tilford, 2001; Hubley, 2004; Mengel, 2006).

10.6.5 Adaptations for different target groups

The final English and Afrikaans versions of the WHH should be adapted to suit other language groups, especially isiXhosa, so that most women in the province can benefit from its use (Mody, 1991; Kickbush, 2001; Corcoran, 2007). This has been partially achieved as a version of the WHH with Xhosa key words was developed in 2007 by Dr Jackson and the MTC.

The contents should also be adapted for use in other populations in the country where, for example, substance use is not as great a risk factor as it is in the West Coast / Winelands area, but perhaps HIV is more prevalent (Doak et al, 1996; Jerden and Weinehall, 2004). The WHH is being adapted during 2009 for use in the Mpumalanga public health services with an emphasis on the PMTCT programme.

The scope of the WHH could be adapted to be more inclusive of men’s health issues, thereby promoting a family-health and wellness approach. This may then be used as an educational tool in couples counselling (WHO, 2003).
10.6.6 **Comprehensive women’s health programme**

The WHH should be adopted as one of a variety of health education media and health systems improvements to promote women’s health (Chopra and Ford, 2005). The WHH could be a tool to use with women within the underdeveloped mental health services (Childhood Disease Working Group, 2007; Petersen et al, 2009). Its use should be promoted within other sectors and structural changes should take place in order to promote the possibility that the ‘healthiest choice is the easiest choice” (Evans et al, 2001; Kitts and Roberts, 1996).
REFERENCES


Dopstop Association. www.dopstop.org.za


Morgenstern J, Labouvie E, McCrady BS, Kahler CW, Frey RM. (1997) Affiliation with Alcoholics Anonymous after treatment: A study of its therapeutic effects and


Women on Farms Project. www.wfp.org.za


Appendix I  Situational analysis: Semi-structured interview with key informant

1. What are the main services you are involved in providing?
2. How many staff is employed in this area and at what level?
3. What are the main social or health problems that you or other staff is dealing with?
4. What do you think the root causes are of these problems?
5. In what way do you think women’s health problems, particularly during pregnancy, are affected?
6. In what way could women be better supported to have better pregnancy outcomes?
7. What statistics do you have about the people you serve and the service you provide?
Appendix II  Consent form for focus group participation and Focus group questions

UNIVERSITY OF THE WESTERN CAPE
SCHOOL OF PUBLIC HEALTH
Healthy Lifestyles for Women Project

Consent form for focus group participation

Hello, I am ________________. I am a research assistant from the UWC doing interviews related to women’s health in rural Western Cape. We are asking you to discuss a few questions about women’s health today. We hope that you will be able to participate in about four group discussions over the next six months, as the project develops.

Please understand that you are not being forced to take part in this study and the choice whether to participate is yours alone. However, we would really appreciate it if you could participate. If you choose not to take part in the study, you will not be affected in any way whatsoever. If you agree to participate, you may stop at any time and tell me that you don’t want to go on with the group discussion. If you do this there will also be no penalties and you will NOT be prejudiced in ANY way.

I will not be recording your name or address anywhere on the research data and no one will be able to link you to the answers you give. Only the researchers will have access to the information. The information will remain confidential.

Each group discussion will last an hour to an hour and a half.

If you have any questions or complaints about this study, you may contact Ms Kirstie Rendall-Mkosi by telephone at: 083 238 4999 or 021 959 2809 at UWC

Statement of agreement to participate in the research study

I have read or it was read to me and I fully understand the contents of the informed consent form. All questions regarding this study have been answered to my satisfaction in the language that I understand. I also understand that my rights are protected and the records will be kept confidential.

I freely and voluntarily choose to be part of the research study.

Respondent’s name:______________  Signature:______________  Date:______

Witness’s name:______________  Signature:______________  Date:______

*The extra copy of the consent form is for you to keep.*
Focus group questions – healthy lifestyle for women

1. What keeps a woman healthy?
2. Where do women get health related information?
3. What things make it difficult for women to always be healthy?
4. In your area where you stay - if a woman smokes and wants to give it up, how would she do this?
5. What are the difficulties in reducing and giving up smoking?
6. In your area where you stay - if a woman drinks a lot and she wants to give it up, how could she do this?
7. What are the difficulties in reducing and giving up drinking?

Focus group questions – contents: health handbook

1. If you were offered a women’s health handbook to keep, what information would you like to see in it?
2. If the handbook is to help women take control of their health, and be proud of themselves, how should the handbook look?
3. Are there any things that should not be in the handbook (maybe too private)?
4. If the handbook is meant to help women to have a healthy pregnancy and give birth to a healthy baby, what more should be in the handbook?
5. If the health workers recorded some of your health information in some of the pages, what things should be recorded, for you to always have?
Appendix III  Focus group discussion questions for secondary and tertiary audience

Introduce broad objectives of the project, obtain signed consent to participate, then ask the following questions:

Considering women in West Coast /Winelands:

• What do you think are the main factors influencing women to smoke?

• What do you think are the main factors influencing women to drink alcohol?

• What is the level of knowledge of women concerning the harm of drinking and smoking in pregnancy?

• What factors influence cutting down or quitting smoking and or drinking?

Health records and educational material:

• Do you know of other patient held booklets/ records that are in use or have been used in the past, especially relating to women’s health?

• What could be achieved through a ‘woman- held health handbook’?

• What key health / personal records should be in the handbook?

• What health related information should be included?

• What could be barriers to use of the handbook by health workers?

• What could be barriers to use by the target women?

• What are the main slogans or key messages currently being used in women’s health education, and what materials are available to support these?
Appendix IV  Key informant and focus group questions

1. What is your impression of the overall purpose of the WHH?
2. What is your impression of the size and look of the WHH?
3. What is your evaluation of the record keeping section, and what would you add, leave out or adapt?
4. What is your impression of the interactive counseling record section and do you think health workers will use it?
5. What is your impression of the health information section, and are there sections you would exclude or add?
6. Do you think the list of resources at the back is useful?
7. Do you think that doctors, nurses and health promoters will use the WHH in a health consultation?
8. What could be barriers to use of the WHH by women independently, and in the health consultation?
### Appendix V Pre-testing of WHH with women - Focus group questions and observations

1. How do the participants approach the WHH when given a copy, and what do they immediately find attractive and informative?

2. If asked to fill in their personal details on all the record pages, which parts are easy, which are confusing, and which do they not know the answers to?

3. If the purpose of the WHH is explained to the participants what would they expected to find in the handbook?

4. What contact details would be useful to add to the resource list section?

5. What do the participants understand by the diagrams of the reproductive cycle, and would they be able to explain it to someone else using the pictures?

6. Do the participants want to have such a handbook?

7. Do the participants think that the nurses at the clinics will fill in some of the information and answer questions women may have on the WHH?

8. Do the participants have any ideas for the naming of the WHH, and how do they feel about the picture on the front?

9. What is missing from the WHH, or on which topics should there be more information?
Appendix VI  Consent Form for Patient of Health Service

UNIVERSITY OF THE WESTERN CAPE  
SCHOOL OF PUBLIC HEALTH  
HEALTHY CHILDBEARING STUDY

Hello, this is a letter to you from Kirstie Rendall-Mkosi from the University of Western Cape, to ask you to participate in a study.

Purpose of study
We are doing a study to see if this Women's Health Handbook is useful for women to learn more about their health and to keep their own records. It is part of a programme to improve the health of women and babies.

Participation and time frame
We are asking women who use the health service to take a handbook and then answer a few questions today. The handbook is yours to keep and use in anyway you want to. In a few months time we will interview some of the women who received this handbook to understand what they think of it, and if they have used it or not.

Your rights as a participant in the study
Please understand that you are not being forced to take part in this study and the choice whether to participate is yours alone. However, we would really appreciate it if you could participate. If you choose not to take part in the study, you will not be affected in any way whatsoever. If you agree to participate, you may refuse an interview at any time. If you do this there will also be no penalties and you will NOT be prejudiced in ANY way.

I will be recording your name and study number on the questionnaire, but no one will be able to link your answers to your name when all the information is put together. Only the researchers will have access to the information. The information will remain confidential.

Benefits and risks
You will benefit by having a copy of the handbook to keep. The only risk is that you may feel uncomfortable about the sensitive questions that are being asked in the questionnaire today and in the follow-up questionnaire in 2 months time.

If you have any questions or complaints about this study, you may contact Ms Kirstie Rendall-Mkosi by telephone at: 083 238 4999

I have read or it was read to me and I fully understand the contents of the informed consent form. All questions regarding this study have been answered to my satisfaction in the language that I understand. I also understand that my rights are protected and the records will be kept confidential.

I freely and voluntarily choose to be part of the research study.

Respondent's name:……………………Signature:………………………..Date:……………..……

Witness’s name:  ……………………Signature:………………………..Date:………………..……

The extra copy of the consent form is for you to keep.
UNIVERSITY OF THE WESTERN CAPE
SCHOOL OF PUBLIC HEALTH

Field testing baseline questionnaire

Study number....................
Today’s date:.......................... Staff member initials ........
Patient name:.......................... Date of Birth:..................
Residential address:..........................................................
Phone number: .................................................................

1 Where or from whom do you get information about pregnancy, birth and baby care? (tick all mentioned)

<table>
<thead>
<tr>
<th>Own mother</th>
<th>Other relative</th>
<th>Clinic staff</th>
<th>friend</th>
<th>radio</th>
<th>T.V.</th>
<th>Magazine / pamphlet</th>
<th>Other?</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

2 What is the highest standard /grade you passed at school?

<table>
<thead>
<tr>
<th>none</th>
<th>Grg 1 /2</th>
<th>Grg 3 /4 Std 1 /2</th>
<th>Grg 5 /6 Std 3 /4</th>
<th>Grg 6 /7 Std 4 /5</th>
<th>Grg 8 /9 Std 6/7</th>
<th>Grg 9/10 Std 7/8</th>
<th>Grg 11/12 Std 9/10</th>
<th>Some tertiary training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

3 How many babies have you given birth to before?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

4 How many months pregnant are you now?

<table>
<thead>
<tr>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

5 How many months pregnant were you when you were tested for pregnancy?

<table>
<thead>
<tr>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
6 What family planning method did you last use before falling pregnant?

<table>
<thead>
<tr>
<th>Condom only</th>
<th>Pill injection</th>
<th>IUD</th>
<th>Pill + condom</th>
<th>Injection + condom</th>
<th>IUD + condom</th>
<th>none</th>
<th>don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

7 Was this pregnancy planned?
No……… Yes………

8 Where in your house do you keep your clinic cards?
……………………………………………………………………………………………………

9 Before you were pregnant how did you know the date when you last menstruated?
……………………………………………………………………………………………………

10 Did you smoke cigarettes or tobacco in the last month?
No……… Yes………

11 If yes, how many per day?

<table>
<thead>
<tr>
<th>1-3</th>
<th>3-5</th>
<th>6-8</th>
<th>9-11</th>
<th>12-14</th>
<th>15-17</th>
<th>18-20</th>
<th>20-22</th>
<th>23+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

12 Did you smoke cigarettes before your pregnancy?
No ……… Yes………

13 If yes, how many per day?

<table>
<thead>
<tr>
<th>1-3</th>
<th>3-5</th>
<th>6-8</th>
<th>9-11</th>
<th>12-14</th>
<th>15-17</th>
<th>18-20</th>
<th>20-22</th>
<th>23+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

14 Did you drink any alcohol in the past month?
No……… Yes………

15 If yes, which type of drink do you prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
<th>Wine only</th>
<th>Spirits only</th>
<th>Home brew only</th>
<th>Beer &amp; spirits</th>
<th>Beer &amp; wine</th>
<th>Wine &amp; spirits</th>
<th>Home brew &amp; beer</th>
<th>Home brew &amp; wine</th>
<th>Home brew &amp; spirits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>
16 If yes, how much on one week day?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
<th>8 glasses</th>
<th>9+ glasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

17 If yes, how much on a Saturday?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
<th>8 glasses</th>
<th>9+ glasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

18 Did you drink alcohol before your pregnancy?
No………. Yes ………….

19 If yes, which type of drink did you prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
<th>Wine only</th>
<th>Spirits only</th>
<th>Home brew only</th>
<th>Beer &amp; spirits</th>
<th>Beer &amp; wine</th>
<th>Wine &amp; spirits</th>
<th>Home brew &amp; beer</th>
<th>Home brew &amp; wine</th>
<th>Home brew &amp; spirits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

20 If yes, how much on one week day?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
<th>8 glasses</th>
<th>9+ glasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

21 If yes, how much on a Saturday?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
<th>8 glasses</th>
<th>9+ glasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

22 Does your partner / husband smoke?
No……… Yes…………

23 Does your partner / husband drink alcohol?
No………… Yes ………………

24 If yes, which type of drink does he prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
<th>Wine only</th>
<th>Spirits only</th>
<th>Home brew only</th>
<th>Beer &amp; spirits</th>
<th>Beer &amp; wine</th>
<th>Wine &amp; spirits</th>
<th>Home brew &amp; beer</th>
<th>Home brew &amp; wine</th>
<th>Home brew &amp; spirits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>
25 If yes, how much on a Saturday?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
<th>8 glasses</th>
<th>9+ glasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

26 What problems during your pregnancy would make you rush to the hospital or clinic for a check-up or emergency help?

……………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

27 Why is a pap smear done?

……………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

28 What can cause a baby to be too small when they are born?

……………………………………………………………………………………

THANKYOU FOR YOUR PARTICIPATION
Appendix VII  Field testing follow-up questionnaire

UNIVERSITY OF THE WESTERN CAPE
SCHOOL OF PUBLIC HEALTH

Study number......................

Today’s date:..........................  Interviewer initials ...........

Patient name:..........................  Date of Birth:......................

1  What date do you expect to (or did already) deliver your baby?

2  When did you receive the handbook and what did you do with it?

3  What is your overall impression of the handbook and its usefulness for you?

4  Did you fill in any of the personal records (inside cover to pg 6)?
   (Can I have a look?)
   Yes........ No........ notes...........................................

5  If yes, did you fill in the records yourself or with some help?

<table>
<thead>
<tr>
<th>Self only</th>
<th>Self &amp; family member</th>
<th>Self &amp; health worker</th>
<th>Health worker only</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6  Did you tick any of the pregnancy topics after a discussion (pg 8)?
   Yes........ No........ notes...........................................

7  Did you or a health worker fill in any of the smoking or drinking counseling pages (pg 9 & 10)?
   Yes........ No........ notes...........................................

8  How many other people looked at your copy of this handbook?

<table>
<thead>
<tr>
<th>Adult women relatives &gt;18yrs</th>
<th>Adult men relatives &gt;18yrs</th>
<th>Adult women others &gt;18 yrs</th>
<th>Adult men others &gt;18 yrs</th>
<th>Own children &lt;18 yrs</th>
<th>Other children &lt;18yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. What sections of information do you remember reading? (no prompt)

<table>
<thead>
<tr>
<th>Handbook section</th>
<th>Her own words</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic and/or self screening</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Healthy eating</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Effects of alcohol &amp; smoking</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Reducing alcohol &amp; smoking</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Work related hazards</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Reproductive cycle</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>STIs, HIV etc</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Pregnancy &amp; ANC</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Care of prem baby</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Baby immunizations</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Grants</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

10. Did you find most of the writing understandable? (Give options)

<table>
<thead>
<tr>
<th>Very easy</th>
<th>Easy</th>
<th>Bit difficult</th>
<th>Very difficult</th>
</tr>
</thead>
</table>

11. Did you find most of the pictures understandable? (Give options)

<table>
<thead>
<tr>
<th>Very easy</th>
<th>Easy</th>
<th>Bit difficult</th>
<th>Very difficult</th>
</tr>
</thead>
</table>

12. Is there anything new that you learnt that you can remember? Yes...........No...........

13. If yes, what is it that you learnt?

14. Did a nurse or health promoter discuss any of the topics with you using the handbook? Yes...........No.........
15 If yes, what topics were discussed with you?
……………………………………………………………………………………
……………………………………………………………………………………

16 Have you used the handbook to keep clinic cards in the back pocket?
Yes…………No…………notes…………………………………………………………

17 What problems during your pregnancy would make you rush to the hospital or clinic for a check-up or emergency help?
……………………………………………………………………………………
……………………………………………………………………………………

18 Why is a pap smear done?
……………………………………………………………………………………
……………………………………………………………………………………

19 What can cause a baby to be too small when they are born?
……………………………………………………………………………………
……………………………………………………………………………………

20 After giving birth, are you going to use any family planning method?
Yes……..No……..Maybe….Not thought about it………..

21 Did you smoke cigarettes or tobacco in the last month?
Yes…….. No……..

22 If yes, how many per day?

<table>
<thead>
<tr>
<th>1-3</th>
<th>3 - 5</th>
<th>6-8</th>
<th>9-11</th>
<th>12 - 14</th>
<th>15 - 17</th>
<th>18 – 20</th>
<th>20- 22</th>
<th>23+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

23 Did you smoke cigarettes before your pregnancy?
Yes .......... No.............

24 If yes, how many per day?

<table>
<thead>
<tr>
<th>1-3</th>
<th>3 - 5</th>
<th>6-8</th>
<th>9-11</th>
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<td>1</td>
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<td>5</td>
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<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

25 Did you drink any alcohol in the past month?
Yes…….. No.............
26 If yes, which type of drink do you prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
<th>Wine only</th>
<th>Spirits only</th>
<th>Home brew only</th>
<th>Beer &amp; spirits</th>
<th>Beer &amp; wine</th>
<th>Wine &amp; spirits</th>
<th>Home brew &amp; beer</th>
<th>Home brew &amp; wine</th>
<th>Home brew &amp; spirits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

27 If yes, how much on one week day?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
<th>6 glasses</th>
<th>7 glasses</th>
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<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

28 If yes, how much on a Saturday?

<table>
<thead>
<tr>
<th>1 glass</th>
<th>2 glasses</th>
<th>3 glasses</th>
<th>4 glasses</th>
<th>5 glasses</th>
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<td>9</td>
</tr>
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</table>

29 Did you drink alcohol before your pregnancy?

Yes.......... No ............

30 If yes, which type of drink did you prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
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32 If yes, how much on a Saturday?

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<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

33 Does your partner / husband smoke?

Yes........ No............

34 Does your partner / husband drink alcohol?

Yes.......... No .................
35 If yes, which type of drink does he prefer?

<table>
<thead>
<tr>
<th>Beer only</th>
<th>Wine only</th>
<th>Spirits only</th>
<th>Home brew only</th>
<th>Beer &amp; spirits</th>
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36 If yes, how much on a Saturday?

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<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

37 What information would like to see in the handbook that is missing?

..................................................................................................................................................
..................................................................................................................................................

38 What information would you leave out of the handbook?

..................................................................................................................................................
..................................................................................................................................................

39 What else would you like to say about the design of the handbook and how it could be used by women?

..................................................................................................................................................
..................................................................................................................................................

40 Do you think the handbook could be useful for teenagers? Why?

..................................................................................................................................................
..................................................................................................................................................

Thank you for your time, and here is a gift for you…
**Appendix VIII  Service provider field testing follow-up interview**

University of Western Cape  
School of Public Health

1. Did you issue a handbook to every pregnant woman who you had contact with during the month of July/August?
2. If not, how did you choose who should get one and who should not?
3. How did women respond when you offered them a handbook?
4. Did any women refuse to participate? How many?
5. What did you say to women about the handbook when you gave it to them?
6. Did you see any women returning with the handbook and did you record the information in the study register?
7. Did you fill in any information for women in the personal records section?
8. Did you tick off any discussions held with women on pregnancy topics? Describe the interaction?
9. Did you fill in any records of discussions held with women on the smoking and drinking counseling pages? Describe the interaction?
10. Are there sections or pictures that you think women have difficulty understanding? Describe.
11. Did you read through your copy of the whole handbook?
12. Are there sections or pictures that you feel could be better written and presented? Which and why?
13. Are there sections or pictures that could be rather left out? Which and why?
14. Are there sections that you think are missing and could be added? Which and why?
15. Do you think you should have had a more thorough introduction to using the handbook with women?
16. What introductory training or written information would be useful for nurses and health promoters to ensure good use of the handbook?
17. Do you think women will make use of the handbook in the future?
18. Do you think it will influence their health related knowledge and behaviour?
19. What could be the barriers to every woman in the district receiving and using one?
20. Do you think other nurses will make use of the personal records when consulting with women?
21. Do you think other nurses will make use of the health information to discuss health issues with women?
22. If we finalise the handbook by the end of the year and make many copies available in the health services, at what age or which service should women receive their copy?
Appendix IX  Assessment of Dissemination of WHH
Version 3

Co-ordinator of Resource Centre:

1. What is the overall purpose of the Resource Centre?
2. What range of materials do you have – topics and media?
3. When did you receive the WHH from the MTC, and how many?
4. Who made requests for batches of the WHH?
5. How many are left?
6. Do you think it is a worthwhile health promotion tool?
7. What do you think the best approach would be to ensure that the health department takes responsibility for budgeting and printing the WHH each year?
## Appendix X  
**WHH Version 3 Distribution List**

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Purpose</th>
<th>English</th>
<th>Afrikaans</th>
</tr>
</thead>
<tbody>
<tr>
<td>22/05/06</td>
<td>Hansa Reproprint</td>
<td>Delivery of booklets</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>July 06</td>
<td>G White</td>
<td>Presentation in Stellenbosch</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>24/07/06</td>
<td>Kirstie</td>
<td>Stellenbosch</td>
<td>150</td>
<td>500</td>
</tr>
<tr>
<td>25/07/06</td>
<td>Kirstie</td>
<td>Vredendaal</td>
<td>150</td>
<td>500</td>
</tr>
<tr>
<td>03/08/06</td>
<td>Kirstie</td>
<td>Picked up from MTC</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>03/08/06</td>
<td>Prv Dept of Health</td>
<td>Resource Centre - Lesley Boardman</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>07/08/06</td>
<td>PPASA [Robyn]</td>
<td>Khayelitsha Clinics</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PGWC</td>
<td>Women’s Day Event</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NASAWW</td>
<td>Women’s Day Event</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>08/08/06</td>
<td>Trish de Villiers</td>
<td>Health Promotion</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>28/08/06</td>
<td>PGWC Resource</td>
<td>[L Boardman] Distribution to health facilities as</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td></td>
<td>requested by T de Villiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23/10/06</td>
<td>Kirstie</td>
<td>Picked up from MTC</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Simphiwo Fass</td>
<td>PGWC Health Promotion Borland / Overberg Region</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Busi (PPASA)</td>
<td>Focus Group Discussions Xhosa Translation</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women on Farms Project</td>
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<td>500</td>
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<tr>
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<td>PGWC Resource</td>
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<td></td>
<td>Centre</td>
<td>[L Boardman] Distribution to health facilities</td>
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<td>MTC for Health</td>
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<tr>
<td></td>
<td>Miscellaneous</td>
<td>Distribution to individual requests</td>
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<td>14</td>
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<td></td>
<td>BALANCE</td>
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