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Integrating HIV services with other health services to improve care, retention and adherence

June 2017

Scoping
Paper 7

HIV and AIDS



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Impact Evaluation

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The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programmes. We are the global leader in funding and producing high-quality evidence of what works, how, why and at what cost. We believe that better and policy-relevant evidence will make development more effective and improve people's lives.

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3ie thematic window grant programmes typically start with a consultative process that includes a scoping study to identify the current state of impact evaluation evidence in a particular sector. Scoping studies identify the promising questions for future research synthesis and the priority questions for further impact evaluation research. They analyse the existing supply of impact evaluation and systematic review evidence, as well as the demand for such evidence from policymakers and programme managers.

About this scoping paper

3ie completed this scoping exercise in 2015. It helped to define the approaches to funding pilot interventions and their impact evaluations through a grant window on the integration of HIV services with other health services. This scoping paper identifies the current evidence base and evidence needs the HIV and AIDS care community. The paper looks at what types of service integration interventions have been evaluated and the types of outcomes that have been measured and reported. It includes information about how this work compares with perceptions of where there is good evidence, and evidence gaps identified by key stakeholders.

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Summary

Although HIV testing, care and treatment coverage have been improving in Sub-Saharan Africa (UNAIDS) 2012), significant numbers of HIV-positive individuals still drop out of HIV care at various stages along the care continuum. One approach to improving HIV and AIDS services along this continuum is to integrate them with other health services. Providers are beginning to use this approach, but often without testing whether their innovations are truly effective, particularly with regard to improving the outcomes for HIV in terms of linkage to care, as well as retention and adherence.

In anticipation of our grant window to fund impact evaluations of interventions integrating HIV services, we conducted a literature review, developed an evidence gap map and performed a stakeholder survey. In this report, we present the results from those three exercises, along with the combined analysis of those results.

The literature review involved a thorough, but not exhaustive or systematic, search to identify papers looking at both the treatment and the integration of HIV services with other health services in an attempt to improve linkage to care, retention (in pre-antiretroviral therapy and antiretroviral therapy care) and treatment adherence.

The literature review shows that there are many initiatives working on integrating services and many approaches being tried. Most of the results are positive: HIV service uptake and health outcomes improve, as do health outcomes related to the other health services into which HIV services are integrated. The evidence on cost-effectiveness is more limited, but most studies find that integration is at least not less cost-effective.

We constructed the evidence gap map using a consultative process to develop the framework of types of integrations and the anticipated outcome measures and categories. We then performed a systematic search and screening of the literature to identify rigorous impact evaluations that assessed the effect of the integration on either linkage to care, retention in care or adherence to treatment, and on cost-effectiveness.

We also used a stakeholder survey to assess the perceived state of the evidence and the evidence needs expressed by stakeholders, including researchers and implementers in the field of health and HIV services. We asked questions about the strength of the evidence and the type of evidence used to assess its strength. We probed where the stakeholders thought more evidence was needed, both in relation to their own work and the HIV services research field more generally. We also asked about ideal indicators for outcome measures.

When considering the literature review, evidence gap map and stakeholder survey together, several integration areas emerge as particularly promising or relevant, though for different reasons.

Stakeholders perceive that, relative to other services, there is strong evidence supporting the integration of maternal, newborn and child health, sexual and reproductive health and family planning with HIV services. In fact, the evidence is only rigorous for maternal, newborn and child health. Conversely, stakeholders perceive that the strength of evidence for opioid substitution therapy is relatively low, when there are in fact several impact evaluations, albeit from high-income countries, on this topic.

Several respondents would like to have more evidence on the impact of integrating primary healthcare and general health services with HIV services. Cost-effectiveness analysis also suggests that this is a promising area for innovation. Finally, the most notable gap in evidence is for the integration of other health services with pre-antiretroviral therapy care. The treatment cascade estimates suggest, however, that this is a key drop-off point.

While the literature review suggests that many initiatives are being tried, the evidence gap map shows that few are being rigorously evaluated, even though the stakeholder survey indicates that many researchers perceive that this type of evidence exists. There is a difference between what survey respondents perceive to be the strength and existence of evidence, and the actual existence of impact evaluations. This suggests both that more needs to be done to inform researchers, implementers and policymakers of the existing rigorous evidence, and also that more rigorous evaluations need to be done. The expressed desire for more evidence, especially in some key areas, suggests that funding innovations and evaluations related to the integration of HIV services into other health services could be highly beneficial.

Contents

Acknowledgements	i
Summary	ii
List of figures and tables	v
Abbreviations and acronyms	vi
1. Methodology	1
1.1 Limitations.....	1
2. Introduction	2
3. Literature review	3
3.1 Methodology	3
3.2 Findings	3
4. Evidence gap map	8
4.1 Methodology	8
4.2 Findings	9
5. Stakeholder survey	13
5.1 Methodology	13
5.2 Findings	14
6. Discussion	19
7. Conclusions	21
Online appendixes	22
References	23

List of figures and tables

Figure 1: Evidence gap map search and screening results.....	10
Figure 2: Average rank for strength of evidence for integrating eight categories of health services with different types of HIV services for outcomes along the cascade	15
Figure 3: Average number of people (over all six service integration outcome areas) who cited each type of evidence for determining the strength of evidence regarding integration of HIV services with other health services	16
Figure 4: Number of respondents who said more evidence is needed on integrating HIV services with a particular service, for themselves, and for the HIV field generally	17
Table 1: Number of occurrences of impact evaluations that evaluated integrating HIV and other health services by outcome of interest	12

Abbreviations and acronyms

ANC	Antenatal care
ART	Antiretroviral therapy
CCC	Comprehensive care centre
CD4	Cluster of differentiation 4
CI	Confidence interval
FP	Family planning
HCT	HIV counselling and testing
HR	Hazard ratio
M&E	Monitoring and evaluation
MNCH	Maternal, newborn and child health
OST	Opioid substitution therapy
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary healthcare
PMTCT	Prevention of mother-to-child transmission (of HIV)
SRH	Sexual and reproductive health
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counselling and testing
WHO	World Health Organization

1. Methodology

For this report, 'integration of HIV services' is defined as integrating or combining HIV services with non-HIV-specific services such as antenatal care (ANC), maternal, newborn and child health (MNCH) services, sexual and reproductive health (SRH) and family planning (FP), primary healthcare (PHC), tuberculosis (TB) treatment or treatment for substance abuse (opioid substitution therapy, OST). It can also include the integration of public and private health services or information, or structural integrations such as integrated voluntary counselling and testing (VCT) centres within health facilities (see further discussion on page 3). 'Impact evaluation' is defined as an evaluation that measures the net change in one or more outcomes using a valid counterfactual, which may be constructed experimentally or quasi-experimentally.

- The analysis in this scoping paper is based on three main instruments:
 - A review of the literature;
- A rapid evidence gap map, which displays existing impact evaluations according to interventions and their outcomes; and
- A survey of key stakeholders, including researchers and implementers in the field of health and HIV services.

1.1 Limitations

This paper was prepared during a fixed window of time to make information available upon the release of the 3ie request for proposals for grants under its thematic window in this area. This time constraint led to some limitations.

The evidence gap map is a rapid evidence gap map, meaning that fewer databases were searched than is typical, and thus we may have missed some studies. Even so, our top-level search returned 4,482 records from a relatively detailed search string, which demonstrates that the databases we selected were highly relevant.

We purposefully did not restrict the search to evaluations of programmes conducted in low- and middle-income countries, in order to capture all evidence that could be useful. As it turned out, the majority of included studies were of interventions in high-income countries, which suggests an even smaller evidence base given that external validity is likely to be limited for many of these studies.

The evidence gap map presents the quantity of evidence, but it does not present the findings from the evidence. Cells in the map that include occurrences from multiple studies reveal possible intervention and outcome combinations for evidence synthesis.

The sampling for the stakeholder survey was solely convenience sampling, and the response window was short. There is no way of knowing whether our respondents are representative of the larger stakeholder community. Our analysis is based on a relatively small sample.

2. Introduction

Providers of HIV and AIDS services, as well as researchers, continue to look for ways to improve HIV and AIDS treatment delivery, and there is a growing evidence base for what works. However, there is also an increasing realisation of a ‘treatment cascade’: the loss of patients along each part of the HIV care continuum (Gardner et al. 2011) from testing and diagnosis, to getting cluster of differentiation 4 (CD4) counts and enrolling in HIV care, to initiating antiretroviral therapy (ART), staying on treatment regimens and continuing in care to attain and maintain viral suppression.

A systematic review on retention in HIV care prior to initiation in ART finds significant patient loss at each stage of the care continuum (Rosen and Fox 2011). The existence of the treatment cascade, in spite of all the investments and programmes in HIV and AIDS services, suggests that there is a need not just for more innovation but also for rigorous evaluations to identify which innovations truly improve service uptake and retention efficiently and effectively. The goal is to get more of the people who test positive for HIV into care – whether that be counselling or ART – and to see them stay in care and adhere to treatment regimens.

As sustainability has become a more prominent priority in responding to HIV, international organisations have increasingly supported the elimination of parallel systems and the integration of HIV services into health systems (UNAIDS) 2010). Evidence on the integration of HIV services, although often lacking impact evaluation rigour, indicates that there is potential for increasing testing coverage, treatment take-up and retention, cost efficiency and cost-effectiveness. It also suggests that integration could help to address HIV-related social stigma, a factor in individuals’ willingness to test and seek care and treatment. In addition, there is some evidence to suggest that integrating HIV services with other services can improve non-HIV outcomes and outcomes related to the other health service(s) concerned.

In late 2013, the International Initiative for Impact Evaluation (3ie) launched an evidence programme to benefit policymaking and programme design related to the HIV treatment cascade. In early 2014, together with the Bill & Melinda Gates Foundation, which is funding the evidence programme, we refined the theme to concentrate on promoting innovation in the integration of HIV services with other health services, with the objectives of improving linkage to care, as well as treatment adherence and retention. The focal point of the programme is a 3ie grant window that will fund roughly six pilot interventions, as well as impact evaluations that will test whether the innovations work and provide information on why or why not this is the case.

This scoping report serves as a foundation for the grants programme and provides a description of the current state of impact evaluation evidence for the integration of HIV services, along with the needs for evidence as reported by stakeholders.

The structure of the scoping report is as follows. Section 2 presents the overall methodology for the report and its limitations. Section 3 presents the literature review, its methodology and findings. Section 4 presents the evidence gap map, its methodology and findings. Section 5 presents the stakeholder survey methodology and findings. In Section 6, we analyse the results across the three components and Section 7 concludes.

3. Literature review

3.1 Methodology

For the literature review, two of the authors conducted a basic search, starting with a snowball search of articles and reports already known to us. We then searched for the key phrases 'integration of HIV service' and 'HIV treatment cascade' in the same databases and websites searched for the rapid evidence gap map (see online [Appendix A](#)). We selected articles based on relevance to the theme but not study methodology. The search was not systematic or exhaustive. The literature review focuses on exploring the theories of change presented in the literature and assessing the state of evidence.

3.2 Findings

Although HIV testing, care and treatment coverage have been improving in Sub-Saharan Africa (UNAIDS 2012), there is strong evidence for a 'treatment cascade': a loss of patients at each stage of the HIV care continuum. A systematic review on retention in HIV care prior to initiation in ART found significant patient loss at each stage of the care continuum (Rosen and Fox 2011). Results for the 28 eligible studies indicated that the median proportion of patients retained between testing and receiving CD4 count results or clinical staging was 59 per cent. Between clinical staging and becoming ART-eligible, a median of 46 per cent of patients were retained. Finally, after becoming ART-eligible, a median 68 per cent of eligible individuals actually initiated ART (Rosen and Fox 2011). Multiplying out the medians, 18 per cent of patients who were not yet eligible for ART when they were diagnosed remained continuously in care and initiated ART (Rosen and Fox 2011). These findings highlight the severity of the retention problem in pre-ART care.

Loss after initiation of ART is substantial, but not quite as severe as that prior to ART. In a study in Malawi and Zimbabwe, the percentage of patients retained in ART after initiation declined from 84% at 6 months, to 80% at 12 months and to 77% at 18 months in Malawi, and from 88% to 84% to 82%, respectively in Zimbabwe (Rasschaert et al. 2012). A larger study in Zimbabwe from 2007 to 2009 showed similar attrition, with retention at 6 months at 90.7%, 12 months at 78.1%, 24 months at 68.8% and 36 months at 64%, with the greatest loss during the first 12 months (Mutasa-Apollo et al. 2014). Similarly, a systematic review of studies in South Africa found retention at 12 months to be 80% and relatively stable over time, decreasing to about 68% by 4 years (Rosen and Fox 2014). This loss of patients, or 'leaky cascade', has been cited in the President's Emergency Plan for AIDS Relief (PEPFAR) Blueprint as a priority area for implementation research (Office of the Global AIDS Coordinator 2012).

Integrating HIV with other health services has been approached differently in a wide variety of settings, and there remain several different understandings of the definition of integration. This report addresses the most common understanding of integration, relating to horizontal integration at the point of service delivery, although this mechanism can range from structured referrals to the physical incorporation of services within the same facility (Shigayeva et al. 2010). In addition, integration can range in terms of how far services are fully integrated into the system (Atun et al. 2010). Healthcare integration can also be considered as part of a larger system of coordination at the policy and

planning levels, including human resource management and financing, often referred to as 'linkages' (Sweeney et al. 2012).

While there has been an expressed need for more cost-effectiveness studies in this area (Lindegren et al. 2012), a systematic review of the costs and efficiencies of integrating HIV and other health services conducted in 2012 identifies 46 relevant studies, including cost analyses, cost-effectiveness analyses and least-cost analyses (Sweeney et al. 2012). The review includes five studies of integrating HIV counselling and testing (HCT) services into other health services, all of which found that unit costs were consistently lower for integrated services compared with stand-alone facilities (savings range between 31% and 79%). Another 11 studies evaluated the cost-effectiveness of integrating HIV treatment into general health services, a one-stop-shop model. The systematic review authors conclude that integrated HIV treatment and care services are feasible and cost-effective, but they highlight a lack of evidence for populations at higher risk of exposure to HIV, and the need for more empirical evidence on the most efficient processes of integration.

HIV services have been integrated with an array of other health services, including ANC clinics, FP and SRH services, as well as PHC, TB care (which is highly correlated with HIV), OST and adolescent health services. Evidence on the effect of integration, especially on key HIV outcomes, is relatively limited but there is some evidence of the effect of integration on outcomes related to the other health services, such as the uptake of contraception.

A systematic review on the integration of ART services with MNCH services, TB treatment or OST programmes (and also the decentralisation of ART to PHC, and community-based ART compared with hospital provision) found that, generally, integrating ART into other health services improves ART coverage and that it is not associated with adverse outcomes (Suthar et al. 2014). Specifically, integration with MNCH services resulted in no difference in retention (one study) or ART coverage (one study), or it resulted in improved ART coverage (three studies).

Similarly, for HIV service integration with TB treatment programmes, the systematic review found that nine studies reported improved ART coverage and three reported similar coverage. In addition, two of the studies reported reduced mortality in the integrated model, and two others reported similar mortality. The systematic review authors only found two studies on the integration of ART with OST that met their inclusion criteria (of having a comparison). Of these, one study reported similar ART coverage for integrated compared with separate care settings, and the other showed similar retention and mortality between the two groups.

3.2.1 General and primary healthcare

A study comparing seven vertical ART programmes and 10 programmes integrating ART into general healthcare services (Greig et al. 2012). The authors find that, even though people initiated ART in integrated programmes at more advanced stages of infection, compared with those who initiated in vertical programmes, they had similar rates of mortality and a lower rate of loss to follow-up (adjusted hazard ratio (HR) 0.71; 95% confidence interval (CI): 0.61 to 0.83). The authors conclude that integrating ART provision into general health programmes results in good outcomes.

Similarly, a study integrating HIV services into lower levels of care (PHC clinics that were not previously classified as ART assessment clinics), and shifting the provision of services to nurses, finds that greater integration of services is correlated with improved survival, although results are partially attributed to increased staffing to patient ratios (Uebel et al. 2013). It also finds that integrating HIV care into PHC is associated with better survival for patients with CD4 counts at less than or equal to 350, supporting the provision of ART in PHC.

Another study in Rwanda finds that integrating basic HIV services into PHC clinics did not result in declines in other services (Price et al. 2009). Instead, some other services saw improvements, especially reproductive health.

However, another study from Mozambique, which compares stand-alone HIV clinics to PHC that integrated HIV services as part of a large-scale government programme, finds that loss to follow-up was higher among integrated HIV primary clinics (HR 1.75; 95% CI: 1.4 to 2.94) (Lambdin et al. 2013).

3.2.2 Antenatal clinics

Killam et al. (2010) find that integrating HIV services into ANC clinics in Lusaka, Zambia increased the proportion of women who enrolled into ART care within 60 days of an HIV diagnosis, compared with the control group of women at ANC facilities who were referred to separate ART clinics (44.4% compared with 25.3%, adjusted odds ratio 2.06, CI 1.27 to 3.34). The study also finds that integration doubled the proportion of women initiating ART during pregnancy (32.9% compared with 14.4% in the control group, adjusted odds ratio 2.01, CI 1.27 to 3.34).

Van de Merwe and colleagues (2006) studied the weekly visits made by health workers from an ART clinic to a local ANC clinic in order to conduct HIV treatment. They find that integrating ART clinic aspects within ANC care, with referral to linked ART facilities, led to reduced delays between HIV diagnosis (at the ANC clinic). Referral to ART clinics and treatment initiation was reduced from 56 to 37 days ($p=0.041$).

Implementation of prevention of mother-to-child transmission (PMTCT) of HIV services in ANC clinics has generally been shown at least not to have a negative impact on ANC (for example, Lindegren et al. 2012, Delvaux et al. 2008). In one case, adding PMTCT services both improved the quality of antenatal services and increased the uptake of HIV testing (Delvaux et al. 2008). However, there does seem to be some dependence on how the programmes are implemented. A PMTCT programme that was implemented without added involvement with research studies (compared with a study arm that incorporated research activities) showed a slight decline in routine syphilis screening (Potter et al. 2008). It is unclear whether the decline was due to increased staff responsibilities because of the new HIV activities, hesitation on the part of clinic attendees about agreeing to give blood in the clinic because of the associated HIV services, or other reasons.

In addition, a study in Rwanda finds that expanding HIV services from stand-alone PMTCT to also include ART almost doubled enrolment in ART services, including CD4 count assessment (Tsague et al. 2010). However, there was no difference in the treatment of women who were eligible for highly active ART.

3.2.3 Family planning and sexual and reproductive health

Integrating HIV services with FP services has also been shown to be effective in increasing both HIV outcomes and FP. In an evaluation of integrating FP services into VCT services in Rwanda, the authors find that the percentage of women using hormonal contraception increased from 16% to 24% after the intervention ($p=0.02$). The rate of incident pregnancies also decreased after the intervention, for both HIV-positive and HIV-negative women (King et al. 1995). In the US, the integration of a maternal and child health programme into an HIV programme resulted in a statistically significant difference in patients attending 75 per cent of their appointments at 6-month and 12 month follow-up periods between women and men, where prior to the integration there was no difference (Kissinger et al. 1995).

A systematic review on the linkages between SRH and HIV interventions included 35 studies, 18 of which are from Africa. The authors conclude that the majority of studies show improvements in all measured outcomes and find sufficient evidence to recommend linking SRH services with HIV services 'at the policy, systems and service levels' and 'in both directions where feasible and appropriate', since it is 'demonstrated to improve outcomes' (Kennedy et al. 2010 p.8).

3.2.4 Child health

While there appears to be an even more limited number of studies on integrating children's health services and HIV services, one study of the effect of integrating HIV testing into community-based child malnutrition services found a high uptake of HIV testing (97%), compared with 64 per cent in a retrospective cohort (Bahwere et al. 2008). However, the lack of a control group in that study makes nutritional and other outcomes of service integration difficult to interpret.

3.2.5 Tuberculosis

There is stronger support for integrating TB and HIV services, including from the World Health Organization (WHO 2012; 2013). A study in Capetown, South Africa assesses the impact of adding ART initiation to a TB clinic that already offered HIV testing, CD4 counts, co-trimoxazole prophylaxis and FP, but previously referred treatment-eligible patients to a separate ART clinic for treatment (Kerschberger et al. 2012). The study finds that adding ART initiation to the range of services improved the probability of initiation (1.6 adjusted HR, 95% CI: 1.11 to 2.29) and may have also improved the time between HIV testing and ART initiation, which decreased from 147 days (95% CI: 85 to 188) to 75 days (95% CI: 52 to 119).

Another before-and-after study in Kenya also finds encouraging results (Huerga et al. 2010), although the baseline is difficult to determine. There appears to have been an increase in HIV testing, at least in the timeframe between shortly after health service integration (6–12 months) and later (18–24 months). The number of HIV-positive patients receiving co-trimoxazole prophylaxis increased from 47% for the 6 months prior to integration to 93% 6–12 months after integration, and 86% 18–24 months after integration. Among patients needing ART, 9% were receiving the therapy prior to the health service integration, 46% shortly afterwards, and 41% at the later follow-up. In addition, patients' TB outcomes improved. However, the HIV prevalence rate was estimated, and 65% of HIV-positive TB patients were assumed to be in need of ART.

3.2.6 Outcome measures

While the evidence on the effect of integrating HIV services into other health services is limited, studies measuring the effect of other types of interventions on linkage to care, and adherence and retention, can lend some insight on anticipated or recommended measures or indicators to evaluate the effect of service integration on the same outcomes. A systematic review by Kranzer et al. (2012) uses a definition of being assessed for ART eligibility as the first step after diagnosis, and likens it to linkage to care, although they also refer to several studies that report on the number of patients who returned for their CD4 count results.

The systematic review of pre-ART retention by Rosen and Fox (2011) defines three stages of HIV care prior to ART. Stage 1 is from HIV testing to the receipt of CD4 count results or clinical staging, which equates linkage to care with either getting a CD4 count test, receiving the CD4 count results or with clinically staging an individual. Retention in pre-ART care is further defined in two additional stages: stage 2 is from staging to ART eligibility, and stage 3 is from ART eligibility to ART initiation.

During ART, attrition and retention have been measured at various time points. In a systematic review of Sub-Saharan African studies, Fox and Rosen (2010) assess retention at 6, 12, 24 and 36 months, and find that most attrition occurs within two years of ART initiation. In a second systematic review of South African studies (Rosen and Fox 2014), they find that attrition is relatively stable after 12 months, having assessed measures up to five years.

Adherence measures vary widely (Reda and Biadgilign 2012). Due to its relatively low cost and feasibility, self-reported adherence has been used widely (Vreeman et al. 2008; Berg and Arnsten 2006) and is correlated with viral load and clinical outcomes (Nieuwkerk and Oort 2005). However, there is some variation with this method, and confirmation with viral load testing (Nieuwkerk and Oort 2005) and use of multiple measures (Liu et al. 2001) tends to be more reliable. Measures such as pill count, use of mechanical pill bottles, directly observed therapy and measurement of surrogate biomarkers may be less prone to bias, but high costs and other logistical reasons have prevented their wider application in Sub-Saharan Africa (Reda and Biadgilign 2012). Pharmacy refill data has also been used, but is limited if patients use more than one pharmacy (for example, Turner 2002). On the other hand, studies have shown good correlation between adherence and viral suppression when pharmacy data have been used.

The currently available literature on the impact of integrating HIV and other health services on HIV care outcomes along the care continuum appears relatively limited and lacking in rigour. Although there are clearly a growing number of initiatives to integrate these services, few have been rigorously evaluated. However, these studies can still provide insights into which services are likely to be integrated, what is showing promise, and how best to evaluate their effectiveness.

4. Evidence gap map

4.1 Methodology

This evidence gap map (see online [Appendix A](#)) is a matrix of intervention categories (rows) and outcome indicators or indicator categories (columns). It displays included studies in the map cells according to what is tested and measured in the study. The evidence gap map allows the reader to see at a glance where there is, and is not, existing evidence (see Snilstveit et al. 2013). The search and screening methods are described in online [Appendix B](#).

The map itself does not present the results of the studies or synthesise their results, but it does include hyperlinks to either a summary of each study or the source of the study to allow the reader to access the evidence quickly. We used a 'rapid' method that limited the search to the most relevant databases for qualifying impact evaluations and screened on study methods and topics, without conducting a full critical appraisal.

The rows in the evidence gap map are interventions – typically by type or category, not by individual programme – grouped by a similar theory of change. The columns are outcome indicators, also typically by type or category, which may measure results (outputs, outcomes or impacts) at different stages along a causal chain (or logical framework).

We built the framework for this rapid evidence gap map using a consultative process. We invited stakeholders in HIV testing, care and treatment programmes to one of two meetings. The first meeting was in Cape Town, South Africa at the International Conference on AIDS and STIs in Africa on 10 December 2013. The second was in Washington, DC on 23 January 2014. Implementers, researchers and policymakers from the World Bank, the US Agency for International Development, Office of the US Global AIDS Coordinator, Management Sciences for Health, John Snow Inc., FHI 360, Pangaia Global AIDS, the Fremont Center, Population Council and Measure Evaluation participated. During each meeting, we facilitated a brainstorming process to identify possible types of interventions to address linkage to care, adherence and retention, as well as possible indicators to measure these concepts. These contributions were used to structure the evidence gap map's rows and columns.

In the resulting framework, we categorise integrated services in three sections: HCT, pre-ART services and ART services. For each of these, we list the other health services that might be integrated with these services. We categorise the outcomes by linkage to care, adherence and retention.

We then populated the evidence gap map by conducting a rapid, but systematic, search of relevant databases and screening all hits according to whether the studies meet the requirements of at least one cell in the matrix and according to 3ie's mapping methodology. This gap map includes only impact evaluations. Although systematic reviews that present meta-analysis of effectiveness would have been eligible, none met all of our inclusion criteria.

Each study in the evidence gap map was coded and then listed in the matrix according to all interventions evaluated and all of the outcomes measured. Therefore, a study may

(and often does) appear in more than one cell. Matrix cells may also be blocked out to represent cases where a particular intervention would never be expected to result in a particular outcome. We summarise the results of the evidence gap map in this report.

4.2 Findings

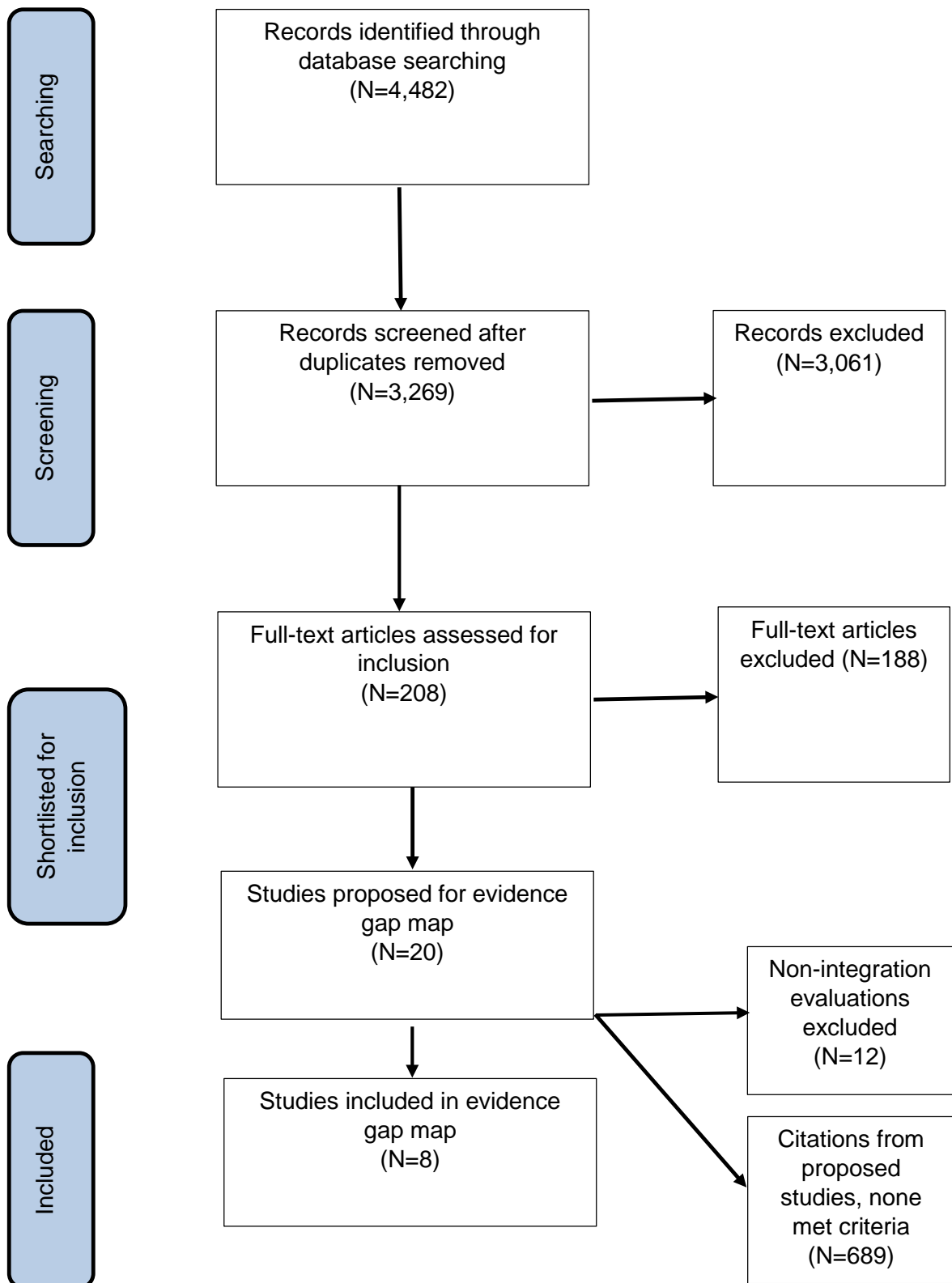
Figure 1 depicts the results of the systematic search and screening for the rapid evidence gap map. See Appendix B for the detailed search and screening strategy. The search yielded a total of 4,482 studies; 3,269 studies remained after removing duplicates.

We screened the titles and abstracts of these records and rejected studies that clearly did not meet the screening criteria. We thus excluded 3,061 and passed 208 studies to full-text screening. Approximately 80 per cent of the studies were rejected because the evaluation was not an impact evaluation (all of these studies had some type of evaluation). At the full text stage, we included the 208 studies that met all of the screening criteria.

This final, full-text screening resulted in 20 impact evaluations that fully matched the criteria. We performed a snowball search of citations from these 20 studies, but no additional eligible impact evaluations were found. However, closer inspection of the 20 impact evaluation studies of integrated services revealed that, in many cases, service integration was not the focus of the evaluation. Instead, the tested intervention happened to occur in an integrated service environment.

For example, two studies assess the effect of directly administered medication versus self-administered medication among substance abuse populations (integration of HIV services with substance abuse services) (Berg et al. 2011; Macalino et al. 2007). This impact evaluation compares directly administered medication, not the integration of HIV services with substance abuse services versus not integrating those services. In fact, many of the studies involving substance abuse populations are similar: the impact evaluation compares two different mechanisms or approaches to see if one improves adherence to ART, but both control and intervention are in an integrated environment. After removing the studies that did not evaluate the actual integration of HIV and other health services, only eight studies could be included.

Figure 1: Evidence gap map search and screening results



The results in the evidence gap map indicate that there is only a limited amount of high-quality evidence on the effect of integrating HIV services with other health services, although the literature review clearly reflects that the integration of services is increasing. In many cases, evaluations do not use any kind of control or comparison group, but instead report only coverage statistics (of testing, treatment or retention) at a certain time point after integration. In other cases, there is a comparison group but it is not a robust counterfactual: the assignment to treatment and control is not randomised, or the analysis does not adjust for selection bias from non-randomised assignment. The systematic search and screening methodology for the evidence gap map does, however, reveal several impact evaluations that were not found using a simple literature review methodology.

There is even more limited evidence on cost-effectiveness of integrating HIV and other health services. Only one study, assessing the integration of services for people who are triply diagnosed – who live with HIV and are diagnosed with mental health and substance abuse disorders – looks at the cost-effectiveness of integration (Weaver et al. 2009).

Of the eight studies that evaluate service integration, six are randomised controlled trials at the individual level, one is a cluster randomised controlled trial and one uses matching at the cluster level. The countries covered are Zambia, South Africa (3) and the US (4). Two of the three South African studies are different analyses of the same intervention, the integration of TB or HIV and PMTCT through community health workers. All of the US studies cover interventions integrating substance abuse therapy with HIV services. The sample sizes for the eight studies range from 93–10,638. All of the studies are published in journals, with published findings including positive, null and negative results on the outcomes studied.

The full evidence gap map is in online Appendix A. It has 19 rows representing intervention categories and 21 columns representing outcome types, grouped into six different categories. Given the variety of both HIV services and the other health services that we explore, there is a large number of possible combinations for the interventions. To present the findings in the evidence gap map, we group the HIV services according to three sections of the care continuum: HCT; pre-ART care and other HIV medical care or management of co-morbidities; and the provision of ART.

The columns include some very specific indicators (such as pill counts) as they are frequently used in studies, as well as some outcome categories (for example, patient satisfaction) that may cover several different indicators. We group the columns according to linkage to care, retention in pre-ART care, retention in ART, adherence to ART and secondary outcomes. The secondary outcomes are outcomes measured by several studies that do not capture linkage to care, retention or adherence directly but may still be useful for understanding the effects of the service integration.

The shaded cells represent cases where the outcomes are outside of the objectives in combining the particular services. For example, integrating HCT with maternal and child health is not intended to improve adherence. We shade the cell so that it does not appear that evidence is 'missing' for the impact of this intervention on adherence.

The eight included studies appear in the evidence gap map as 18 occurrences, meaning that, on average, each study presents evidence for just under two combinations of intervention and outcome. While there are studies that evaluate more than one intervention, the majority of multiple occurrences arise from multiple outcomes.

Table 1 presents a summary of the evidence gap map. The table collapses the columns into six outcome groups: linkage to care, retention in pre-ART care, retention in ART, adherence to ART, cost-analysis and secondary outcomes. The number in each cell reports the number of studies that occur in the evidence gap map for each integrated service across the five outcome groups. Cells are shaded where there is no expectation of studies and the absence is not considered to be a gap. For example, an HIV testing intervention may assess linkage to care, but would not generally assess retention after ART initiation.

Table 1: Number of occurrences of impact evaluations that evaluated integrating HIV and other health services by outcome of interest

	Linkage to care	Retention pre-ART	Retention ART	Adherence ART	Cost-effectiveness	Secondary outcomes
HCT						
MNCH	2					
SRH or FP						
TB	3					
Substance use	2	1				
PHC						
Public-private						
Integrated VCT						
Pre-ART						
MNCH						
SRH or FP						
TB						
Substance use						
PHC						
Public-private						
ART						
MNCH		3				
SRH or FP						
TB						
Substance use			1	3	1	2
PHC						
Public-private						

The table shows that there is a concentration of evidence on the effect that integrating HCT services with other services has on linkage to care, and on the effect that integrating ART services with other services, particularly substance use, has on retention and adherence. One study produces three occurrences for the effect of integrating substance use services with HCT on linkage (referral to care, referral to CD4 testing for staging) and pre-ART retention (receiving CD4 results), making the integration of substance use services clearly the most rigorously evaluated. There are also three impact evaluations of integrating HCT services with TB services, evaluating their effect

on linkage to care, and two impact evaluations assessing the integration of HIV, TB and PMTCT (MNCH) services.

There are no impact evaluations on the effect of integrating pre-ART care with other health services. In addition, there are no impact evaluations of integrating HIV services with SRH and FP, public-private integration or structural integration.

In sum, the evidence gap map shows that a small number of counterfactual impact evaluations have been conducted in the last decade, most in just the last five years. The research has concentrated on HCT and ART, with no study of the effectiveness of integrating pre-ART services with other health services on the primary outcomes.

5. Stakeholder survey

5.1 Methodology

Finally, we developed a survey using SurveyMonkey to learn about knowledge and perceptions of evidence quality for, the interventions and outcomes in the evidence gap map. The survey appears in online [Appendix C](#). We sent the survey link to all HIV and health researchers and practitioners ('stakeholders') for whom we had contact information, and asked them to forward the survey link to any others who might be interested.

The survey collects information about each respondent's organisation and their personal work or research. The survey then asks about the respondent's knowledge and perceptions about the strength of evidence on various areas of HIV and health service integration for five different outcomes: identification of HIV-positive individuals; linkage to care; adherence to treatment; retention in pre-ART care; and retention in ART.

In particular, the survey collects views on the strength of evidence in six combinations of service pairings and intended outcomes:

- The integration of HCT with other health services to improve the testing and identification of HIV-positive individuals;
- The integration of HCT with other health services to improve linkage to care;
- The integration of pre-ART services with other health services to improve linkage to care, and integrating pre-ART to improve retention in pre-ART care;
- The integration of ART with other health services to improve treatment adherence; and
- The integration of ART other health services to improve retention in ART.

The survey also asks about indicators to measure linkage to care, and treatment adherence and retention, and about time points at which retention in care should be measured. Finally, it asks about evidence that respondents feel is most needed, both for themselves, and for the field generally. Unfortunately, time constraints mean that the survey was only live for a short period of time. We analyse the data primarily using descriptive statistics.

5.2 Findings

We conducted the stakeholder survey to gauge stakeholders' perceptions of the state of the evidence on the effectiveness of integrating HIV services with other health services, particularly evidence related to improving HIV testing rates, linkage to care, adherence to treatment, and retention in pre-ART and ART care. We also used the survey to ask respondents about potential indicators to measure linkages, adherence and retention, and polled respondents on their own, and the field's, needs for additional evidence.

We sent survey invitations to 117 people, with a request to forward the invitation to any and all other stakeholders they knew. At the time of analysis, 23 respondents had returned completed surveys. The majority were from academic institutions (65%), with another 13% from implementing agencies (NGOs or international development organisations). Low- and middle-income country governments, health and other research organisations made up the rest of the respondents.

Over half of the respondents (68%) work in prevention, and roughly 41% work in pre-ART and ART care (the categories are not mutually exclusive). Also, 41% reported working in monitoring and evaluation (M&E) and 45% in programmatic research. Most (70%) reported having 5–19 years of experience in health or HIV-related areas. All but one respondent works in, or their work focuses at least in part on, Sub-Saharan Africa. There is a concentration of four returned surveys from Kigali Health Institute, University of Rwanda.

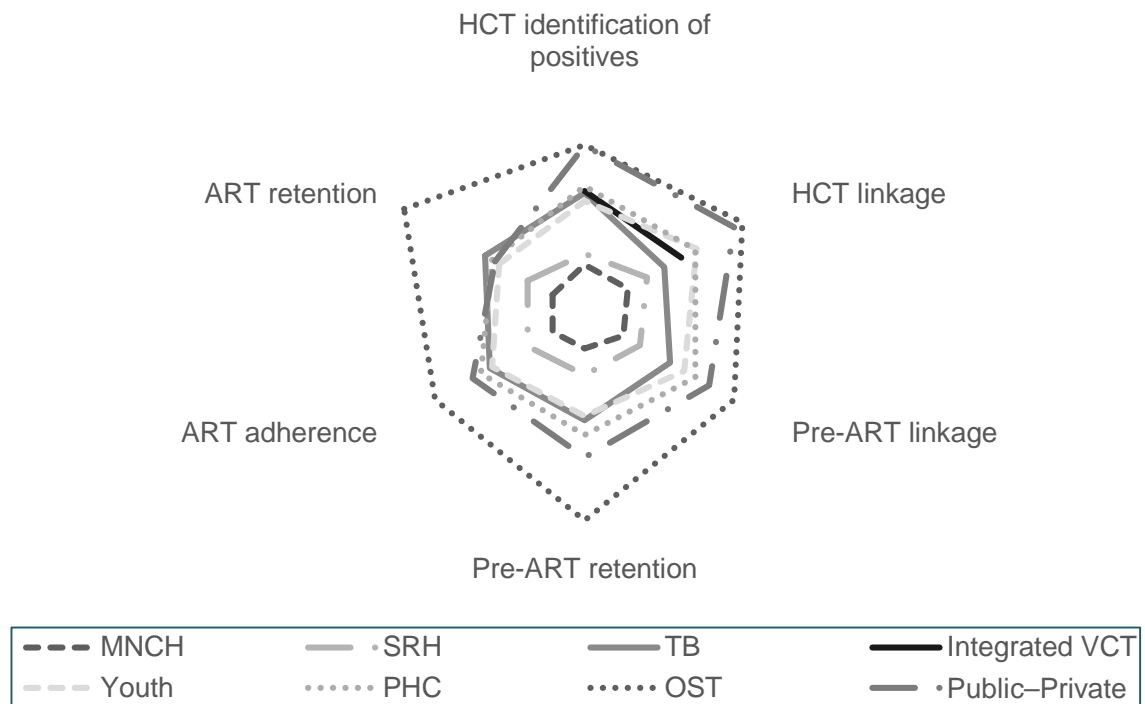
5.2.1 *Strength and type of evidence available*

To help assess the strength and type of evidence, the survey asked respondents to rank the strength of evidence for integrating six combinations of HIV service outcomes with each of eight possible other health services:

- HCT for testing
- HCT for linkages
- Pre-ART for linkages
- Pre-ART for retention
- ART for retention
- ART for adherence.

Figure 2 displays the average ranking of the other health services across the respondents. Points nearer to the centre of the figure represent a higher ranking, i.e. a perception of stronger evidence, and points near the outer edge represent a lower ranking, i.e. a perception that the evidence is weaker for this health service relative to other health services that might be integrated with HIV services. Note that the survey asked respondents to rank only the non-HIV services for which they thought there was evidence supporting the benefit of integration with HIV services.

Figure 2: Average rank for strength of evidence for integrating eight categories of health services with different types of HIV services for outcomes along the cascade



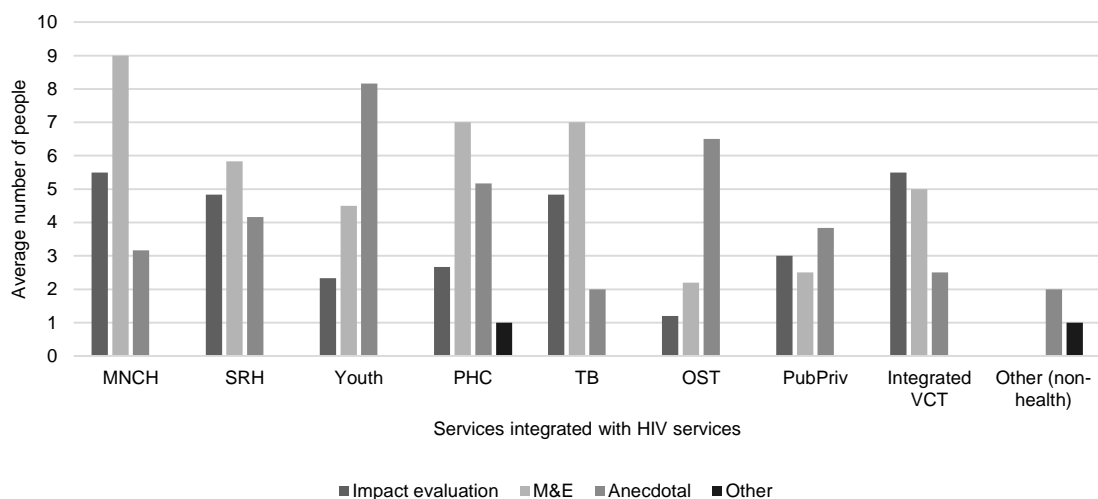
The figure shows that respondents perceive that the strongest evidence for integration relates to integrating HIV services with MNCH services and with other SRH services and FP, followed by TB, youth and PHC. The health services for which respondents ranked the strength of evidence as low are OST and ‘other’ (not shown). The figure also shows that, on average, respondents ranked the health services similarly across the various HIV service or outcome combinations. That is, the hexagrams in the figure are roughly concentric. For example, the strength of evidence for integrating MNCH services with HIV services is ranked highest for HCT for linkage and for ART for adherence, and so on.

Figure 3 presents data from the follow-up questions in the survey, which asked the respondents to report what kind of evidence they considered when ranking evidence strength. Respondents could select any or all of the four types of evidence. Each set of bars in the figure shows the prevalence of these four evidence types for assessing the relative strength of evidence for integrating that health service with all six combinations of HIV services or outcomes on average. For example, the bars for MNCH show the prevalence of each type of evidence that determines the six rankings forming the inner hexagon (rank of strength of evidence) in Figure 2.

Looking at the data for MNCH in Figure 3, we see that M&E evidence strongly influences perceptions. In fact, M&E is the highest reported source of evidence for four of the nine types of health services, and the second reported source for three of the other five. Impact evaluation research only receives the most ticks for structural integration, although the difference with M&E is very small and this integration was only queried for HCT. Perhaps more strikingly, respondents report that they consider anecdotal evidence much more than other types when ranking youth health services and OST. Youth health

services rank roughly in the middle in terms of strength of evidence (see Figure 2). However, OST ranks second to last, which we hope reflects that the evidence considered by respondents is primarily anecdotal. As we discuss in the next section, the results of the survey are highly inconsistent with the results from the evidence gap map.

Figure 3: Average number of people (over all six service integration combinations) who cited each type of evidence for determining the strength of evidence regarding integration of HIV services with other health services



Note: Integrated VCT was only rated for two integration combinations: the combination of HCT with other health services for improving the identification of HIV-positive individuals, and the combination of HCT with other health services for improving linkage to care.

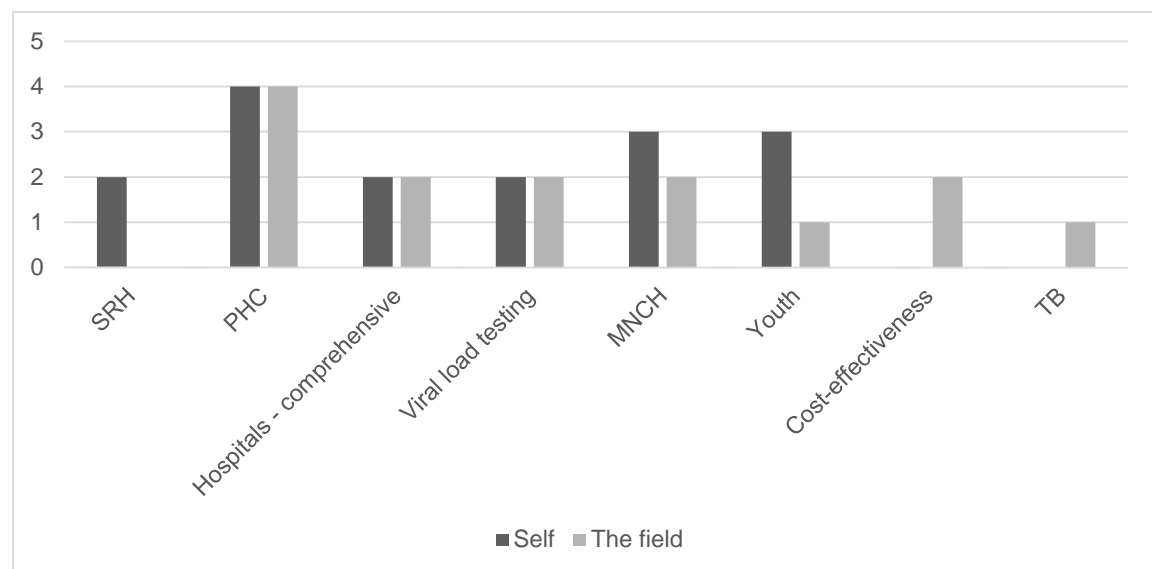
5.2.2 Need for more evidence

The survey also asked open-ended questions about: which areas of service integration the respondent would personally like to see more evidence for; and which areas of service integration the respondent thought evidence was most needed for, in the general field of HIV services (see Figure 4). Perhaps not surprisingly, most people answered the same for both questions, but there appears to be no general consensus across respondents. A few people listed more than one area. For personal interest, four respondents mentioned that evidence on HIV service integration with primary health services or more general health services would be helpful. One noted that, while ‘current practice provides comprehensive care centres (CCCs) ... these focus on specific populations (women, people with HIV and TB). Integration should be expanded throughout the hospital system. Services such as testing could be provided in all service points.’

Two respondents mentioned integration with youth services, and one person answered adolescent and child adherence and retention. Three respondents cited outcomes or processes – linkage to care, adolescent and child adherence and retention, viral load testing centres – rather than service integrations. One commented, ‘I would be interested to find ways to improve testing and linkage to care. So many HIV-positive individuals never initiate care. We need to find better ways to make sure that happens.’ Even though integrating SRH with MNCH was generally viewed as having stronger evidence in the earlier survey questions, three respondents were still interested in more evidence in this area.

For the general field of HIV services, one respondent wanted to know ‘which areas of integration are most effective (including cost-effective) for increasing access to services’. The respondent who mentioned CCCs and hospitals suggested that CCCs needed better impact evaluation, and that there was not a lot of it. The same respondent also wanted to know about ‘pathways downstream and upstream of the hospital infrastructure’. Another respondent suggested that evidence on integrating HIV services with PHC was most needed but noted that, although this could produce the most impact, it could be ‘costly or difficult to do well’. Four respondents mentioned that the field could benefit from more evidence on HIV service integration into general health services.

Figure 4: Number of respondents who said more evidence is needed on integrating HIV services with a particular service, for themselves, and for the HIV field generally



Another set of questions asked, for each combination of HIV service category and outcome group, whether any areas of integration might not be beneficial. For HCT services, a few respondents answered instead that there were populations that might not be reached through integrated services. One respondent said that some men would not go to clinics with their wives, or get tested at all, and that youths were not inclined to visit VCTs. Another respondent mentioned that remote or marginalised populations might be better served with mobile VCTs. Some respondents mentioned the cost of services, either direct or indirect, as a potential problem.

No respondents suggested that integrating pre-ART or ART care and treatment into other health services would not improve linkage to care, retention and adherence (three respondents specifically indicated that there are no areas where integration would not improve the outcome).

5.2.3 Proposed outcome measures and ways to measure them

The survey asked respondents to select from a list what they would use as their preferred standard measure for the different outcome groups, if they could only use one. For linkage to care, respondents were more likely to select ‘enrolled in care within a specified number of days of receiving HIV test result’ than ‘CD4 count’. A few noted that receiving a CD4 count result within a specified period of time could be significantly

dependent upon supply. For those who selected 'enrolled in care', the survey asked what number of days should be specified. The responses varied from 2–90 days.

When asked to select a standard definition of 'loss to follow-up' in both pre-ART care and ART, respondents were split between basing this definition on a set number of missed clinic visits and a set number of months since the last clinic visit. Most respondents favour the same measure for both pre-ART and ART services. The survey also asked how many missed visits or months elapsed should count as loss to follow-up. Overall, the number of months was split between 3–6 months for pre-ART and leaned towards three months for ART. Respondents who chose a definition based on missed visits showed no agreement, suggesting 1, 2, 3 (for both pre-ART and ART) or even 6 missed visits (for ART).

Half of those who selected a standard measure to assess adherence favoured using viral load. Most of the other respondents selected the 'other' option and suggested measures of self-report, clinic attendance or multiple measures. One respondent selected CD4 counts. Interestingly, no respondents selected pill counts as a standard measure to assess adherence.

The survey also asked at which time-points respondents would want to measure retention in ART. In theory, these time-points would be selected to capture when attrition is most likely. Respondents could enter up to six time-points. Responses include 1, 3, 6, 12, 24 and 36 months, and one respondent said 48 months. Two mentioned only one month, but when answering why they picked their time-points, they focused on assessing whether someone is lost to follow-up rather than 'still retained'. The reasons given by others for the time-points they picked centred on their understanding that many patients are lost early on, and therefore assessments should focus on the early months. It was also mentioned, however, that collecting data prior to six months might be too expensive.

Finally, the survey allowed for an open-ended comment on anything else. One respondent commented that some available studies looked at integration for HCT, but neglected ART. Another pointed to a study that supports the integration of HIV services at lower-level or community facilities, and suggested that studies such as that should result in policy changes. One respondent was interested in HIV vaccine research, and another suggested a need to address access to ART for HIV-positive children of couples where one parent is not aware of the other's HIV-positive status. In addition, in rating evidence, two respondents mentioned a need to consider integrating HIV services with non-health services, since some people do not access clinical services. One suggested job training programmes as an example of a non-health service that could be integrated with HIV services.

The survey suggests that stakeholders are relatively comfortable with the idea of integrating services, see few disadvantages and would especially like to see more rigorous studies on the integration of HIV services into general health services, both at lower level health facilities and more comprehensively in a hospital environment. There is a perception that there are a number of rigorous studies, and M&E data, supporting the idea of integrating MNCH services, SRH services and TB treatment with HIV services, as well as for integrated VCT centres. There is also a perception that most studies around integrating HIV services with OST or youth services are anecdotal.

6. Discussion

Based on the literature review, integrating HIV services into other health services seems feasible, and in many cases beneficial. While in some cases integrating these services led to limited improvements in health outcomes, or negligible cost savings, most studies do not assess both areas, and in many cases there were significant improvements. While many of the studies found and cited in the literature review are not rigorous impact evaluations (some are before-and-after studies or use monitoring data), the positive results indicate that, in many cases, the programmes appear to be successful. Additionally, the literature review demonstrates that many approaches are being tried in many different environments. This points to a need to evaluate these different approaches in order to identify which are the most effective and the most cost-effective.

However, the evidence gap map clearly shows the dearth of impact evaluation evidence in this area. The most notable evidence gap shown in the map is evidence related to the integration of other health services with pre-ART care. The search and screening process uncovered only one study, which also looks at ART services, integrated with substance use services. That study measures only outcomes that are secondary to those we are considering here. At the same time, we saw in the literature review that the estimates in one attrition study suggest that retention from HIV testing to initiation of ART can be as low as 18 per cent (Rosen and Fox 2011). There is clearly a need to test innovations for pre-ART care services.

The dearth of impact evaluation evidence, as shown in the evidence gap map, also helps to explain why survey respondents were often more likely to use M&E and anecdotal evidence. In fact, there are cases where respondents reported using impact evaluation evidence when there is no impact evaluation evidence available. A notable example is structural integration, or the integration of VCT centres within general health facilities, where more respondents reported using impact evaluation evidence than other types of evidence, yet there is no impact evaluation study. This anomaly suggests that many stakeholders are still rather naïve about the types of evidence available, and which type should be used for which kind of decision.

Survey respondents felt that there was strong evidence supporting the integration of MNCH with HIV services. Although they admitted they were considering M&E evidence more than research (or impact evaluation) evidence, several respondents did report that they were considering impact evaluation evidence. Yet the evidence gap map reveals that there are only three impact evaluations that measure the effect of integrating MNCH services with HCT, and just one that measures the effect of integrating MNCH with ART. The perceptions that the evidence base is strong are supported by some of the non-impact evaluation studies presented in the literature review, which generally show positive or neutral outcomes. However, some of these studies report outcomes related to PMTCT, not linkage to care, retention or adherence. The one impact evaluation of providing ART in antenatal clinics finds that the integration 'doubled the proportion of treatment-eligible women initiating ART while pregnant' (Killam et al. 2010p.1). Taken together, the results from the literature review, evidence gap map and stakeholder survey suggest that MNCH services is a promising area for integration with HIV services, but that much more rigorous evidence is needed.

In contrast, survey respondents ranked OST quite low relative to other health services in terms of the strength of evidence supporting integration with HIV services but the evidence gap map shows that this area has the largest evidence base, with four impact evaluations. Even more strikingly, survey respondents based their answers regarding the strength of evidence mostly on anecdotal evidence.

It is outside the scope of this report to synthesise the results of those four studies. However, the survey results suggest that the evidence is not widely known or used. The studies all come from high-income countries, which may help to explain the disconnect. Innovators exploring OST and HIV service integration should draw on the existing evidence base to ensure that new interventions benefit from those lessons.

SRH and FP is the potential integration ranked second in terms of perceived evidence strength. Yet there are no impact evaluations covering this area. This finding is consistent with the high number of respondents who said that they were using anecdotal or M&E evidence and the low number who reported using research or impact evaluation evidence. The literature review reports some evidence that this combination benefits FP outcomes. In light of the lack of impact evaluations, the perceived strength of evidence supporting the integration of these services suggests that much can be gained from conducting impact evaluations of existing interventions, in addition to innovating new interventions and conducting impact evaluations of those innovations.

In their written responses, several survey respondents mentioned the integration of HIV services with PHC and general health services as an area where there is a need for more evidence. We found only two studies of this combination, both measuring the impact of interventions within these settings rather than the impact of the integration itself, so were therefore excluded from the evidence gap map. At the same time, the literature review finds non-impact evaluation evidence showing that integrating HIV services with general health services is cost-effective. Taken together, these results suggest that, not only is PHC or general health services a promising area for innovation and impact evaluation, it is an area where there may be substantial policy interest and benefit.

Integrating HIV services with other health services can serve many functions, including many that were not the focus of this scoping report. Other outcomes that are commonly assessed include improving outcomes related to the other health services and reducing the transmission of HIV. In addition, it is possible to integrate HIV services with non-health services. Many HIV-positive people, especially men, do not use the health system frequently, and it may be more successful to bundle HIV services with services that they use more frequently, such as job training, microfinance or work programmes. Because the main objective of this scoping report is to inform the development of a grant programme to fund interventions that integrate HIV services with other health services, with the goal of improving linkage to care, adherence or retention, evidence on these other types of outcomes and integrations was not evaluated.

The literature review demonstrates that many initiatives to integrate HIV and other health services already exist and that many approaches are being tried. However, the impact evaluation evidence on this integration is relatively limited, and the evidence on the effect of such integration on linkage to care, adherence and retention is even smaller. The

difference between the perceived strength and existence of evidence according to survey respondents, and the actual existence of impact evaluations, suggests both that more needs to be done to inform researchers, implementers and policymakers of the existing rigorous evidence base, and that more rigorous evaluations need to be done. The desire expressed by stakeholders for more evidence, especially in some key areas, suggests that funding innovations and evaluations related to the integration of HIV services into other health services could be highly beneficial.

7. Conclusions

Impact evaluation evidence on the effect of integrating HIV services with other health services is still very limited. While it appears that there is a growing number of service integration efforts, as well as strong international support for this kind of integration, more evidence is needed to inform decision-making and policymaking. To ensure that we are getting the most value from these integration efforts, we need more evidence on what works, why, how and at what cost.

When considering the literature review, evidence gap map and survey together, several integration areas emerge as particularly promising or relevant, although for different reasons. Stakeholders perceive that there is strong evidence, relative to other services, for supporting the integration of MNCH, SRH and FP services with HIV services. In fact, there is only rigorous evidence for integrating MNCH and HIV services, and much of it relies on the integration of HCT with PMTCT programmes. Conversely, stakeholders perceive that the strength of evidence for OST is relatively low, when there are in fact several impact evaluations, albeit from high-income countries, on this approach. It is important to test these innovations in low- and middle-income countries.

Several respondents would like to have more evidence on the impact of integrating PHC and general health services with HIV services. Cost-effectiveness analysis also suggests that this is a promising area for innovation. Finally, the most notable gap in evidence is for integrating other health services with pre-ART care. The treatment cascade estimates suggest, however, that this is a key drop-off point.

Online appendixes

Note to the reader: These online appendixes are published as they have been received from the authors. In some cases, basic copy-editing may have been done.

Online Appendix A: Integration of HIV services evidence gap map

This appendix is only available online and can be accessed from
http://www.3ieimpact.org/media/filer_public/2017/05/31/sp7-appendix-a.pdf

Online Appendix B: Detailed gap map search and screening strategy

This appendix is only available online and can be accessed from
http://www.3ieimpact.org/media/filer_public/2017/05/31/sp7-appendix-b.pdf

Online Appendix C: Stakeholder survey on HIV service integration

This appendix is only available online and can be accessed from
http://www.3ieimpact.org/media/filer_public/2017/05/31/sp7-appendix-c.pdf

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Although HIV testing, care and treatment coverage have been improving in Sub-Saharan Africa, a significant number of HIV-positive individuals still drop out of HIV care at various stages along the care continuum. Integrating HIV and AIDS services with other health services may be a way to make accessing HIV care more convenient and improve health and service outcomes for people living with HIV.

This scoping paper summarizes a range of activities 3ie undertook to assess stakeholder demands and priorities for generating new impact evaluation and systematic review evidence on the effectiveness of integrating HIV services. We found only a very limited evidence base for studies that assess the impact of the integration specifically. In addition, the demand assessment shows there is a disconnect between what stakeholders perceive exists and what actually exists.

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