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PUBLIC HEALTH & PRIMARY CARE | RESEARCH ARTICLE

Implementation of a sexual and reproductive health service integration model: South African providers' reports

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Abstract: High levels of HIV and unwanted pregnancies have renewed interest in sexual and reproductive health (SRH) services integration. A district-based model for integrating SRH and HIV services was developed and implemented in a district hospital and six feeder clinics in eThekweni District, South Africa. A cross-sectional survey was conducted before and after implementation of this model and explored training and SRH service integration. Forty-six providers participated in baseline, and 44 in an endline survey. Data were descriptively analysed using SPSS. Overall, training undertaken did not change between baseline and endline. The proportion of providers performing HIV testing when providing other SRH services, and those counselling on family planning during HIV counselling and testing and STI services increased at endline. The proportion offering family planning counselling to HIV infected and antenatal clients decreased at endline. Overall, service integration improved modestly after integration model implementation, which could impact positively on uptake of SRH services.

ABOUT THE AUTHOR

Cecilia Milford is a senior researcher, with a special interest in qualitative research, working at MatCH Research Unit (MRU). MRU was established in 2013 as a Division of the Wits Health Consortium (Pty) Ltd, in the Department of Obstetrics and Gynaecology, in the Faculty of Health Sciences at the University of the Witwatersrand. MRU is based in Durban, South Africa, and aims to answer priority questions that will translate into improving sexual and reproductive health (SRH) outcomes through expanding access to appropriate and acceptable contraceptive, HIV prevention and related health technologies and services. The research in this project builds on these aims of providing integrated SRH services and improving health outcomes in our communities. Using a range of methodologies, we conduct behavioural, operations and clinical research, actively partnering and involving communities and local structures. We also provide technical assistance, partnering with various stakeholders to affect policy change and enhance best practice.

PUBLIC INTEREST STATEMENT

Sexual and reproductive health (SRH) services integration is important to address the high levels of HIV and unplanned pregnancies in sub-Saharan Africa. A model for integrating SRH and HIV services was developed and implemented in a district hospital and six feeder clinics in eThekweni District, South Africa. Healthcare provider training (received and desired) and service integration practices were explored via surveys, before and after the model implementation, to see if the integration model led to any changes in training and service integration. Forty-six providers took part in baseline, and 44 in an endline survey. Overall, training received did not change between baseline and endline. The proportion of providers performing HIV testing when providing other SRH services, and those counselling on family planning during HIV counselling and testing and STI services increased at endline. The proportion offering family planning counselling to HIV infected and antenatal clients decreased at endline. Overall, service integration improved modestly after integration model implementation, which could impact positively on uptake of SRH services.

Subjects: HIV/AIDs; Maternal and Child Health; Sexual and Reproductive Health

Keywords: health services integration; provider; sexual and reproductive health; HIV services; South Africa

1. Background

High levels of unwanted pregnancies and sexually transmitted infections (STIs), unmet need for family planning methods, and high rates of HIV infection in sub-Saharan Africa, have resulted in a focus on integration of HIV and other sexual and reproductive health (SRH) services (Church & Mayhew, 2009). South Africa, more specifically, has one of the largest populations of people living with HIV (PLHIV) globally at 7.1–7.9 million people and had a national HIV prevalence of 14% in 2017 (HSRC, 2018; Statistics South Africa, 2017). Despite access to contraceptive services (Cooper, Moore, & Mantell, 2013), 18% of South African women reported an unmet family planning need in 2016 (Department of Health, SA Medical Research Council, & DHS Program, 2017).

Historically, the verticalization of these services, largely due to funding targeted towards HIV related treatment and care (Mayhew, 1996; Rabkin, El-Sadr, & De Cock, 2009), resulted in them being provided separately, and resulting in duplication of service delivery (Church & Mayhew, 2009; Church et al., 2015). Furthermore, there were missed opportunities in the HIV treatment cascade (Smit, Church, Milford, Harrison, & Beksinska, 2012). Consequently, there is a need to provide an integrated approach to managing these services (Foreit, Hardee, & Agarwal, 2002).

Despite the shift in focus to integrated service delivery, there is no universally agreed upon definition for integration (Hope, Kendall, Langer, & Barnighausen, 2014). It has been described as a “continuum of integration”, ranging from simple referral systems to fully integrated services in a single facility (Atun & Kazatchkine, 2009; Church & Mayhew, 2009; Hope et al., 2014; Mayhew, 1996). In addition, in order for integration to be successful, it should take place at multiple levels, providing a “linkage” between policies, programs and service delivery (Dickinson, Attawell, & Druce, 2009).

The South African National Strategic Plan, 2017–2022 (Department of Health, 2017) and other national policies, such as the National Contraception and Fertility Planning Policy, provide opportunities for HIV-SRH and rights policy integration (Cooper, Mantell, Moodley, & Mall, 2015; Department of Health, 2012; Health-e News, 2014), and the South African government has made “putting integration into practice” a priority area (Mantell et al., 2017). However, public sector adoption of policies and guidelines is slow, limiting SRH-HIV integration in South Africa (Cooper et al., 2015). In addition, there are challenges in implementing integration policies in low-income settings, typical of the South African health sector, due to limited infrastructural resources which also impact negatively on healthcare provider capacity (Church et al., 2015). Despite growing evidence that links between SRH and HIV services are feasible and beneficial (Kennedy et al., 2010), few countries have achieved significant scale-up of integrated services (Dickinson et al., 2009). This is also true for South Africa, where despite the promotion of integrated services, the implementation of this has been slow, and in reality, many services are still offered vertically, with referrals between services.

Training has been identified as an important activity to facilitate health services integration (Chege et al., 2005; Church et al., 2015; Farrell, 2007; Haberen, Narasimhan, Beres, & Kennedy, 2017; Newmann et al., 2016; Ngo, Ha, Rule, & Dang, 2013). Specifically, healthcare providers need in-service training on new ways of organizing and providing services (Chege et al., 2005), especially since previously specialist care (through vertical service provision) needs to be expanded to address differing and growing health needs (Church et al., 2015; Farrell, 2007). Furthermore, integration training should address attitudes of healthcare providers, and in order for training to be effective it needs to build on previous training over time (Farrell, 2007). In South Africa there is the additional challenge of high staff turnover due to many staff emigrating, and/or moving within the public sector facilities (Naledi, Barron, & Schneider, 2011) which could affect sustainability of

integration programmes (Chege et al., 2005). This needs to be taken into consideration when designing training modules, and could be addressed by ongoing training, educational materials, on-site mentoring support, task shifting and staff supervision (Chege et al., 2005; Haberlen et al., 2017).

Evaluating the process of and measuring integration is complicated, and there is little agreement on how it is measured (Church et al., 2017, 2015; Lindegren et al., 2012; Spaulding et al., 2009). Actual empirical research on integration outcomes and the impact on health systems is scarce, with much literature focussing on perceived benefits rather than empirical outcomes of health services integration (Armitage, Suter, Oelke, & Adair, 2009). It has been noted that measuring integration should involve measuring and evaluating whether the process of integration has been implemented as intended, whether an integrated system has been achieved, and the impact of the integration on various components of the health system (Armitage et al., 2009).

Some studies have looked at the importance of integration of services. It has been posited that the goal of integration of FP and HIV services “*is to provide comprehensive HIV prevention, counselling and testing, and treatment in which family planning is an integral component of care*”, resulting in the unique needs of HIV infected and uninfected persons being met (Farrell, 2007). Furthermore, increasing uptake of HCT is a critical public health goal, to increase the proportion of adults who know their HIV status (Church et al., 2017). It has been found that mentioning and offering HCT is feasible and acceptable and that a greater emphasis on offering HCT would lead to higher levels of testing (Mullick, Khoza, Askew, & Menziwa, 2008).

Other studies have explored the impact of SRH service integration, with various outcomes. A review of integration literature demonstrated the most common intervention types were FP services provided to HCT clients, and FP and HCT services provided to maternal and child health (MCH) clients, with no clear patterns of efficacy, although there were no negative effects (Spaulding et al., 2009). Another review of integration studies demonstrated that linking SRH services showed positive effects on HIV incidence, STI incidence, condom use, uptake of HIV testing and quality of services, and mixed effects with contraceptive use (Kennedy et al., 2010). A later review of models that integrated FP into HIV care and treatment services, demonstrated that integration was associated with higher levels of modern method contraceptive use/uptake and knowledge (Haberlen et al., 2017).

Many of these studies explore changes from the client perspective (Church et al., 2017), whereas this manuscript focuses on health service integration from the perspective of healthcare providers. We developed and implemented a district-based integration model, in the eThekweni District of KwaZulu-Natal, South Africa. In this manuscript, we explore changes in health service integration practices both before and after the implementation of the model. Specifically, we describe during which RH services healthcare providers conducted and/or referred for HIV counselling and testing (HCT), and during which RH services family planning (FP) counselling was provided, and when contraceptive methods were offered. In addition, we describe healthcare provider training desired and received prior to and after the implementation of the model. Where applicable, we explore whether integration has been implemented and achieved through the integration model. The perceived impact of this integration is described elsewhere (Milford et al., 2018).

2. Methodology

2.1. Study context and model development

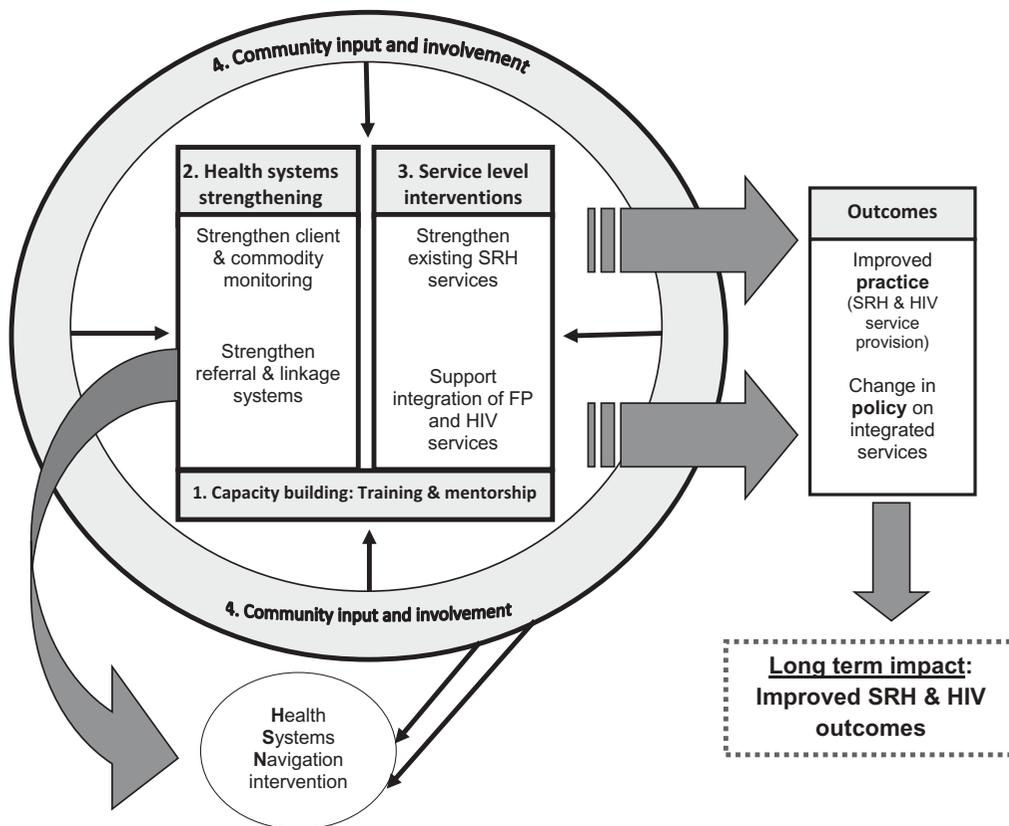
Baseline exploratory data were collected to understand perceptions of, as well as the status of health services integration in the eThekweni District, in KwaZulu-Natal, South Africa (Milford et al., 2018; Smit et al., 2012). In addition, a quantitative cross-sectional baseline survey was conducted at a district hospital and six of its feeder clinics (comprising five primary health clinics, and one community health centre) in an urban area of the eThekweni District (in 2009). These data were

collected in order to better understand the SRH, FP and HIV services offered, as well as the status of integration of services in and between these facilities. Specifically, training, values/beliefs, and current service delivery practices in FP, HCT, HIV, primary healthcare (PHC), STI, antenatal care (ANC)/perinatal mother to child transmission (PMTCT) and post-natal services were explored. Knowledge of and attitudes towards health service integration were also explored. Both healthcare providers and clients attending these facilities participated in the survey. In addition, a health facilities assessment was conducted at all seven facilities.

Once the status of integration in these facilities was understood, a district-based model for integrating SRH and HIV services was developed (Milford et al., 2018). “Partial” or “facility-level integration”, implying internal referrals to access SRH services within the same facility or catchment area, was proposed as a strategy to address integration in these facilities (Smit et al., 2012). The preliminary integration model was presented to and discussed with a Community Advisory Board, key stakeholders/experts and healthcare facility personnel for guidance, buy-in and support. They provided suggestions for improvement prior to model finalization and implementation.

The final integration model comprised four inter-connected intervention areas, including: (1) health systems strengthening, (2) service level activities and interventions, (3) capacity building, and (4) community input and involvement (Milford et al., 2018) (see Figure 1). The health systems strengthening component included measures to improve information and supply chains through improved client and commodity monitoring, and through innovative methods to improve referral and linkage systems, by strengthening referrals both within and between healthcare facilities, making use of a “health navigation” strategy (Bertoni, 2009; Greener et al., 2017). Existing services were targeted for integration, and the model responded to particular needs of individual facilities, rather than creating a generic package. In addition, capacity

Figure 1. Conceptual representation of integration model developed (Milford, Rambally Greener et al., 2018; Milford, Scorgie et al., 2018).



building for healthcare providers was considered an integral component of the model, and was done via focused training and mentorship programmes, where training addressed specifically identified needs in the target area. Finally, community input and involvement in model design, implementation and capacity building activities was critical in the model development and implementation process. This integration model was implemented at the district hospital and six feeder clinics outlined above.

After the implementation of the model a second cross-sectional survey was conducted (in 2011), with healthcare providers and clients, to gather endline data on the same variables as the baseline survey (including training, values/beliefs, and current service delivery practices in FP, HCT, HIV, PHC, STI, ANC/PMTCT and post-natal services), to be able to compare findings and determine the usefulness and success of the model. Only the district hospital and five feeder clinics (comprising four primary health clinics and one community health centre) participated in the endline survey, as one of the clinics dropped out of the intervention, due to perceived lack of time to participate in intervention activities.

2.2. Capacity building: provider training

As one part of the capacity building component of the integration model, we developed training modules which were provided at each of the participating facilities. Each module addressed a different training topic which was identified based on baseline findings and provider feedback from participating facilities. Training modules included dual protection/female condoms, referral systems (offered in English and isiZulu), HCT and FP integration, the World Health Organization (WHO) reproductive choices flip chart (World Health Organization, 2012), comprehensive care and management of HIV clients, HCT for ward staff, ARV and FP integration, ARV and FP method interactions, Isoniazid Preventive Therapy (IPT) and Bactrim treatment guidelines and management of complications, monitoring and evaluation, adolescent-friendly services, and health systems navigators training. Each training session covered one of these topics and was conducted at each of the participating facilities.

2.3. Study population

The study population for the cross-sectional survey was purposively sampled in each facility. Registers of providers working in the participating healthcare facilities were sourced, and potential participants were identified by purposively selecting providers representing different categories of healthcare providers available on the day of the interview (including HCT counsellors, enrolled nurses, registered/professional nurses, and doctors), from the different services offered (including antenatal, FP, primary healthcare, HCT and STI services) in the participating facilities, and then inviting them to participate. If they were not willing or unable to participate due to workloads, alternative healthcare providers in the same category and service area were invited to participate.

Purposive selection was done to ensure that there would be a range of provider types interviewed across a range of services, to ensure that study results would not be biased according to service or provider type. Forty-six healthcare providers working at the seven participating healthcare facilities were enrolled in the baseline survey. For the endline survey, 44 providers from the six participating healthcare facilities were enrolled. Due to the fact that it was a cross-sectional survey, participants in the endline survey were not necessarily the same people who participated in the baseline survey, and this information was also not collected (see Table 1 for details of providers surveyed).

All healthcare providers from the participating facilities were invited to participate in the training which was conducted on-site, in provider's own facilities, at times convenient to them. However, factors such as heavy workload, high turnover of staff and multiple commitments impacted on full attendance (Milford et al., 2018).

Table 1. Description of healthcare providers participating in quantitative survey at baseline and endline

Characteristics	Baseline n=46	Endline n=44
Mean age, years (range)	43.7 (25-62)	43.3 (25-64)
Sex, n (%)		
Female	41 (89)	41 (93)
Male	5 (11)	3 (7)
Years working as HCP: range	2-43	3-40
Mean	18.3	16.98
Median	18	10.5
Duration in department/service (years)		
Mean	5.9	6.6
Provider category, n (%)		
Advanced/registered midwife	1 (2.2)	1 (2.3)
Registered nurse	26 (56.5)	18 (40.9)
Enrolled nurse	10 (21.7)	6 (13.6)
Enrolled nurse assistant	0 (0)	3 (6.8)
Counsellor	7 (15.2)	12 (27.3)
Doctor	2 (4.3)	1 (2.3)
Operational manager	0 (0)	3 (6.8)
Department/s currently working in, n (%)*		
Primary healthcare	19 (41.3)	13 (29.6)
ANC clinic	20 (43.5)	14 (31.8)
PMTCT	19 (41.3)	17 (38.6)
Postnatal clinic (PNC)	12 (26.1)	10 (22.7)
STI	15 (32.6)	9 (20.5)
Family planning	13 (28.3)	12 (27.3)
HCT	12 (26.1)	16 (36.4)
Antiretroviral (ARV) clinic	12 (26.1)	22 (50)
Termination of pregnancy clinic (CTOP)	3 (6.5)	7 (15.9)
Health facility type, n (%)		
Hospital	16 (34.8)	21 (47.7)
Community Health Centre	8 (17.4)	7 (15.9)
Clinic	22 (47.9)	16 (36.4)
Considered moving to post outside public sector		
Never	19 (41.3)	22 (50)
Overseas	4 (8.7)	6 (13.6)
Private sector	14 (30.4)	12 (27.3)
Municipality (other public sector clinics)	9 (19.6)	4 (9.1)

* Some healthcare providers were working in multiple departments, providing multiple services.

2.4. Data analysis

This manuscript draws on data from the provider baseline and endline surveys. It focuses on healthcare providers' reports of training received and desired; reported integration of HCT services and care into other services; and reported integration of FP counselling and services into other services.

Data were entered onto an IBM SPSS version 25 database and descriptive statistics were run. Where applicable, Fisher's Exact test of association was calculated (appropriate for small sample

sizes), to determine if there were any significant differences between baseline and endline categories ($p < 0.05$). Due to small sample sizes (based on the small pool of providers from which to recruit the participants), trends in data as well as the significance data are explored and described.

2.5. Ethical considerations

All willing participants provided written informed consent prior to participating in either the baseline/endline cross-sectional survey. The study was approved by the University of the Witwatersrand's Human Research Ethics Committee (M080624). The University of KwaZulu-Natal's Biomedical Research Ethics Committee provided reciprocity approval. Site support was obtained from each of the participating healthcare facilities. Provincial, District and Municipal Department of Health (DoH) approval were also obtained.

3. Results

3.1. Healthcare provider details

Table 1 provides a detailed description of healthcare provider participants in the cross-sectional surveys. Age and sex of healthcare providers were similar between baseline and endline, with a mean age of 43.7 and 43.3 years, respectively, and 89% and 93% female participants, respectively. Mean number of years working as a healthcare provider decreased at endline (from 18.3 to 16.98 years).

At both baseline and endline, the largest category of participants interviewed were registered nurses (56.5% and 40.9%, respectively). The highest proportion of providers interviewed at baseline provided ANC and PMTCT services (43.5% and 41.3%), with the highest proportion at endline providing ARV and PMTCT services (50% and 38.6%). The proportion of providers who had considered moving to a post outside of the public sector healthcare setting decreased from 58.7% at baseline to 50% at endline.

3.2. Healthcare provider training

Healthcare providers were asked at baseline, what training they had received in “the past two years”, and at endline, they were asked what training they had received “since 2010” (which was the equivalent of the past year or two) (Table 2). This applied to any training that they had received—including in-service training, and training as part of the integration model. There were small variations in training received between baseline and endline, with the proportion of providers who had received training in values clarification, sexual health, and HIV related services (HIV management, ARTs and HCT)—all part of the integration training modules—increasing at endline. Decreases in training were noted for ANC/postnatal services, TB and PMTCT (not covered by the integration training modules).

In general, proportions of providers *desiring* training on specific topics decreased from baseline to endline. However, there were small increases in training desired for HIV management, ANC/midwifery/post-natal services and TOP at endline (Table 2).

Forty (90.9%) of the healthcare providers interviewed at endline had attended at least one of our training module sessions. All of our training modules had been attended by some providers interviewed at endline—including training on dual protection and female condoms ($n = 27$), training on integration of HCT and FP services ($n = 23$), comprehensive care and management of HIV clients ($n = 20$), ARV and FP integration ($n = 19$) and referral systems ($n = 18$).

4. Integration of HCT into other SRH services

Regardless of the department that the provider was working in, they were asked if they provided clients with various services—FP, primary healthcare (PHC), STI, ANC, well baby/post-partum care (Table 3). If the healthcare provider did provide one or more of these services, they were asked about HCT practices and referrals within the service. Details included whether HCT was discussed,

Table 2. Healthcare provider training received and training desired at baseline (n = 46) and endline (n = 44)

Training topic	Training received		Training desired	
	Baseline n (%)	Endline n (%)	Baseline n (%)	Endline n (%)
TB	27 (58.7)	25 (56.8)	16 (34.8)	15 (34.1)
PMTCT	26 (56.5)	24 (54.6)	13 (28.3)	15 (34.1)
HCT	25 (54.4)	30 (68.2)	16 (34.8)	10 (22.7)
ARV	24 (52.2)	29 (65.9)	28 (60.9)	17 (38.6)
STI	22 (47.8)	20 (45.5)	10 (21.7)	12 (27.3)
HIV management	20 (43.5)	25 (56.8)	24 (52.2)	28 (63.6)
Family planning	15 (32.6)	16 (36.4)	12 (26.1)	15 (34.1)
ANC/midwifery/post-natal	15 (32.6)	10 (22.7)	8 (17.4)	12 (27.3)
Taking sexual history	15 (32.6)	16 (36.4)	10 (21.7)	9 (20.5)
Sexual health	13 (28.3)	20 (45.5)	12 (26.1)	11 (25)
Values clarification	7 (15.2)	16 (36.4)	8 (17.4)	8 (18.2)
TOP	6 (13)	6 (13.6)	8 (17.4)	11 (25)

offered, and whether the healthcare provider actually conducted HCT. In some instances, the provider was asked if they referred for HCT services.

The proportion of healthcare providers who saw clients for any of these services (i.e. FP, PHC, STI, ANC, well-baby services), increased from baseline to endline for all listed services. The proportion of healthcare providers who discussed HIV testing with their respective clients, was high for all services, and for STI and ANC services, increased at endline. In all service delivery scenarios, the proportion who offered and actually performed HIV testing was much higher at endline than at baseline. Specifically, there was a significant difference ($p < 0.05$) for providers who had offered and referred for HIV testing in PHC services, and for those who had performed and referred for HIV tests in STI services. At well-baby/post-partum care services, healthcare providers were asked about HIV testing for mothers and babies. The proportion offering HIV testing only increased at endline for babies whose mother’s HIV status was unknown.

5. Integration of FP into other SRH services

Again, regardless of the department that the provider was working in, providers were asked if they provided different services to clients—HCT, HIV wellness/ART, STI, ANC (Table 4). If they did see clients for any of these services, they were asked about FP service provision in these services, including when clients were counselled on FP and contraceptive methods, as well as (in some instances) which methods they may have counselled clients on.

The proportion of healthcare providers who counselled on FP during HCT and STI service provision increased at endline. The proportion of providers working in HIV services (ART/wellness services) who actually provided FP services to HIV positive women, however, decreased at endline (100% to 80.6%), but there was no significant difference in this change. The same was noted for ANC services, where overall proportion routinely discussing FP with pregnant women decreased (from 100% to 95.7%). The only significant changes ($p < 0.05$) for this group (integrating FP services into other SRH services) were the number of providers providing HCT and HIV services (ART/wellness) (although this may be linked to the higher number sampled for this group), and the proportion of providers offering oral contraceptives to HIV positive women not using FP methods. However, numbers for this group are very small.

Table 3. Provision and referral for HCT services within other SRH services

Service	HCT integration within service	Baseline n (%)	Endline n (%)	Fisher's exact p value
Family planning	Provided by:	24 (52.2)	36 (81.8)	.515
	Discuss HIV testing with FP clients:	26 (96.3)	34 (94.4)	.443
	Offer HIV testing to FP clients:	18 (66.7)	28 (77.8)	.356
	Done HIV test in past 3 months:	12 (44.4)	24 (66.7)	.115
Primary healthcare services	Provided by:	18 (39.1)	22 (50)	.201
	Discuss HIV testing with PHC clients:	18 (100)	21 (95.5)	1.000
	Offer HIV testing to PHC clients:	10 (55.6)	19 (86.4)	.025*
	Performed HIV test:	6 (33.3)	15 (68.2)	.055
	Referred on site for HIV test:	14 (77.8)	5 (22.7)	.007*
	Referred off site for HIV test:	2 (11.1)	0	.486
STI services	Provided by:	26 (56.5)	27 (61.4)	.375
	Discuss HIV testing with STI clients:	26 (100)	27 (100)	1.000
	Offer HIV testing to STI clients:	23 (88.5)	25 (92.3)	.669
	Performed HIV test:	6 (23.1)	17 (63)	.002*
	Referred on site for HIV test:	18 (69.2)	7 (25.9)	.010*
	Referred off site for HIV test:	2 (7.7)	0	.491
ANC services	Provided by:	20 (43.5)	23 (52.3)	.388
	Discuss HIV testing with ANC clients:	19 (95)	23 (100)	.465
	Offer HIV testing to ANC clients:	19 (95)	20 (87)	1.000
	Performed HIV test:	9 (45)	16 (69.6)	.058
	Referred on site for HIV test:	9 (45)	5 (21.7)	.197
	Referred off site for HIV test:	2 (10)	0	.232
Well baby/post-partum care services	Provided by:	17 (37)	23 (52.3)	.133
	Offer HIV testing to mother if didn't have at delivery:	17 (100)	22 (95.7)	1.000
	Test baby if mother is HIV positive:	17 (100)	21 (91.3)	.499
	Test baby if mother status unknown:	12 (20.6)	15 (65.2)	.630**

* P is significant at <0.05.

** Pearson's chi-square, Fishers was not calculated as 3 cells had count of less than 5.

6. Discussion

Various factors need to be taken into consideration to ensure successful integration. Firstly, capacity of healthcare providers within their setting (in this case, resource-poor), needs consideration. One component of this integration study was capacity building, which included training and mentorship of healthcare providers. Any capacity building programme with healthcare providers needs to take into account the resources and working conditions of the staff at the healthcare facilities. Although the training in this project was conducted at healthcare facilities, at times convenient to healthcare providers, conditions for training were (and will continue to be) challenging in environments with staff shortages and high staff turnover (Naledi et al., 2011). The high proportion of staff considering posts

Table 4. Provision and counselling of FP services within other SRH services

Service	FP integration within service	Baseline n (%)	Endline n (%)	Fisher's exact p value
HCT services	Provide HCT counselling services:	22 (47.8)	33 (75.0)	.014*
	Counsel on FP during pre-test counselling:	15 (68.2)	27 (81.2)	.699
	Counsel on FP during post-test counselling for HIV negative:	12 (54.5)	30 (90.1)	.086
	Counsel on FP during post-test counselling for HIV positive:	12 (54.5)	31 (93.9)	.080
	Counsel on FP during ongoing counselling:	12 (54.5)	29 (87.9)	.367
HIV services (ART/wellness)	Provided by:	26 (56.5)	36 (81.2)	.005*
	Provide FP services to HIV positive:	26 (100)	29 (80.6)	1.000
	If HIV positive not using FP, what offered:			
	• Hormonal injection:	10 (38.5)	9 (25.0)	.264
	• Condoms and hormonal contraception:	9 (34.6)	20 (55.6)	.107
	• Sterilisation:	0	6 (16.6)	1.000
	• Combined oral contraceptives:	1 (3.8)	3 (10.3)	.035*
• IUD and condoms:	1 (3.8)	6 (16.6)	.219	
STI services	Provided by:	26 (56.5)	27 (61.4)	.375
	Always discuss FP with STI clients:	13 (50.0)	21 (77.8)	.234
	Sometimes discuss FP with STI clients:	5 (19.2)	6 (22.2)	1.000
	Depends on client:	7 (26.9)	1 (3.7)	.005*
ANC services	Provided by:	20 (43.5)	23 (52.3)	.388
	FP routinely discussed with pregnant women:	20 (100.0)	22 (95.7)	1.000

*P is significant at <0.05.

outside of the public health sector in this study were also indicative of high possibility of turnover in this population. Healthcare providers in similar contexts have multiple commitments due to lack of resources (Newmann et al., 2016; Winestone et al., 2012), and may experience pressure to attend to waiting clients, affecting the number of providers who can attend training sessions. Therefore, it is important to include a mentorship component to ensure follow-up and supervision of training of staff (Yoder & Amare, 2008). Ongoing communications with healthcare providers facilitate project buy-in and support, and enable training support to be accessible to those not able to attend scheduled sessions, and facilitate adoption of new behaviours identified as part of training (Farrell, 2007).

To determine success, integration needs to be measured, yet there are limited existing indicators or ways of measuring integration (Church et al., 2017; Lindegren et al., 2012; Spaulding et al., 2009). However, integration can be measured by describing whether the process of integration has been implemented as intended, whether an integrated system has been achieved, and the impact of integration on various components of the health system (Armitage et al., 2009). We were able

to measure the process of integration by comparing integration of services prior to and after the implementation of the integration model. Specifically, we measured proportion of providers offering FP services and methods as part of other SRH services, as well as proportion offering and discussing HIV services (such as HCT) in other SRH services, and compared proportions offering these integrated services before and after the implementation of the model. In most cases, there were improvements in integration of services, although minor. More specifically the increase in providers actually performing HIV tests in PHC, STI and ANC services, as well as for those offering HIV tests during PHC services, and for those referring for HIV testing in PHC and STI services, was statistically significant ($p < 0.05$), demonstrating improvement in integrated service delivery. Furthermore, the impact of the integration model on the health system (on provider, patient, organization and system) was perceived as beneficial, and is described elsewhere (Milford et al., 2018, 2018).

Although our data showed modest increases in healthcare provider integration behaviour between baseline and endline, they demonstrate a shift in practices in an under-resourced environment. Our model was implemented in a step-wise manner over only a short timeframe (2010–2011) and these changes may take years to implement on a larger scale. These small changes therefore demonstrate the first steps in progress towards providing more integrated services. These study results should be viewed together with research on integration implementation strategies and challenges—healthcare providers have described various benefits and challenges associated with health services integration (Milford et al., 2018; Mutemwa et al., 2013; Newmann et al., 2016; Winestone et al., 2012). Integration has been associated with improved quality of care (Milford et al., 2018; Newmann et al., 2016; Winestone et al., 2012) and increased uptake of services. Some challenges with integration, including increased workload and provider stress (Milford et al., 2018, 2018; Mutemwa et al., 2013; Winestone et al., 2012), are linked to difficult working conditions, such as inadequate resources, lack of trainers and high staff turnover (Chege et al., 2005). Therefore, the improved integration of services reported in this study, which have occurred in the context of difficult working circumstances, point to the success of the model in this context.

In addition to the working environment, other contextual factors affect the delivery of healthcare services, including the diversity of populations served, existing policies and political environment, geographical issues, different philosophies of care and funding mechanisms (Armitage et al., 2009), and these must be taken into consideration when evaluating the effectiveness of the model. Policies must provide guidance for integrated services to function effectively (Farrell, 2007). Although South African policies and guidelines are supportive of and promote integration of HIV-SRH services (Cooper et al., 2015; Department of Health, 2017; Mantell et al., 2017), actual implementation of these has been slow, resulting in limited SRH-HIV service integration in practice (Cooper et al., 2015). Healthcare providers largely operate in resource-poor settings, with limited infrastructural capacity which adversely impacts on their ability to offer these integrated services (Church et al., 2015). Our research was conducted prior to the implementation of these policies but is still applicable in the context of slow service integration. Our data demonstrated improvements in reported levels of integration of HIV services into other SRH services and of FP services into other SRH (including HIV) services, and lessons learned can be used to inform future integration practices. Therefore, the small successes demonstrated in this study, point to the effectiveness of this model.

As with all studies, there are some limitations to this study data. Firstly, the number of providers interviewed was small. However, due to the fact that there were only seven participating facilities, our sample pool was limited and therefore we could not have invited many more to participate and therefore it is representative of the low numbers of providers working at the healthcare facilities in this project. These small numbers impact on significance tests, yet trends in data can be (and have been) explored. These trends, together with the significant findings, point to an increase in integration of almost all SRH and HIV related services explored.

In addition, we report only on providers' perspectives of services provided, which may be subject to social desirability bias—providers may have increased reporting on integration of services, knowing that we were exploring integration practices, so results should be considered in this context. However, this would have occurred for both baseline and endline reports. Furthermore, the balance of type of service providers that were interviewed changed between baseline and endline (due to available and willing healthcare providers), which could also account for the change in how services were provided. Also, refusal to participate has not been recorded, although most providers who did not participate chose not to do so because of workload.

One clinic dropped out of the intervention due to perceived lack of time to participate in study activities (e.g. training and monitoring activities). If this model were to be more widely implemented, this could happen with other clinics and could impact on the success of the model.

In addition, there was no control group in this study. Rather, the model was implemented as a demonstration study in a single health systems catchment area and therefore, the changes noted could be related to external influencers/policy changes. However, it is plausible that the integration model could have played a role, especially due to the intensive training conducted and the buy-in and support of the healthcare facility stakeholders.

Finally, the study was conducted some time ago, when verticalization of services was being prioritized in South Africa and there was a move to change policies. Since then there have been no other integration studies in this region. Despite the development of supportive integration policies since the implementation of this study, integration in practice has remained slow (Cooper et al., 2015; Hope et al., 2014; Mantell et al., 2017). It is believed that the information from this study is still relevant to integration in this context. The outcomes of the model provide useful generic strategies which do not age and can be used to inform future integration practices and training and mentoring of providers.

7. Conclusions

The implementation of a model integrating HIV and SRH services in a resource-poor setting is feasible. Through training and support, healthcare providers were able to provide integrated SRH services. Reports of training received by healthcare providers, and of improved integration of services, although modest, demonstrate an important first step for improved quality of care, increased access to care and uptake of services, and holistic reproductive health services provision.

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