COMMUNITY, INFANT FEEDING, AND AIDS: EMPOWERMENT EVALUATION IN RURAL EASTERN CAPE

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SIT Community Health: Spring 2009
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Acknowledgements

This report could not have been completed without coordination, collaboration, and concern on the part of Christine and John McGladdery, Kerry-Ann Dolloway, the doctors of Iapile* Hospital, and the staff members of Iapile hospital who graciously out their accommodations. I am especially indebted to the head nurse and the rest of the of the Gateway Clinic staff for gracing me with their teaching expertise, insight, and a place in their work environment. Thanks are finally owed to members of the Wellness Clinic, Maternity Ward, and patient transport for enriching my experience and learning as well as Thula, who sacrificed the aesthetics of the Thula-mobile to the dirt roads, Elmar, whose power-breakfasts balanced out my otherwise dangerous level of caffeine consumption, and the staff of Vida e Caffe, who enabled said caffeine consumption.

Abstract

As a part of a three week learnership practicum, empowerment evaluation principles and practices were applied to antenatal and postnatal infant feeding counseling services offered by Iapile Gateway Clinic's prevention of mother to child transmission (PMTCT) of HIV program. Empowerment evaluation engages stakeholders through the processes of planning, implementation, and evaluation, ultimately building these stakeholders' capacities to sustain and improve services. Because of powerful sociocultural norms regarding infant feeding, empowerment evaluation was selected as a tool that would allow for sustainable and hermeneutic evaluation of the program, taking into account its dialectic relationship with local knowledge on infant feeding.

Data on resources, strengths, achievements, challenges, and recommendations was collected through a series of formal and informal discussions with key personnel while assisting with daily duties. Additionally, baseline data was extrapolated from records routinely kept by the clinic. Generally, the

* All names and places have been assigned pseudonyms to protect clients and services. Any correspondence to reality is purely coincidental.
antenatal and postnatal infant feeding counseling programs were highly efficient, testing and monitoring a large number of clients, given resource constraints. The programs were largely challenged by a shortage in highly trained personnel, a lack of social support for PMTCT clients, and incongruent record keeping for postnatal tracking.

Recommendations thus included further skills development of staff, creation of a PMTCT-specific support group given the facilities and resources, and increased tracking of postnatal exposed infant health. With the last recommendation enacted, the program will have greater capacity for self-monitoring and will be able to better tailor the program to the needs of the clients. The evaluation was generally successful in its implementation of empowerment evaluation methodology, revealing the promise of improved community health promotion through the utilization of action research methods. Limitations of empowerment evaluation and action research are finally explored and recommendations for further study are offered.

**Introduction**

Globally, ninety percent of the estimated two million people under the age of fifteen living with the human immunodeficiency virus (HIV) live in sub-Saharan Africa. (UNAIDS & WHO, 2008) In this age group, the principle cause for infection of HIV, which causes acquired immune deficiency syndrome (AIDS), is transmission from mother to child during pregnancy, birth, or breastfeeding. While the incidence of mother-to-child transmission (MTCT) of HIV is falling globally, (UNAIDS & WHO, 2008) evidence-based and culturally appropriate prevention of mother-to-child transmission (PMTCT) programs are essential to the halt of the AIDS pandemic.

Services for PMTCT in South Africa have been offered for nearly a decade, starting first with one urban and one rural pilot site per province in 2001 and moving to a full roll out in 2002. (National Department of Health, 2008) Currently, all public hospitals and 90% of all primary healthcare services offer full PMTCT services, guided by the revised “Policy and Guidelines for the Implementation of the PMTCT Programme” released by the National Department of Health on 11 February, 2008.
These services seek to minimize the risks of vertical transmission of the virus and promote the health of the exposed infant during pregnancy, delivery, and breastfeeding through a comprehensive package of services. Without any intervention, HIV is transmitted to approximately thirty percent of all infants born to HIV-positive mothers. With intervention, this rate drops to around 2% during pregnancy and delivery (Newell, 2004 p. 3), with an additional transmission rate between 5% (National Department of Health, 2008) and 0.7% (Tournoud, Ecochard, Kuhn, & Coutsoudis, 2008) for infants whose mothers exclusively breastfeed their infants. Infants whose mothers chose exclusive formula feeding (EFF) face no postnatal risk for MTCT.

Before, during, and after birth, the risk of MTCT is correlated with a high maternal viral load and low CD4 count. During birth, prolonged delivery with ruptured membranes is associated with higher levels of transmission of the virus. (Newell, 2004 p. 9) After birth, the risk of MTCT due to breastfeeding is also associated with prematurity and recent maternal infection with the virus. (Newell, 2004 p.9) While the risk of transmission through breastfeeding is cumulative (Newell, 2004 p.1), breastfeeding without the introduction of any other liquids or solids, termed exclusive breastfeeding (EBF), poses a significantly lower risk for transmission than mixed feeding, whereby breastmilk is supplemented with other liquids or solids. It is estimated that the risk of MTCT when mixed feeding is practiced is as much as eleven times greater than when EBF is practiced. (National Department of Health, 2008)

While the exact mechanism for postnatal MTCT is not certain, these discrepancies provide backing to several hypotheses. As HIV targets mucosal linings for transmission, infant gut mucosal surfaces have been sited as the most likely site of transmission, although tonsils and the mouth have been documented sites of transmission as well. (Newell, 2004 p.11) Mixed feeding may make infants more susceptible virus transmission in the gut and mouth by disrupting the integrity of these mucous membranes, thus increasing exposure. (Newell, 2004 p. 12) Meanwhile, mechanical complications correlated with inconsistent breastfeeding such as cracked nipples and sub-clinical mastitis may increase risk of MTCT through
breastfeeding by exposing the infant to infected blood and by causing a “leakier” cell lining in the breast duct, respectively. (Newell, 2004 p. 12)

The operational goals of PMTCT services before conception, during pregnancy and at birth are focused on reducing the number of women with HIV, identifying HIV positive women, and administering best-practice antiretroviral therapy (ART) and post-exposure prophylaxis to the mother and the infant, respectfully. After birth, interventions focus on testing of the exposed infant and monitoring of the health status of both mother and child in order to minimize postnatal transmission risks. (National Department of Health, 2008)

Built into the antenatal, birth, and postnatal phases of the PMTCT program are objectives designed to ensure safe infant feeding practices for the exposed infant. Unless the client and counselor determine that formula feeding is Acceptable, Feasible, Affordable, Safe, and Sustainable (AFASS), the client is counseled to exclusively breastfeed their child, quickly beginning replacement feeding after a three to six month period of EBF. (WHO & UNAIDS, 2004) In this way, the risk of mortality due to diarrhea and malnutrition is minimized and the risk of MTCT remains below 5% (National Department of Health, 2008).

Clients choosing EBF are instructed to avoid mixed feeding. If the client and counselor determine that formula feeding meets AFASS criteria, the client is instructed in safe formula preparation, thus eliminating the risk of MTCT and minimizing the risk of under nutrition and diarrhea. This counseling is to begin with antenatal care and carry on to delivery and postnatal care.

Creative and flexible ways to measure quality of counseling are vital to the reduction of postnatal MTCT, as community norms are often against non-mixed feeding, even in places where health services have a strong culture of exclusive breastfeeding promotion. (Bland, Rollins, Coutsoudis, & Coovadia, 2002) This problem is complicated by community knowledge of PMTCT infant feeding recommendations. A study of three PMTCT sites, representative of the diversity of social environments in South Africa, revealed that, “The HIV epidemic seems to have changed the context in which women make choices about feeding their
infants.” (Doherty, Chopra, Nkoni, Jackson, & Griener, 2006 p. 93) In rural KwaZulu-Natal, research into sociocultural influences on infant feeding decisions showed that, “choosing to bottle feed is tantamount to announcing that one is HIV positive.” (Thairu, Pelito, Rollins, Bland, & Ntshangase, 2005 p. 5)

Because of the strong influence of community health knowledge on the feeding choices of mothers in South Africa and the changing context in which this knowledge is formed and these decisions made, one study found that, “Many women felt confused and unsure about the best infant-feeding choice and, therefore, chose whatever they were told would provide the best protection for their child.” (Doherty, Chopra, Nkonki, Jackson, & Greiner, 2006 p. 93) These women were thus highly influenced by the often disparate health messages of health workers and their families, a finding that is corroborated by the work of Thairu, Pelto, Rollins, Bland, and Ntshangase (2005). The medical impacts of this conflict between community norms and scientific best-practice are powerfully summarized by Varga and Brookes (2008), who found that, "HIV stigma, family decision making, and cultural norms surrounding infant feeding hampered mothers’ efforts to implement practices that would decrease risk for infant infection.” (Varga & Brookes, 2008 p. 172)

Infant feeding counseling is thus an essential arm of the PMTCT program, but is the one that is most complexly related to issues of culture, stigma, community, family, and poverty. Transmission of HIV through breastfeeding can, however, be drastically reduced through evidence-based practices, given effective community-centered education and support. This report highlights the achievements and challenges identified by staff members of a clinic offering antenatal and postnatal PMTCT services, showing the need for dynamic evaluation processes for programs whose successes are so deeply connected to community knowledge.

**Evaluation Aims and Methodology: Rationale and Aims**

This exploratory evaluation reports on the application of empowerment evaluation principles and processes to the infant feeding counseling arm of Iapile Gateway Clinic’s PMTCT program, focusing on its
antenatal and postnatal contacts. Empowerment evaluation engages stakeholders through the processes of planning, implementation, and evaluation, ultimately building these stakeholders’ capacities to sustain and improve services. Wandersman et al. (2005) define the practice as such,

Empowerment evaluation: An evaluation approach that aims to increase the probability of achieving program success by (1) providing program stakeholders with tools for assessing the planning, implementation, and self-evaluation of their program, and (2) mainstreaimg evaluation as a part of the planning and management of the program/organization. (Wandersman et al., 2005, p. 28)

This type of evaluation grows out of the larger field of community psychology, wherein problems are understood on an ecological level, giving a deeper understanding of the interactions of the individual, group, and community. Because of this recognition of the inherent value and power of the individual within the community, community psychology has an explicit focus on social justice and action. Research methods then follow to be participatory, inclusive, and social justice-focused.

Speaking of the opportunity and need for interdisciplinary collaboration between community psychology and social, health, and educational sciences, Yoshikawa (2006), states, “Too often, efforts to translate evidence-based practice in treatment and prevention to community settings fail to consider to complexities brought about by the organizational, institutional, and cultural contexts of diverse communities,” (Yoshikawa, 2006 p. 31) going on to detail the ways in which community psychologists are equipped to approach these very complexities. In South Africa where community stigma, norms, and taboos can powerfully affect infant feeding the community psychology-formed practice of empowerment evaluation is particularly applicable. This type of evaluation addresses the gap between policy and practice by permitting stakeholders to identify challenges overlooked in traditional evaluation, thus allowing programs to tackle local stereotypes and encouraging service providers in their roles as liaisons between community and biomedical knowledge. Yoshikawa (2006) addresses this directly, stating that “Community psychology is again particularly well-equipped to engage in high-quality implementation research. Such research also fits the values of community psychology as an action science.” (Yoshikawa, 2006 p. 32)
Such an evaluation style has proved effective in improving the health outcomes of a variety of community health initiatives. Campbell et al. (2004) noted the successful implementation of empowerment evaluation practices for rape victim services programs in Michigan where methodologically sound and programmatically useful evaluations were conducted, allowing the programs to implement positive changes based on their findings. Sullins (2003) adapted the technique for the evaluation of a mental health drop-in center, creating “an effective and empowering evaluation in this setting” (Sullins, 2003 p. 396) while Gomez and Goldstein (1996) noted success in enacting empowerment evaluation of the HIV Prevention Evaluation Initiative in the United States.

The values of this evaluation are consistent with those outlined in Empowerment Evaluation Principles in Practice (2004) and include improvement, community ownership, inclusion, democratic participation, social justice, community knowledge, evidence-based strategies, capacity building, organizational learning, and accountability. Improvement and evidence-based strategies refer to the methodological acknowledgement that evaluation should not simply be done out of an obligation to funders, board members, or tax payers, but should rather be used as an opportunity for betterment. Community ownership relegates the evaluator to the role of “concerned friend”, facilitating self-evaluation and offering skills-building where possible. Inclusion and democratic participation refer to the equal invitation and equal voice of all stakeholders, respectively. Broad and creative criterion for the invitation of stakeholders to include not only up and downstream program personnel, but up and downstream consumers then allows community knowledge, a principle in itself, to be better honed as a tool for intervention and action. Social justice is valued both in content and form, as the evaluation seeks to bring process empowerment of its clients while the more effective operations of the program after the implementation of the evaluation ensure social justice for program consumers. Capacity building and organizational learning finally refer to the tangible ways in which the organization comes to be empowered through the evaluation, as empowerment evaluation eventually aims at programmatic take-over of evaluation processes.
Using the above guiding principles and values, the aims of this evaluation are to (1) identify resources, strengths, and achievements of the Gateway Clinic's PMTCT program, (2) establish baseline data in key indicators of PMTCT services and exposed infant health, (3) identify challenges for the Gateway Clinic's PMTCT program, (4) recommend steps for overcoming key challenges and obstacles, given budgetary and other constraints, and (5) build capacity for future program evaluation and improvement in areas identified by program staff as vital for growth.

**Evaluation Aims and Methodology: Setting**

This evaluation of antenatal and postnatal PMTCT infant feeding counseling was compiled as a part of a learnership practicum at Iapile Gateway Clinic in rural Eastern Cape. Time was spent engaging with stakeholders on all sides of the PMTCT program of this clinic in an effort to explore how effectively the aims of the clinic are in utilizing its resources, upholding its values, and achieving its goals, especially in terms of infant feeding in the PMTCT program. This was done first by shadowing several practitioners, next by meeting with interested parties, and finally by working together to implement positive change for future evaluation.

Iapile Gateway clinic was built nearly half a century ago as a primary health extension of the adjacent Iapile hospital. Thus, while it is operationally separate from the hospital, it too works for the promotion of the health of all members of the surrounding community. The clinic offers eight distinct programs including tuberculosis, immunization, antenatal care, voluntary testing and counseling (VCT), PMTCT, chronic disease care, mental health, and sexually transmitted infections. The antenatal portion of the PMTCT feeding counseling mainly occurs on Tuesdays, as this is the day that the clinic does all of its routine antenatal care (ANC) while the postnatal portion of the PMTCT feeding counseling occurs throughout the week when exposed infants are brought in for growth monitoring, HIV testing, and formula distribution. During ANC, this feeding counseling is performed by the community health worker (CHW) that
does VCT while larger questions that arise during the antenatal and postnatal periods are directed to the professional staff nurse trained in PMTCT.

**Evaluation Aims and Methodology: Data Collection**

Data was collected over a three week period through a series of unstructured and structured discussions with key personnel in the Gateway Clinic, the Wellness (ARV) Clinic, and the maternity ward in Iapile Hospital. As this was a part of a learnership practicum, these discussions took place while shadowing staff and assisting with daily duties. The evaluation was thus internally motivated and intrinsically rooted in the strengths, challenges, and needs of the PMTCT infant feeding counseling program at Iapile Gateway.

Methodology for empowerment evaluation typically follows either a three step (Fetterman, 1996, 1997) or ten step (Wandersman, Imm, Chinman, & Kaftarian, 2000) process. Fetterman and Wandersman (2007) explain the first, saying that the evaluator, “facilitates empowerment evaluation exercises and helps the group to (a) establish their mission or purpose; (b) take stock or assess their current state of affairs, using a 1 (low) to 10 (high) rating scale; and (c) plan for the future (specifying goals, strategies to achieve goals, and credible evidence).” (Fetterman & Wandersman, 2007 p. 187) Using this strategy, the “taking stock” step serves as a baseline against which the group can judge the qualitative, system-level change effected by the intervention. While this strategy allows for creativity and flexibility in implementation, it was not selected due to its lack of specificity and because of the researcher’s inexperience with evaluation implementation.

The ten-step “Getting to Outcomes” approach outlined by Wandersman, Imm, Chinman, and Kaftarian (2000) was instead selected as appropriate for the evaluation. With this approach, the following ten questions are approached by stakeholders, serving as a jumping ground from which evaluators can offer skills and interventions identified by stakeholders as necessary to the evaluation. These questions are as follows:
1. What are the needs and resources in your organization, school, community, or state?
2. What are the goals, target population, and desired outcomes (objectives) for your school/community/state?
3. How does the intervention incorporate knowledge of science and best practices in this area?
4. How does the intervention fit with other programs already being offered?
5. What capacities do you need to put this intervention into place with quality?
6. How will this intervention be carried out?
7. How will the quality of the implementation be assessed?
8. How will the intervention work?
9. How will continuous quality improvement strategies be incorporated?
10. If the intervention is (or components are) successful, how will the intervention be sustained?

(Wandersman, Imm, Chinman, & Kaftarian, 2000)

This method was selected not only because its methodological clarity allowed for easier implementation, given time constraints, but also because use of this method has helped organizations, “better plan, implement, and evaluate their own programs, teaching them “a new language” about accountability.”

(Fetterman & Wandersman, 2007 p. 189)

Discussions thus covered topics including the perceived resources, strengths, and achievements of the program, where to access baseline data, perceived challenges of the program, possible solutions to these same challenges, and areas for growth for the clinic as a whole. Achievements of the staff were compared with the goals of the South African national PMTCT policy guidelines, determining areas for growth of the clinic. Data routinely collected by the clinic were compiled and analyzed to approximate rates of HIV-positive ANC attendees, the rate of ANC testing, the ratio of EBF to EFF, and formula distribution patterns. Common challenges experienced by the staff with the postnatal portion of the PMTCT program were organized into a logic map, clearly showing the complexity of the problem and its possible solutions. These solutions and an evaluation of the program that served as the foundation of this paper were then finally shared with the clinic as this was an opportunity for capacity building in data collection and evaluation.
In order to ensure the privacy and anonymity of medical personnel and their clients, a professional attitude was maintained at all times to avoid disclosure of personal information about any persons. In daily logs and in the report, pseudonyms replaced personal names to ensure anonymity and programmatic integrity. All individuals about which data was collected or information was recorded knew exactly what was recorded and verbal consent to its use was obtained.

In order to ensure the confidentiality of participants, information was recorded only in a personal notebook and on a personal laptop computer. No client names were be used for either of these recording techniques and unused information that was private in nature was destroyed. Data about clinic clients was that which clinic staff collected on a routine, monthly basis and was purely statistical. This information was thus anonymous, untraceable, and was used for the continued betterment of the hospital's program.

Information on MTCT, empowerment evaluation, and health-related action research that informed both the planning of the evaluation and the assessment of the evaluation itself was found through online journal searches. This was done with the assistance of OhioLink's Electronic Journal Collection (EJC), corroborating findings and providing background information. In addition, several books were studied and quoted, as appropriate.

The methodology is limited in several ways. As the learnership was confined to a three week period, this evaluation is in no way a picture of the entirety of the antenatal and postnatal infant feeding counseling portion of Iapile Gateway Clinic's PMTCT program. Key personnel such as the professional nurse trained in PMTCT and the CHW trained in VCT were extremely pressed for time, as the former was solely responsible for pap smears, breast cancer screening, sexually transmitted infection checks, and PMTCT counseling while the latter was solely responsible for all of the clinic's VCT services.

Also, the population served by Iapile Gateway Clinic is almost exclusively first-language Xhosa speakers. While the author understood very basic Zulu and was able to comprehend a few similar words,
the evaluation relied heavily on the translations of staff members. The evaluation is thus limited in both its understanding of information communicated to clients and in its ability to assess client knowledge.

Finally, while the proximity of the Gateway Clinic to Iapile Hospital is of great benefit to patients, its often overlapping functions made patient tracking difficult, thus limiting statistical certainty. Because Iapile Hospital and Iapile Gateway Clinic do not have centralized records, the impact of the clinic relative to the impact of the hospital is difficult to quantify. Also, findings were heavily dependent on the accuracy of statistics provided by the clinic and were not gathered independently. Thus, if methodological flaws in statistical reporting exist, the evaluation was unable to identify these flaws and correct findings accordingly.

**Key Findings and Recommendations: Resources, Strengths, and Achievements**

The Iapile Gateway Clinic’s PMTCT program is strong in its dedication and passion for patient care. In addition to one PMTCT trained professional nurse and one VCT trained CHW, the program is benefited by its access to one clinic’s staff nurse, one nursing assistant, and three additional community health workers. Each one of these staff members are compassionate, dedicated, hard working, and attuned to community-specific health needs. The clinic is thus rooted in its community as well to its history, with the professional nurse boasting of seventeen years of service to the site.

The program is next endowed with strong ties to PMTCT-trained personnel in other clinics and in Iapile Hospital. In all, there are eight PMTCT-trained personnel in the hospital-clinic compound including the professional nurse at the Gateway clinic, two members of the ARV Wellness Clinic, two part-time members of the Maternity Ward, one member of the Out-Patient Department (OPD), and one member of the General Ward. ¹

Finally, the program is endowed with vital physical resources. The clinic has a separate, adjacent building in which VCT can take place, ensuring privacy and confidentiality with a closing door and a private

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window. Also, the program has a constant supply of formula that is insured by the clinic's strong relations with Iapile Hospital.

In the antenatal infant feeding counseling, the program has achieved many of the “Principles of Safe Infant Feeding” laid out by the National Department of Health PMTCT policy guidelines (2008). These include standardized training on counseling, unbiased information dissemination on feeding options, immediate initiation of infant feeding counseling upon entry into the PMTCT program, repeated infant feeding counseling, strong discouragement of mixed feeding, mass mobilization of information on HIV and infant feeding, and prioritization of HIV positive pregnant women into HAART or PMTCT drug regimens. (National Department of Health, 2008 p. 49) In regards to training, the staff that caters to PMTCT clients has been trained to do so with a nationally accredited program.\(^2\) Feeding options tended to be supported by staff\(^3\) and mixed feeding tended to be discouraged for pregnant women choosing to breastfeed\(^4\). Myths on HIV and breastfeeding such as the local rumor that the government was trying to kill babies through its PMTCT feeding policies were dispelled in open-ended information sessions\(^5\), acting as a mass mobilization of information. Finally, each first booking ANC visit included strong and repeated encouragement to go for HIV-testing that was then followed by the collection of a CD4 count if the test was reactive. When CD4 results became available, pregnant women were referred to the adjacent ARV Wellness Clinic to start on the appropriate antiretroviral (ARV) therapy.\(^6\) \(^7\) \(^8\)

In the postnatal portion of PMTCT infant feeding, the clinic again achieved many of the goals laid out by the South African national policy guidelines (2008). In this portion of the PMTCT program, the aim is to, “ensure safe infant feeding practices for all infants and monitor weight gain and growth.” (National

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\(^3\) (2009, 14 April). VCT, Iapile Gateway Clinic. Personal Observation. 15h00-16h00.
\(^4\) (2009, 7 April). Wellness Clinic ANC, Iapile Wellness Clinic. 15h00.
\(^7\) (2009, 14 April). Iapile Gateway Clinic. Personal Observations.
Department of Health, 2008 p. 18) This was done by monitoring the weight of infants as they come in for immunizations and for formula supplies, referring cases of poor growth to the PMTCT-trained professional nurse.  

Key Findings and Recommendations: Baseline Data

Much of the baseline data for antenatal and postnatal PMTCT infant feeding counseling can be extrapolated from statistics that are routinely collected by the Iapile Gateway Clinic. Statistics for the calendar year prior to the evaluation were provided by clinic personnel, as available. Reports were thus found for nine out of the twelve months in this year, providing a picture of the strengths, needs, challenges, and areas for growth both in the antenatal and postnatal realm.

The Baseline Data table (Appendix C) presents these statistics as well as relevant monthly averages. It is impossible to accurately determine what percentage of ANC attendees with an unknown HIV status were ultimately tested, as some of the first-booking ANC attendees may already know their statuses and some return visit ANC attendees may not have known their statuses. That shortcoming aside, the number of ANC attendees that underwent VCT was 86.6% of the number of first-booking ANC attendees and 41.1% of the total ANC attendees for this period. Thus, it appears that most of the ANC attendees knew their HIV status and received infant feeding counseling, if necessary.

The exact percentage of ANC clients that are HIV positive is also impossible to determine because of similar statistical imprecision. Some ANC clients may never be tested because they know that they are HIV positive while other clients that are negative may be retested in subsequent months. These shortcomings aside, the percentage of reactive VCT preformed for ANC clients for this period was 20.8%.

Baseline data relating to postnatal PMTCT feeding counseling was more difficult to determine, as the clinic does not have a running register of infant feeding choices for HIV positive mothers and EFF and

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10 (2009, 16 April). Iapile Gateway Clinic. Personal Observation. 15h00.
EBF rates were often recorded as identical. Because of these difficulties, the postnatal period was the focus of evaluation capacity building (discussed under Challenges and Recommendations Postnatal). From the data provided, the EFF:EBF ratio for the client population is 5:3. Because of this apparently high rate of formula feeding clients, interventions (discussed under Challenges and Recommendations Postnatal) were especially focused on challenges in formula feeding.

**Key Findings and Recommendations: Challenges and Recommendations General**

The ANC and postnatal portions of Iapile Gateway’s PMTCT infant feeding counseling program have both unique and shared challenges. Many of these shared, general challenges relate to the clinic as a whole and include lack of access to an on-site lab, a lack of education-augmenting equipment, inadequate facilities for expansion of the program, and an extreme trained staff shortage.

All blood samples collected to determine CD4 counts of clients must be sent to St. Christopher Hospital which lies over one hour’s drive away. Samples often clot in transport and are thus lost while those that are returned arrive two to four weeks after being drawn. As a result, many of the pregnant women that tested positive for HIV are unable to access HAART or PMTCT therapy as early as possible. This logistical challenge could be overcome by the building of a lab at Iapile Gateway Clinic, the refurbishment of the lab at Iapile Hospital to make it operational once more, or access to emerging technology for the rapid collection of CD4 levels in blood (Inverness Medical Innovations, Inc., 2008).

When clients arrive at Iapile Gateway Clinic in the morning, they are led through a group education session and prayer after which they must wait, sometimes as long as six hours to be attended to. Some clients arrive after the education session and are unable to benefit from it at all. During this time in the waiting room, clients lose the opportunity for further education, as there is no television to broadcast.

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health messages in Xhosa. When clients are attended to, they again lose the opportunity for further
education about their condition, as the clinic is lacking educational models. This challenge could be
overcome by requesting funds for such equipment or applying donated money toward educational
equipment.\textsuperscript{16}

Both the ANC and postnatal PMTCT infant feeding programs are next affected by a lack of facilities
in which to house program expansion. The Gateway Clinic is badly in need of repairs, as functioning rooms
are sagging, crumbling, and missing doors and/or windows. VCT is limited to the only room that has the
minimal privacy of a closing door and a private window. Infant feeding counseling during ANC check ups
and postnatal growth monitoring is thus complicated, as these checks often occur in the main room or in
the consultation room. The main room is adjacent to the waiting room and lacks a front door, making
confidentiality difficult, while the consultation room is in the path of clients and staff members going for
immunizations or consultations. Also, the clinic lacks facilities to hold a private support group for HIV
positive pregnant women and new mothers, causing these individuals to be referred to a more general
support group in the ARV unit. These challenges could be overcome by requesting a massive renovation
of the clinic or the purchase of module-style office space.\textsuperscript{17} \textsuperscript{18} \textsuperscript{19}

ANC and PMTCT infant feeding counseling are finally challenged by an extreme shortage of
trained staff. While the clinic runs eight programs, each of which should ideally be headed by a
professional nurse, the clinic has only one professional nurse.\textsuperscript{20} This is the only staff member trained for
PMTCT, so time available to devote to PMTCT is chipped away at by CD4 count blood drawing, pap
smears, breast cancer screening, sexually transmitted infection checks, and general clinic duties.\textsuperscript{21} The
CHW trained in VCT is the only clinic staff member thus trained. As such, time is especially tight on

\textsuperscript{17} Mvalase. (2009, 13 April). Professional Nurse, Iapile Gateway Clinic. Personal Conversation. 14h00-14h30.
\textsuperscript{18} Mvalase. (2009, 21 April). Professional Nurse, Iapile Gateway Clinic. Personal Conversation. 19h00-20h00.
\textsuperscript{20} Mvalase. (2009, 21 April). Professional Nurse, Iapile Gateway Clinic. Personal Conversation. 19h00-20h00.
\textsuperscript{21} (2009, April 7, 8, 13, 14, 16, 20, 21, 22). Iapile Gateway Clinic. Personal Observations.
Tuesdays when ANC checks are done, as an average of 18.6 women are then tested in addition to a portion of the 33.7 non-ANC clients tested each week (Appendix C). With 25.1% of non-ANC clients undergoing VCT testing positive and 20.8% of ANC clients undergoing VCT testing positive (Appendix C), the clinic would greatly benefit from more staff members being able to do this testing, as this, at the very least, would allow them to be more knowledgeable about a condition affecting so many of their clients. Similarly, the clinic would greatly benefit if more staff members were trained in the science and prevention of MTCT, as this would facilitate infant feeding counseling for each ANC visit for HIV-positive mothers and would make staff more attuned to the needs of exposed infants.22

**Key Findings and Recommendations: Challenges and Recommendations ANC**

The challenges of the ANC portion of Iapile Gateway Clinic’s PMTCT infant feeding counseling are made visible with the “Principles of Safe Infant Feeding” laid out by the South African national policy guidelines (2008). Again, these include standardized training on counseling, unbiased information dissemination on feeding options, immediate initiation of infant feeding counseling upon entry into the PMTCT program, repeated infant feeding counseling, strong discouragement of mixed feeding, mass mobilization of information on HIV and infant feeding, and prioritization of HIV positive pregnant women into HAART or PMTCT drug regimens.

The need for general staff training on VCT and PMTCT as already discussed is joined by a need for further training on infant feeding counseling in the VCT training. (National Department of Health, 2008 p. 49) Time during VCT is ideal for the bulk of infant feeding counseling, as it occurs in a private, safe environment that allows for individualized attention and confidentiality. However, simply being trained in VCT proves largely inadequate in assessing whether a chosen feeding choice meets the AFSS model,23 leading to later challenges in the PMTCT program. (Tint, Doherty, Nkonki, Witten, & Chopra, 2003)

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23 (2009, 14 April). VCT, Iapile Gateway Clinic. Personal Observation. 15h00-16h00.
Unbiased information dissemination was effective insofar as infant feeding choices were supported, but myths that pregnant women held about their feeding options like the inadequacy of their own milk production were not assuaged. Also, HIV positive pregnant women choosing to formula feed were not evaluated according to the AFASS model to assure that the feeding choice is most realistic. 24 Again, either training the CHW that does VCT in PMTCT or stressing infant feeding in VCT courses would greatly help in overcoming this challenge.

As discussed earlier, the goal of counseling that begins directly after enrollment into the PMTCT program and continues with each visit is challenged both by inadequate facilities and by lack of generalized staff training. Thus, improvement of facilities to ensure greater privacy of clients and training of staff on PMTCT would improve the level and quality of infant feeding counseling offered to clients. Additionally, increased communication with the ARV Wellness Clinic, where a professional nurse does individual ANC growth checks on behalf of the Gateway Clinic would provide one more opportunity for infant feeding counseling. Currently, pregnant women receiving these services are asked if they have been tested and asked of their feeding choice if they are HIV positive, being warned against mixed feeding. 25 Given greater interdepartmental communication, these questions could take on a greater informational nature.

Mixed feeding was discouraged when HIV positive women revealed that they planned to exclusively breastfeed. 26 However, this warning was not supplemented with an explanation of why mixed feeding is dangerous or with counseling on how to realistically avoid mixed feeding. More training and education of both staff and clients would help to overcome this challenge.

Both the mass mobilization of information on HIV and infant feeding and the attempt to enroll HIV positive women in HAART or another PMTCT regimen were largely effective, as discussed earlier. The former could be further improved with more general information on the benefits of breastfeeding so that HIV

24 (2009, 14 April). VCT, Iapile Gateway Clinic. Personal Observation. 15h00-16h00.
positive mothers choosing between EBF and EFF could have a more broad information base on which to decide. The latter could be further improved with lab access, as discussed above.

**Key Findings and Recommendations: Challenges and Recommendations Postnatal**

The general goal of postnatal PMTCT infant feeding counseling as outlined by the national policy guidelines (2008), that infant growth should be monitored and infant feeding choices should be supported was largely achieved. As discussed earlier, this growth monitoring and support of feeding options could be greatly enhanced through increased training of clinic staff.

Site-specific challenges as identified by staff and recommendations are represented in the Postnatal Infant Feeding Challenges and Recommendations logic map (Appendix D). These interrelated challenges include undernourishment of formula fed exposed infants, accidental and intentional improper preparation of formula for exposed infants, poverty and under nutrition in the home of exposed infants, and inadequate resources for the safe preparation of infant formula.\textsuperscript{27 28 29 30} As outlined in the figure, many of these complex challenges could be approached with generalized staff and client education on infant feeding in HIV.

These solutions of course include a number of limitations. Education does little to contest cultural norms against exclusive infant feeding, social pressures against disclosure, lack of social support for infant feeding choices, fear of adherence to exclusive feeding because of its stigmatized association with HIV/AIDS, family-level malnutrition and poverty, and reliance on self-reporting of preparation and feeding practices. (Doherty, Chopra, Nkonki, Jackson, & Greiner, 2006; Thairu, Pelito, Rollins, Bland, & Ntshangase, 2005; Varga & Brookes, 2008) While overcoming these challenges is a long-term goal, increased support on the part of the clinic is certainly a step in the right direction. Additionally, the creation

\textsuperscript{27} (2009, 8 April). Iapile Gateway Clinic. Personal Observation. 14h00.
\textsuperscript{28} (2009, 16 April). Iapile Gateway Clinic. Personal Observation. 15h00.
of the facilities and sustainable food supplies for a PMTCT support group as discussed above would greatly assuage this challenge.

Additionally, many of these challenges could be approached with more accurate record keeping in the PMTCT Milk Register supplied by the National Department of Health. A brief skills-building exercise was thus completed with clinic staff to ensure client-centered tracking in this milk register including TCB dates and growth monitoring of the exposed infant. In this way the clinic will be better equipped to educate families selling or watering down the formula at an earlier date. This record keeping will also have long-term benefits, allowing the clinic to assess based on six month weights how EBF and EFF infants are generally faring. This information can then be applied back to ANC and postnatal programs, both identifying areas for further education and acting as an educational example for skeptical PMTCT clients. During this skills-building, it also became apparent to staff that this type of data collection would be facilitated by either electronic client monitoring or a redesigned PMTCT Milk Register that organizes clients by name and allows space for monthly TCB dates and growth monitoring.

Discussion

Many challenges experienced by the Iapile Gateway Clinic PMTCT program were not unique to this site. An evaluation of PMTCT training in seven provinces of South Africa found that the mean knowledge of both trainers and trainees on PMTCT was insufficient, especially in regard to infant feeding. More specifically finding that, “most health care providers over-estimated the risk of HIV transmission through breastfeeding and were unaware of the health risks associated with formula feeding” (Tint, Doherty, Nkonki, Witten, & Chopra, 2003, p. 2) and that information provided on breast health was insufficient. Additionally, resource constraints were identified as a barrier to private counseling in at least one Eastern Cape site (Tint, Doherty, Nkonki, Witten, & Chopra, 2003, p. 37). A later evaluation of quality of PMTCT counseling in VCT sessions of three representative sites in South Africa found that few clients

selecting EFF were assessed using AFASS criteria, no clients selecting EBF were told how to position their baby, and the vast majority of clients could not define exclusive breastfeeding. (Chopra, Doherty, Jackson, & Ashworth, 2005)

This evaluation was reflective of and accurate to empowerment evaluation methodology in many ways, although it was greatly hindered by time constraints. Utilizing the ten step (Wandersman, Imm, Chinman, & Kaftarian, 2000) process, the needs and resources of the program were identified along with the goals, target population, and desired outcomes of the organization. The scientific rationale for the program was also discussed and the place of the program within Iapile Hospital PMTCT programs and within other Iapile Gateway Clinic services was established. Next, the capacity needs for the program were discussed, the rationale for the PMTCT Milk Bank intervention was outlined and a plan for intervention put in place. Finally, the incorporation of continuous quality improvement was identified and agreed upon. This represents eight of the ten methodological questions. Not discussed was quality assessment and sustainability of the intervention.

In addition to setting targets for the PMTCT Milk Bank skills-building exercise, the evaluation would have benefited from strengthening its focus on several of these areas. Being more inclusive when determining how PMTCT infant feeding counseling fits within scientific best-practice would have provided more information on the knowledge and skills of staff, allowing more knowledgeable staff members to educate those with less training on specific topics. Additionally, a more in-depth discussion of the PMTCT Milk Bank skills-building exercise, describing the ways in which this data collection could be used for program improvement would have benefited the program greatly, making the intervention more sustainable.

When judged according to the ten principles of empowerment evaluation (Fetterman & Wandersman, 2004), the evaluation was again successful in many respects and had much room to grow in others. The values of improvement, capacity building, and organizational learning were all upheld in the evaluation, aided by the researcher’s role as a student, thus naturally focusing activities on learning.
Community ownership was upheld where possible, but because the evaluation was welcomed but not solicited, intensive participation was not achieved. Inclusion was achieved through dialogue with many departments, a dialogue that could have been strengthened given a longer time frame for study.

Democratic participation was perhaps the most significant weak point of the evaluation, as most information and participation originated from the professional nurse at the clinic. This was on one hand desirable, as she was a gatekeeper to access to the clinic and the member of the clinic trained in PMTCT, but as challenges revealed the need for complete staff participation in the success of the program, the evaluation would have benefited from a more truly democratic process. Social justice was concentrated upon by looking for immediate as well as long-term answers to challenges. Community knowledge was accessed where possible, given language and ethical considerations and accountability, while falling short in many ways, was ensured through verbal agreement of a status update in six months.

The level of empowerment achieved through the evaluation was not measured through formal surveys, although Schnoes, Murphy-Berman, and Chambers (2000) offer a number of standards by which empowerment efforts can be measured. The acquisition of skills for evaluation and an appreciation for data generated are first identified as ways in which empowerment is attained through empowerment evaluation. An acknowledgement of these skills and an appreciation for data was expressed by clinic staff, who cited the experience as transformative to their outlooks on daily activities regarding PMTCT infant feeding.\textsuperscript{32} Schnoes, Murphy-Berman, and Chambers (2000) next state that, “to be maximally effective, evaluation outcomes must be meaningfully linked to significant programmatic decisions, and the idea of “being empowered” must have real practical consequences”. (Schnoes, Murphy-Berman, & Chambers, 2000 p. 63) In this sense, the evaluation had much room for improvement, as no significant programmatic changes were affected by evaluation efforts and empowerment was effectually weak for clinic staff.

These shortcomings in method and outcome considered, the evaluation was still an exploratory success, especially given time constraints. The evaluator was able to act in the capacity of a concerned friend, collaborating with stakeholders to facilitate meaningful learning about the PMTCT infant feeding counseling program. Both in this context and others, the possibilities of using empowerment evaluation and other action research models in improving health outcomes are great. For instance, the finding by Crivelli Kovach, Becker, and Worley (2004) that antenatal and postnatal support by CHWs in the United States was significantly correlated with the empowerment and improved overall health of clients could be expanded by incorporating empowerment evaluation in the programs of these CHWs. On a different vein, work like that of Chirowodza, van Rooyen, Joseph, Sikoroyi, et al. (2008) that utilizes participatory action research, in this case mapping, to incorporate local knowledge in the planning of community VCT interventions in South Africa could be augmented by using participatory empowerment evaluation in its reflection stages.

**Conclusions**

The antenatal and postnatal infant feeding counseling offered as a part of Iapile Gateway Clinic's PMTCT program is largely effective, given its resource, staff, and facility constraints. Inadequate attention given to infant feeding counseling during VCT training as observed by Tint et al. (2003) were echoed in this facility. Broad and long-term recommendations for improvement include the creation of a lab in the clinic or adjacent Iapile Hospital, renovation of facilities or purchase of modular office facilities, and the creation of a PMTCT-specific support group. Short-term recommendations for improvement include general training of staff on HIV and PMTCT information, the purchase of educational equipment, and more accurate record keeping in the PMTCT Milk Register. The final suggestion could then be applied to future program improvement.

While the full utilization of empowerment evaluation to assess the clinic’s PMTCT infant feeding counseling program was limited by time constraints, the potential of empowerment evaluation to improve
community health outcomes, especially in lapile, was affirmed. Time spent as a participant observer revealed that community-centered, highly responsive hermeneutic processes need to be incorporated into health initiatives, especially related to PMTCT and infant feeding. It is in these areas that are so affected by local knowledge that the empowerment and training of local leaders has seemingly boundless potential for health promotion.

Undertaking this exploratory evaluation as a participant observer next brought to light the ironic inverse relationship between need and resources for change, whereby the communities or programs that have greater need have diminished access to resources needed to facilitate meaningful change. In the case of an evaluation technique as time, space, and skill-intensive as empowerment evaluation, this paradox does not mean that the endeavor is not worthwhile but that the endeavor should be tackled with full commitment to methodological rigor and social justice.

**Limitations**

Limitations to this exploratory empowerment evaluation as discussed in data collection are supplemented by limitations to empowerment evaluation in general and to action research in South Africa. While empowerment evaluation has been criticized in the past for conceptual ambiguity, lack of methodological specificity, and weakness of outcomes, these criticisms have been addressed through the development of the definitions and tools used in this study and through explanatory discourse with critics. (Fetterman & Wandersman, 2007) Outstanding difficulties in implementing empowerment evaluation, however, have been identified in several case-study examples. Schnoes, Murphy-Berman, & Chambers (2000) found in their empowerment evaluation of three Comprehensive Community Initiatives that over half of the stakeholders involved in evaluation wanted a data-rich "stamp of approval" (Schnoes, Murphy-Berman, & Chambers, 2000 p. 60) while this study and others (Sullins, 2003; Campbell et al., 2004) identified difficulties with achieving sufficient participation, given the time investment required on the part of
stakeholders. It is then clear that if an empowerment evaluation technique is to be used, it should be done with full commitment of consumers, both to gain from and give to the process.

Limitations to action research in South Africa have been noted extensively in literature. Whitehead, Kriel, and Richrer (2005) discuss several of these barriers for rural areas, including restricted social access, social resistance, misunderstandings, language barriers, and lack of project ownership on the part of local communities. Poverty is also an indirectly enumerated barrier, as participation of some members was curtailed by lack of access to transportation or an inability to sacrifice time to participate in the project. Visser and Schoeman (2004) identified similar barriers to the implementation of a community intervention to reduce young people’s risks for getting HIV in South Africa, noting that social taboos, lack of community support, educators’ lack of free time, and the related school staff shortages led to the eventual failure of several communities to implement a cascade-down HIV prevention program. The pair concluded that lack of community participation in program development in conjunction with social environments that were non-conducive to change also served as significant barriers to implementation. While Hausman (2002) offers a cautionary warning about increased community involvement in program planning, saying that this can lead to interventions that shift focus from the intended target (Hausman, 2002 p. 459), Campbell, Nair, and Maimane (2007) work to overcome the challenges discussed above by identifying HIV/AIDS-related knowledge and skills, the existence of safe social spaces, community ownership and responsibility, confidence in local strengths, and solidarity as determinants of an AIDS-competent community in which action research can thrive. (Campbell, Nair, & Maimane, 2007 pp. 350-352)

**Recommendations for Further Study**

Further action research, specifically empowerment evaluation, at Iapile Gateway Clinic and Iapile Hospital would prove particularly enlightening, both for fleshing out this exploratory evaluation and for understanding the context in which these PMTCT services are offered. Evaluation at the Gateway Clinic could continue with the assessment of the VCT counselor’s knowledge of infant feeding risks and benefits,
the compilation of local women's knowledge of and choices about infant feeding, the assessment of the
PMTCT Milk Register skills-building exercise, and the assessment of clinic as meeting Campbell, Nair, and Maimane's (2007) criteria for an AIDS-competent community. In Iapile Hospital, evaluation of the labor and delivery portion of PMTCT could be evaluated, forging interdepartmental connections for the total improvement of care. Action research at this site identified as promising includes but is not limited to the participatory creation of a film debunking local myths about HIV/AIDS and/or infant feeding that would then be left to play in the clinic's waiting room on its newly endowed television.
Summary Review of Essential Texts


This text identifies the principles of empowerment evaluation as improvement, community ownership, inclusion, democratic participation, social justice, community knowledge, evidence-based strategies, capacity building, organizational learning, and accountability. This served as the foundation for my work at Iapile, not only by providing guiding principles, but also by discussing the feasibility of achieving all of these aims equally in every evaluation. This text finally is important for differentiating empowerment evaluation from utilization-focused evaluation, evaluation capacity building, and several other types of non-traditional evaluation.


This text serves as an elementary explanation of what effective evaluation reports need to include, also offering advice on ways to gather this information. For first-time evaluators, this text is an invaluable resource, explaining what the 'bare bones' of evaluation are and why these pieces are needed to hold up a good evaluation.


This text is the official government guidelines and guiding principles for the prevention of mother to child transmission of HIV in South Africa. As these are recently revised, the guidelines and rationale are particularly important and compelling.


This text is one of a series of publications by UNICEF, UNAIDS, WHO, and UNFPA outlining knowledge about HIV and infant feeding. This presents scientifically sound rates of and mechanisms for mother to child transmission of HIV through breastfeeding in a succinct and approachable way. This text serves as a summary of evidence used by policy-makers and health-care makers about infant feeding and AIDS.
Bibliography and List of Sources

Primary Sources
(2009, April 7, 8, 13, 14, 16, 20, 21, 22). Iapile Gateway Clinic. Personal Observations.
(2009, 7 April). Wellness Clinic ANC, Iapile Wellness Clinic. 15h00.
(2009, 14 April). VCT, Iapile Gateway Clinic. Personal Observation. 15h00-16h00.
(2009, 16 April). Iapile Gateway Clinic. Personal Observation. 15h00.

Secondary Sources


### Appendix A: List of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFASS</td>
<td>Affordable, Feasible, Accessible, Safe and Sustainable</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral</td>
</tr>
<tr>
<td>CHW</td>
<td>Community Health Worker</td>
</tr>
<tr>
<td>EBF</td>
<td>Exclusive Breastfeeding: An infant receives only breast milk and no other liquids or solids, not even water, but may receive drops or syrups consisting of vitamins, mineral supplements, or medicines that are deemed necessary and essential for the child. When expressed milk is given, the preferred term is breast milk feeding.</td>
</tr>
<tr>
<td>EFF</td>
<td>Exclusive Formula Feeding: Feeding infants who are receiving no breast milk, with a diet that provides adequate nutrients until the age at which they can be fully fed family foods. During the first 6 months of life, formula feeding should be with a suitable commercial formula. After 6 months complementary foods should be introduced.</td>
</tr>
<tr>
<td>HAART</td>
<td>Highly Active Antiretroviral Therapy</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HIV-exposed</td>
<td>Infant born to an HIV-positive woman</td>
</tr>
<tr>
<td>Infant</td>
<td>A person from birth to 12 months of age.</td>
</tr>
<tr>
<td>Mixed feeding</td>
<td>Breastfeeding as well as giving other milks (including commercial formula or home-prepared milk), foods or liquids.</td>
</tr>
<tr>
<td>MTCT</td>
<td>Mother-to-Child Transmission of HIV: Transmission of HIV from an HIV-positive woman during pregnancy, delivery or breastfeeding to her child. The term is used because the immediate source of the infection is the mother, and does not imply blame on the mother. Also called vertical transmission.</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-to-Child Transmission of HIV</td>
</tr>
<tr>
<td>Safe Infant Feeding</td>
<td>Feeding practices that would lead to a health, well-grown, able live, HIV-free child who has no underlying morbidity.</td>
</tr>
<tr>
<td>TCB</td>
<td>To Come Back</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary Counseling and Testing</td>
</tr>
</tbody>
</table>

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33 Definitions are those used by the National Department of Health in their 11 February, 2008 publication “Policy and Guidelines for the Implementation of the PMTCT Programme”.

34 The phrase vertical transmission was not used in the National Department of Health definition of MTCT, but was rather included for the purposes of this paper.
Appendix B: Daily Log

Monday 6 April, 2009
- Arrived at Iapile Hospital in the afternoon and met with the acting Chief Medical Officer. Discussed interests and was directed toward accommodation in nurse’s quarters.

Tuesday 7 April, 2009
- Began work at Iapile at 8am, meeting with Nurse Mvalase of the Gateway clinic to discuss PMTCT and antenatal services offered.
- Shadowed Nurse Dylan of the Wellness Clinic who took blood samples to be sent to the lab at St. Christopher hospital in the morning while the pregnant women were educated and HIV tested at the Gateway Clinic. These women were then sent to the Wellness Clinic for routine checks of fetal health.
- Talked with Nurse Mvalase of the Gateway Clinic and Sister Nobuhle of the Labor and Delivery ward about shadowing them in coming days.
- Finished work at Iapile at 4pm.

Today’s Total: 8 hours  Running Total: 8 hours

Wednesday 8 April, 2009
- Began work at 8 am at the Gateway clinic, shadowing Nurse Mvalase, director of the Gateway clinic. The first several hours were spent being the first contact with the client, recording their name and complaint.
- Observed Nurse Mvalase as she met with clients who had already had one contact with the clinic that day. These referrals were disparate in nature, including pap smears, TB that was unresponsive to treatment, STIs, and requests for more formula.
- Finished work at Iapile at 5pm.

Today’s Total: 9 hours  Running Total: 17 hours

Thursday, 9 April 2009
- Began work at 8am with Nobuhle of the Labor and Delivery ward with the intention of moving to the Gateway Clinic in the afternoon. However, a particularly problematic delivery was underway, so I remained at the Labor and Delivery unit throughout the course of the day to observe its progress. As much of labor is waiting, I had the opportunity to inquire about the feeding choices of mothers, breastfeeding support in the hospital, the number of hospital employees trained in PMTCT, and other things.
- Accompanied Nobuhle for other duties that included helping with the annual budget report.
- Finished work at Iapile at 2 pm, as many patients were observing the impending Easter holiday as well.
- Accompanied one of the laundry staff home, as this is along the coast and only 1km from a backpacker’s. As we have been instructed not to walk alone, we will likely be able to walk with her to and from work when/if we end up staying at the backpacker’s.

Today’s Total: 6 hours  Running Total: 23 hours

Friday, 10 April 2009
- Enjoyed the holiday lounging, meeting neighbors, and strolling about the lovely countryside.

Saturday, 11 April 2009
- Made the trek to town, mastering the art of covered cab truck transportation and sending an email to my advisor.
Sunday, 12 April 2009
- Enjoyed Easter with a long walk around the area followed by a delicious lunch, compliments of Nurse Mvalase.

Monday, 13 April 2009
- Reported to Gateway clinic at 8am. Helped with housekeeping, stocking, recording of patient histories, and examination of patients.
- Spoke with Nurse Mvalase about collaboration for evaluation of PMTCT program with very positive response. Began to brainstorm and record strengths/achievements, weaknesses/challenges, and places for improvement.
- Finished work at lapile at 4pm.

Today’s Total: 8 hours Running Total: 31 hours

Tuesday, 14 April 2009
- Reported to Gateway clinic at 8am. The morning was spent observing the opening education session and assisting with first patient contacts with the clinic, recording information and retrieving medicine when possible.
- After tea, time was spent observing VCT for several women as a part of antenatal services offered by the clinic. After that, time was spent assisting Mvalase with the remainder of the (70+) patients at Gateway for the day.
- Spoke with the VCT CHW about collaboration for evaluation report. Thoughts not readily offered, so specific questions will be formulated to ensure participation.
- Finished work at lapile at 4pm.

Today’s Total: 8 hours Running Total: 39 hours

Wednesday, 15 April 2009
- Reported at lapile at 6am. The day was spent assisting with patient transport to the District Hospital. Patients were first checked in, then were escorted to their respective departments for consults, and were later collected for the return trip home.
- Returned to lapile at 6pm.

Today’s Total: 12 hours Running Total: 51 hours

Thursday, 16 April 2009
- Reported to lapile hospital at 8 is and discussed accommodations and transportation with hospital personnel. The remainder of the day was spent at the Gateway clinic reviewing the PMTCT Milk Register, gathering data on the clinic’s PMTCT program, and assisting with clinic duties.
- Finished work at lapile at 4pm.

Today’s Total: 8 hours Running Total: 59 hours

Friday, 17 April 2009
- Enjoyed the adjusted Easter holiday (taking off this Friday instead of Monday) by traveling around the area.

Saturday, 18 April 2009
- Went hiking around the surrounding area and costal areas.

Sunday, 19 April 2009
- Moved next door into new accommodations after a long trip to town.

Monday, 20 April 2009
o Reported to Iapile Hospital at 8 am and spent the day in the Gateway Clinic assisting with patient check-in and other small tasks.

o In the afternoon, I was able to go through routinely collected monthly statistics for the clinic in order to compile base-line data for the evaluation report.

o Finished work at Iapile at 4pm.

Today’s Total: 8 hours Running Total: 67 hours

Tuesday, 21 April 2009

o Reported to Iapile Hospital at 8 am and spent the morning in the Gateway Clinic. Few patients or staff were around the greater hospital complex because of the impending holiday for voting day.

o After tea, I came back to discover that staff were done with ANC work and nearly done with all work. I thus went back to the apartment at 1pm to focus on writing the evaluation report.

o In the evening, I made up for lost time by stopping by the house of Nurse Mvalase to ask her some final informational questions for the evaluation report from 7pm to 8pm.

Today’s Total: 6 hours Running Total: 73 hours

Wednesday, 22 April 2009

o Voting day was first celebrated by interviewing the acting chief medical officer from 9am to 10am. Throwing caution to the wind, a journey was next a quiet polling station was next carried out.

o Upon return from the election station, I reported to the Gateway Clinic at noon to take pictures of the facilities, as requested by Nurse Mvalase, and to help out if possible. Taking advantage of the lack of patients at the clinic, I spent this time brainstorming solutions to post-natal infant feeding challenges with available staff as well as building capacity for the evaluation of these solutions.

o Finished work at Iapile at 2pm, completing work on the evaluation report of the PMTCT infant feeding counseling in the evening.

Today’s Total: 2 hours Running Total: 75 hours

Thursday, 23 April 2009

o It was a day for goodbyes. I headed down to the hospital, eagerly awaiting Thula’s arrival. Before he came, I was able to print off a copy of the evaluation report I wrote in order to share it with Nurse Mvalase and the rest of the Gateway Clinic. A full staff picture was also shot, as requested, and rounds were made to say goodbye to other staff.

TOTAL HOURS: 75
## Appendix C: Baseline Data

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<th>PCR HIV+ 9mo</th>
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Appendix C: Postnatal Infant Feeding Challenges and Recommendations

Formula fed infants present to clinic with inadequate nutrition

**Problem**

- Present to clinic with diarrhea
- Present to clinic with failure to grow

**Sign**

- Formula prepared with contaminated water or equipment
- Formula cut with other food or liquid substance (ex: porridge)
- Formula prepared with too much water

**Cause**

- Inadequate education about safe formula preparation, inadequate access to resources for safe formula preparation
- Inadequate education about benefits of formula and dangers of introducing solids prematurely
- Formula purposely watered down to feed surplus to other family members or to sell surplus for supplemental income
- Formula accidentally watered down because of inadequate education about formula preparation

**Underlying Cause**

- Education about safe formula preparation, assessment of feeding plan using AFASS
- Education about nutritional completeness of formula and dangers of introducing solids prematurely
- Documentation and discussion of date of expected return for mother, referral to social services for applicable grants
- Assessment of formula preparation practices and education about appropriate preparation

**Underlying Need**

- PMTCT training for VCT counselor, increased growth monitoring
- Increased education on formula preparation for clients and staff
- Clinic personnel documenting TCB date in PMTCT milk register, communication with social services
- PMTCT training for VCT counselor, increased growth monitoring

**Strategy**