

Original Research Article

Health system barriers and facilitators influencing TB/HIV integration in Ghana

Abstract

Introduction

A quarter of all TB cases in Ghana were HIV-positive at the end of 2012. The integration of TB and HIV services is anticipated to improve patient access to comprehensive care. Key health system components for successful integration are leadership and governance, health information systems, health financing, human resources for health, essential medical products and technologies, and service delivery. This paper explores the health system barriers and facilitators influencing TB/HIV integration in Ghana.

Study design

An interpretivist qualitative approach was employed and semi-structured interviews were used to generate data.

Place and Duration

The study was conducted in the Eastern Region of Ghana between May and July 2009.

Methodology

Three urban district hospitals with three different service delivery models with increasing levels of integration were purposively selected as study sites. Semi-structured interviews were conducted with purposively sampled TB/HIV patients, providers and managers. The audio recorded interviews were transcribed and thematically analysed using a-priori and emergent codes.

Results

Twenty nine participants made up of 18 HIV-positive TB patients, eight providers and three managers participated in the study. Barriers included inadequate capacity, poorly motivated staff, different financial and health information systems, irregular and misapplied funds as well as differences in access to services. Facilitators included political will, direct supervision, regular supply of drugs, and privacy and confidentiality.

Conclusion

The impact of facilitators needs to be enhanced to address related barriers. Standardisation of norms and values, as well as new staff training methods should be used to achieve staff behavioural changes towards integration.

39 **Abbreviations**

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretrovirals
CI	Confidence interval
CPT	Co-trimoxazole preventive therapy
DOTs	Directly observed therapy, shortcourse
GHC	Ghana cedi
GHS	Ghana Health Services
HIV	Human immunodeficiency virus
HTC	HIV testing and counseling
IQR	Inter quartile range
NGO	Non-governmental organisation
NHIS	National Health Insurance Scheme
OSS	One-stop shop
PIS	Partially integrated site
PLHIV	Person living with HIV
RS	Referral site
SD	Standard deviation
TB	Tuberculosis
UK	United Kingdom
VCT	Voluntary counselling and testing

41 1.0 Introduction

42 A TB/HIV policy was launched in Ghana in 2007, and the objectives were to
43 strengthen the health system to respond to the dual epidemic, decrease the burden
44 of TB in persons living with HIV (PLHIVs), and decrease the burden of HIV among
45 TB patients [1]. At the end of 2012, 24% of TB cases were HIV positive in Ghana [2].
46 The integration of tuberculosis (TB) and HIV services has become relevant due to
47 the synergistic interaction of the two epidemics which led to a resurgence of TB, and
48 the escalation of HIV-related morbidity and mortality in sub-Saharan Africa [2-4].
49 Integration of health services is the organisation and management of health services
50 to provide timely and needed care that achieves results [5], to reduce fragmentation,
51 and provide a comprehensive approach to service delivery [5-7]. The successful
52 implementation of integration, however, requires a well-functioning health system to
53 achieve the anticipated impact. Key components of a robust health system are
54 leadership and governance, health information systems, health financing, human
55 resources for health, essential medical products and technologies, and service
56 delivery [8].

57 TB and HIV programmes in Ghana have differences that have limited
58 collaboration in the past [9]. Focus was on implementing individual core activities,
59 but the changing determinants and distribution of both diseases resulting from the
60 interaction of the two infections means a broader approach is required. Integration is
61 therefore seen as a mechanism to rise above the differences between the two
62 programmes to facilitate the changes needed to address current TB/HIV challenges.
63 The purpose of Ghana's TB/HIV policy was not to create a new national programme,
64 but to strengthen collaboration between the existing TB and HIV control
65 programmes. As part of the programme, TB patients are to be screened for HIV, and

66 positive cases provided with co-trimoxazole preventive therapy (CPT) and
67 antiretroviral therapy (ART) where indicated. HIV patients are also to be regularly
68 screened for TB and managed appropriately. Introduction of TB/HIV activities was
69 done in initial pilot sites to be scaled up nationwide [1].

70 Health systems are highly differentiated units that require integration to be
71 effective [10]. Differentiation leads to structural, cultural and political differences
72 which foster fear of loss of territory, influence and resources in the face of integration
73 [11]. Mechanisms for facilitating integration include direct supervision,
74 standardisation and mutual adjustment [10, 12]. Others are funding, administrative,
75 organisational, service delivery and clinical strategies [13], as well as thorough
76 preparation and planning, strong leadership, teamwork and a shared vision [14].

77 Few studies on barriers of integration exist, and current literature suggests the
78 need for more research on effective means of addressing health system-related
79 factors [6,15 -17]. One paper suggested that health system limitations may be a
80 major barrier to effective implementation and evaluation of TB/HIV integration in
81 Ghana [18]. This paper explores the health system barriers and facilitators
82 influencing the integration of TB and HIV services in Ghana.

83 **2.0 Methodology**

84 An **interpretivist** qualitative approach was used to explore patient and provider
85 perspectives in their 'real' and natural settings. **Interpretivism does not rely on the**
86 **researcher being totally immersed in the setting but relies on people, and their**
87 **interpretation, perceptions, meanings and understandings as the primary source of**
88 **data [19].**

Three urban district hospitals with three different service delivery models and having increasing levels of integration were purposively selected as study sites (Tables 1-3).

Table 1: Relationship between the level of integration and different service delivery models [20]

Level of integration	Service delivery models	WHO descriptions
Linkage	Referral site (RS)	Entry via TB service and referral for HIV testing and care Entry via HIV service and referral for screening, diagnosis and treatment of TB
Collaboration	Partially integrated site (PIS)	Entry via TB service and referral for HIV care after HIV testing Entry via HIV service and referral after TB screening
Full integration	One-stop shop (OSS)	TB and HIV services provided at a single facility

The sampling frame included all TB/HIV patients registered at the three sites during data collection from May to July 2009, service providers working during that period, and national managers.

Table 2: Characteristics of TB cases at the study sites [21]

	Level of integration (%)			
	OSS	PIS	RS	All sites
Gender	N = 207	N = 132	N = 251	N = 590
Female	43.0	48.5	33.1	40.0
Male	57.0	51.5	66.9	60.0
Age	N = 207	N = 132	N = 250	N = 589
Mean (S.D)	41.8 (18.8)	41.4 (17.4)	41.6 (18.4)	41.6 (18.3)
Median (IQR)	39.0 (24)	39.0 (22)	40.0 (25)	40.0 (24)
Range	2 - 105	3 - 86	1 - 97	1 - 105
Patient type	N = 207	N = 132	N = 251	N = 590
New	91.3	89.4	90.0	90.3
Defaulter	0.5	2.3	1.6	1.4
Failure	3.4	0	5.6	3.6
Relapse	4.3	7.6	2.4	4.2
Month 0 Sputum	N = 188	N = 113	N = 208	N = 509
Number screened	99.5	98.2	98.1	98.6
Number positive	57.2	46.8	54.4	53.8
Outcomes	N = 199	N = 121	N = 247	N = 567
Cured	22.6	30.6	28.7	27.0
Completed	30.2	45.5	49.8	42.0

Died	18.1	21.5	15.0	17.5
Defaulted	3.0	0	0.8	1.4
Failed	1.0	0.8	4.0	2.3
Transferred	24.1	0.8	0.8	9.0

99 Key: S.D – Standard Deviation IQR – Interquartile range

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102 **Table 3: TB/HIV activities across study sites [20]**

TB/HIV indicator	Level of integration		
	OSS (95% CI)	PIS (95% CI)	RS (95% CI)
TB cases screened for HIV	98.6 (97.6-99.5)	91.7 (90.3-93.0)	72.5 (71.9-73.1)
TB cases screened and are HIV positive	47.0 (46.6-47.5)	65.3 (64.2-66.3)	35.7 (35.3-36.1)
HIV-positive TB cases on CPT	82.3 (80.6-84.0)	74.7 (72.8-76.5)	93.8 (91.0-96.7)
HIV-positive TB cases on ART	0	59.5 (58.0-61.0)	10.8 (10.4-11.1)

103 ART: Antiretroviral therapy; CI: Confidence interval; CPT: Co-trimoxazole preventive

104 therapy; HIV: human immunodeficiency virus; OSS: one-stop shop; PIS: partially

105 integrated site; RS: referral site; TB: Tuberculosis

106 Purposive sampling was used to identify eligible participants based on the inclusion

107 criteria to ensure diversity of opinion and inclusion of key informants (Table 4).

108 Sample size was informed by sampling sufficiency with a focus on adequate

109 representation of key informants (Table 4).

110 **Table 4: Inclusion and exclusion criteria for participants and study sites**

Inclusion criteria		Exclusion Criteria
Participants		
Service providers	Facility TB/HIV co-ordinator DOTS centre treatment room nurse HIV centre nurse/physician Trained in TB treatment or HIV clinical care Training on TB/HIV co-infection	Not currently active in clinics
Patients	TB patients who are: - HIV positive - Male or Female - Completed at least a month of the intensive phase or in the continuation phase	Critically ill patients

National Managers	Programme Manager or representative TB/HIV Coordinator	None
Study sites		
	District Hospital TB diagnostic and treatment centre Use of new national TB Register for facilities ART centre Staff trained in TB/HIV co-infection & management Use of national TB/HIV management guidelines Urban location	

111

112 Eligible patient participants were identified from the facility TB registers. Eligible
 113 participants included patients who were due for review during the study period, or
 114 could be contacted by telephone. They were initially approached by their provider to
 115 inform them about the study and seek their participation. Following an initial verbal
 116 consent, an interview date was scheduled. Semi-structured interviews were used for
 117 data collection to generate rich and relevant data from key informants. Before the
 118 interviews, the study was explained to each participant and written consent obtained.
 119 Particular attention was given to voluntary participation, use of the information
 120 collected, and measures to preserve privacy and confidentiality. Interviews were held
 121 in English and interpreted into two local languages by teachers of the local
 122 languages who had been trained on the study as well as the questionnaire where
 123 relevant. Interview guides were used to explore participant experiences and
 124 perspectives on the implementation of TB/HIV integration.

125 Being an exploratory study, sampling sufficiency was the objective as
 126 opposed to saturation. For patients, the interviews explored living with TB/HIV,
 127 accessing care, and experiences and perspectives relating to TB/HIV. The service
 128 provider interviews focused on delivering TB/HIV services while implementation,
 129 monitoring and evaluation of the policy were topics discussed with the managers. All

interviews were audio-recorded. The interviews were transcribed verbatim (after translation and back translation where relevant), and a thematic approach used to analyse data in Microsoft Excel using a-priori and emergent codes. Ethical approval was obtained from the University of Leeds as well as the Ghana Health Service. The issues of reflexivity addressed relate to methodological and theoretical openness, awareness of the social context of the research, and the wider social and political contexts [22].

Table 5: Sample size and study population

Sample size (29)	Study Population
National Managers (3)	TB Programme Manager
	HIV Programme Manager Representative
	TB/HIV Co-ordinator
Facility Providers (8)	2 HIV nurse prescribers
	1 TB/HIV nurse prescriber
	4 TB nurses
	District TB Co-ordinator
TB/HIV Patients (18)	5 in Intensive Phase of TB treatment
	13 in Continuation Phase of TB treatment

3.0 Results

Twenty nine participants were interviewed (Table 5). The provider participants included seven females and four males and their level of experience of working in TB or HIV ranged from one to 14 years. The 18 patient participants included 10 males and 8 females, and they had been living with HIV for 2 months to 15 years. The youngest patient participant was 18 years. All but one of the patient participants had been working prior to falling ill (Table 6).

Table 6: Occupations of patient participants before illness

Activity	Number of participants
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Selling cooked food/foodstuffs	6
Farming	4
Construction site workers	2
Students	2
Small scale mining	1
Barber	1
Shop attendant	1
Unemployed	1

147

148 Patient and provider interviews were held in the hospitals and lasted between 15 and
 149 60 minutes, averaging 30 minutes. Interviews with managers occurred in their offices
 150 and lasted a minimum of 60 minutes, with the longest lasting 75 minutes.

151 There were six sub-themes identified: working in TB/HIV, living with TB/HIV,
 152 managing TB/HIV, paying for care, TB/HIV perspectives, and barriers and
 153 facilitators. Codes from patient and provider transcripts were initially identified and
 154 then integrated by combining them to obtain the six sub-themes. The results
 155 presented here relate to health system barriers and facilitators of integration.

156

157 Health system barriers

158 Financing

159 The different financial systems of the two programmes serve as a barrier. Although
 160 both programmes are funded through the Global fund, this funding is vertical and is
 161 intended for specific programme activities. One manager reported that TB and HIV
 162 staff get pre-occupied with satisfying funding agency conditions and forget to plan
 163 and merge activities to facilitate integration.

164 Four out of the eight facility providers stated that the enablers' fund, which is
 165 part of the Global fund support used to support needy patients was irregular at the

166 facility level. Another manager also responded that due to delays in the payment of
167 government funds, some district managers use the enablers' fund to support other
168 health system functions.

169 'the District Director of Health Services does not use (the money) for only
170 enablers... they are saying that it is the 'enablers' that is running the medical
171 system, because monies are not coming in the way it should' (Manager 1).

172 **Workforce**

173 Of the 11 health personnel, 5 reported that the lack of adequate numbers of
174 staff especially at the district level and below was a major barrier. This occurred
175 through attrition or transfer of trained staff, and unwillingness of trained staff to work
176 as TB/HIV staff. Some staff felt it was voluntary, while others attended training for the
177 travel allowance paid to participants at the end of the training.

178 "...the workload is heavy and we need a doctor. They come and work briefly,
179 and then they go on leave. Next, you are told that they have gone abroad;
180 they are going to do another course or travelled somewhere" (TB Nurse/HIV
181 Prescriber at PIS)

182 Four out of eight respondents at the district and facility levels reported that
183 poor staff morale was a barrier as a result of heavy workload, increasing patient
184 numbers and lack of resources.

185 "even with the room here... it looks like nobody cares about the place...
186 personally, I'm not happy about the things...Look at our chairs. Look at the
187 chairs TB patients come to sit on... no cupboard...to pack these things to
188 make the place look neat" (TB Nurse at PIS)

189 **Information systems**

Participants felt documentation, data collection and feedback was poor. The two programmes have separate and parallel recording and reporting systems with different indicators from the facilities. TB/HIV indicators were regularly reported on from the TB programme but not from the HIV programme, leading to gaps.

Governance

Two out of three managers were of the opinion that collaboration at the national level was not satisfactory:

‘ joint monitoring and evaluation ... at the national level is weak. We do independent monitoring, but we expect that twice in a year staff on the two programmes get together’ (Manager 1)

Service delivery

One nurse at the RS and one manager suggested that at the regional and district levels there were professional jealousies among some providers who feared the loss of influence and power that comes with integration, thus resisting the change. Their actions to protect their functional territories undermined integration:

‘...when they give people money they tend to form kingdoms...forgetting that at the end of the day we are looking at one patient...’ (Manager 3)

‘people who ... are used to working in a certain way (are) asked to immediately reconcile (their) activities with another... People feel threatened by it’ (Manager 1)

Differences in access to TB and HIV services serve as barriers. At the time of this study comprehensive HIV/AIDS services were available only in Teaching Hospitals, Regional hospitals and some District and Mission Hospitals [23]. There were 422 HIV counselling and testing sites as opposed to 1600 TB treatment sites [24].

214 '... initially, HIV was doctor-led. So, if you were not a doctor, you can't give
215 ART...Doctors can't be everywhere' (Manager 1).

216 'ART treatment should be rapidly decentralised' (Manager 3)

217 **Programme workers focus on achieving the goals of their units.** Some TB physicians
218 therefore failed to look for any other illness apart from TB, neglecting other co-
219 morbidities that may influence outcome. Some monitoring teams visiting service
220 delivery points look out for only TB or HIV activities instead of doing both to facilitate
221 integration.

222 'Sometimes everybody is busily doing their activities; and we forget that we
223 have to merge some of our activities and plan them together. So I plan,, to
224 visit my TB sites. But I forget to add on that in the same TB clinic, I could be
225 looking at the HIV clinic and finding out the challenges they have... Some of
226 us do; some of us don't do'. (Manager 3)

227 An impact of the heavy workload and inadequate staff numbers is the long patient
228 waiting times and long working hours for staff during the HIV care clinics which are
229 held once or twice a week. **Three nurses and four patients in the RS and PIS**
230 **complained of long waiting times for patients:**

231 "when they come and then they think they are keeping long, they become
232 angry. They can say all sorts of things" (VCT nurse/HIV prescriber at RS)

233 **"Sometimes I keep long because I come to meet a queue. I get here by**
234 **7.30am...I leave by 2.00pm or 3.00pm"(Male patient at OSS).**

235

236 **Health system facilitators**

237 ***Financing***

238 Providers and patients were of the opinion that the National Health Insurance
239 Scheme (NHIS) has improved access to care and should be extended to cover the
240 antiretroviral drugs (ARVs), and the enablers' package made more regular as these
241 facilitate integration.

242 "Oh! My husband has registered me with the Health Insurance Scheme...
243 coming here the card had not come so he paid for some drips and drugs. So
244 after He pursued the Insurance card and got it after a week or two...when I
245 was discharged, we didn't pay anything..." (Female patient at RS).
246 "they have never asked me for money except the drugs(ARVs) I buy for GHC
247 5.00(≈\$1.70)" (Female patient at RS).

248 And the provision for patients to be given their ARVs on credit was a good strategy:

249 "For the HIV drugs, they told me the doctor guaranteed for me, so I didn't
250 have to pay" (Male patient at OSS)
251 "if I come and I don't have money, they give it to me on credit. I'm currently
252 indebted to them to the tune of GHC 7.50 (≈\$2.60)." (Male patient at PS).
253 "...even if you don't have money, you come. We shall credit it (drugs) for you"
254 (VCT nurse/HIV prescriber at PIS).

255 **Workforce**

256 Different people had been trained in different skills so that each one knows what is
257 expected of them as well as what is expected from others. Nurses had been trained
258 as adherence counsellors and prescribers, and there were also data management
259 staff specifically responsible for record keeping and reporting. There were also plans
260 to train doctors in the management of TB co-morbidities and complications to
261 strengthen capacity at the district level.

262 **Medicines and Health Products**

263 Respondents at the district and facility levels attested to the fact that there was
264 regular supply of programme-related logistics, drugs and reagents:
265 ‘the only thing that makes it easier is that you have the things available. So
266 when the patient comes, you don’t have to be running about’ (TB Nurse at
267 PIS)
268 “the drug for the disease itself I always get there” (Female patient at RS)
269 Other interventions like the community-based care, patient health education, and the
270 use of fixed dose combination drugs with the elimination of injections for treatment of
271 new TB cases were identified as facilitators.
272 “there has been no default because there are no injections...” (VCT Nurse/
273 HIV prescriber at PIS).

274 **Information systems**

275 The TB/HIV policy identifies a number of outputs whose indicators are used to
276 monitor the integration [1]. These standardised outputs facilitate integration. At all
277 the three sites all the indicators were reported on except the number of TB cases
278 identified through the HIV clinics.

279 **Governance**

280 There is strong leadership and political will at the national level for TB/HIV in Ghana.
281 Leadership demonstrated responsiveness by regularly reviewing guidelines and
282 protocols in order to achieve set objectives of TB/HIV integration. The TB screening
283 tool was introduced to facilitate TB screening of PLHIV,

284 “if you did a thorough analysis of the (HIV patient) booklet...it’s gone through
285 a lot of phases. And it’s been revised about twice”. (Manager 3)

286 All three managers stated that the leadership role of the Regional Deputy Directors
287 of Health, who are also responsible for Public Health, had been instrumental in

ensuring coordination at the district level. This direct supervision of work provides leadership and ensures that the teams collaborate and conduct monitoring together.

In districts where there was one person as the coordinator for both TB and HIV, integration worked better.

The availability of a national policy and treatment guidelines which were used to train staff ensured that common procedures and tasks are clearly specified.

Coordination therefore occurs through the standardised design of TB/HIV-related activities nationwide.

Service delivery

The existence of TB/HIV teams in hospitals, districts and regions strengthened integration, as this encourages both formal and informal communication at all levels with mutual adjustment to achieve common objectives. Managers have been particularly interested in team building as a means of promoting integration at all levels through flexible communication between the integrating units. Providers also described situations where nurse prescribers identified and managed routine HIV cases so the doctors handled those who were ill or had complications. This helped to reduce the waiting time. There were instances where the different teams at the site coordinated to supply both TB and HIV drugs on the same day, especially for patients who travelled long distances.

All providers attested to the fact that private one-on-one counselling services were provided for HIV testing and counselling services met patient need for privacy and confidentiality, and facilitated uptake of TB/HIV activities. In addition, providers ensured secure storage and restricted access to patient folders. Only TB/HIV staff had access to these folders. Patients determined who to disclose their status to.

312 'I do not disclose someone's status to another person. If someone else will do
313 it, I cannot tell' (TB Nurse/HIV Prescriber at PIS).

314 'They have their privacy, because during counselling it's only the patient who
315 will be with you in the room' (VCT Nurse/HIV Prescriber at PIS).

316

317 **4.0 Discussion**

318 This study explored the health system-related barriers to and facilitators of TB/HIV
319 integration in Ghana.

320 ***Barriers to integration***

321 Findings from this study suggest that inadequate human resources and existing
322 financial management practices were key barriers to integration. This corroborates
323 the findings of Gyapong et al [14]. Human resource barriers included overburdened
324 and poorly motivated staff, and a high rate of staff attrition, agreeing with the findings
325 of other studies [15-17, 25, 26]. This results in long waiting times and missed
326 opportunities to offer TB/HIV services as also observed by Okot-Chono et al and
327 Fraser et al respectively [17, 27]. Although staff are well trained in the TB/HIV
328 guidelines, this knowledge has yet to be translated into appropriate attitudes and
329 behaviours to overcome fear of loss of territory, influence or resources to support
330 integration. This contributes to poor implementation of joint TB/HIV activities and
331 poor quality of services [15].

332 The financial challenges were not due to lack of resources but how available
333 resources were managed. Stringent demands by different funding agencies were
334 limitations to collaboration between the two units as noted by Uwimana et al. [15],
335 while other administrative decisions and procedures led to delays in release of
336 monies to the districts for health system functions.

337 National level collaboration was weak, re-echoing observations of Uwimana et
338 al. [15]. This attribute probably encouraged some of the negative behaviours at the
339 district and facility levels. The study identified poor documentation and data
340 collection, and lack of feedback as barriers, as did Okot-Chono et al [17], and
341 resulting in poor monitoring and evaluation. Improving data quality should therefore
342 be prioritised. Fraser et al. [27] suggest that electronic information systems can be
343 used to support overwhelmed staff to track and follow-up patients, provide access to
344 extensive data for providers and address challenges of referrals, feedback and
345 duplication.

346 The HIV programme's doctor-led approach to patient management restricted
347 access to care. TB services are highly decentralised and managed mostly by nurses,
348 while HIV services are facility-based. This corroborates the observations of other
349 studies that treatment of TB and HIV by different health professionals limits service
350 integration, and delays ART initiation [15, 16]. Rapid decentralisation of HIV care and
351 ART initiation using nurse-led service delivery models is necessary for expansion of
352 access to ART.

353 Separation of services with patient referral to other facilities for TB or HIV
354 services was a barrier. Some studies propose co-location of services as a preferred
355 TB/HIV mode of service delivery as they provide easier access to comprehensive
356 care [6,16, 28, 29]. However in a previously published study we suggested that the
357 real impact of the degree of integration of TB and HIV on service delivery may be
358 masked by health system barriers [18].

359 The development of local focus is a manifestation of lack of flexibility and
360 external orientation in the work processes of TB and HIV providers. This results in
361 continuing duplication and inefficient use of resources as identified by Uwimana et al.

[15], and contributes to poor implementation due to poor prioritisation of resources [17].

Standardisation of norms can be used to create new values and cultures so that stakeholders in TB/HIV integration can do things differently and create new lived experiences [30]. More research is therefore recommended to identify strategies, interventions and training needed to initiate appropriate changes in the functioning of the health system.

Facilitators of integration

Leadership and political will were identified as facilitators by all participants, corroborating the findings of Gyapong et al. [14] and Harris et al. [26]. These attributes however have to be strengthened at all levels to address policy and implementation barriers.

Strategies to improve financial access to care including NHIS coverage of ARVs, the enablers' fund, ARV credit facility, and NGO support were also identified as facilitators as found by Gandhi et al. [31] and Dong et al. [32]. These improve availability and utilisation of services. Other facilitators were identified as standardisation of work, skills and knowledge, and outputs. Direct supervision of work, and mutual adjustment were additional facilitators as identified by other authors [10,12]. Dong et al observed that rigid application of guidelines without the ability to adapt to patient challenges contributes to programme failure [32].

Privacy and confidentiality was identified as another facilitator and an essential determinant of utilisation of services as identified by Heunis et al. [25], particularly in the presence of stigma. Availability of drugs was also reported as a facilitator, in contrast to the findings of Okot-Chono et al. in Uganda [17]. This was probably due to the fact that apart from the national management making drugs and

logistics available, there were also well defined pathways for accessing these supplies. Other facilitators that improved access to care were the use of fixed dose combinations and elimination of injections for new cases. Uptake of services is improved with these interventions, as observed also by Heunis et al [25].

Temporal Influence

Although the data was gathered in 2009, the findings still remain relevant. Key achievements of the TB/HIV policy implementation in Ghana have been the increased awareness among health workers and the dramatic improvement in access. Through both public and private health facilities, DOTs and HTC centres have increased from 1600 and 422 sites to 3000 and 1656 sites respectively. ART sites have also increased from less than 50 sites in 2007 to 165 sites at the end of 2013 [33]. Coordination has improved, with the two programmes currently planning joint efforts for resource mobilisation. However significant gaps and challenges identified suggest that the findings of the study still remain relevant [33].

Limitations

The use of purposive sampling limits the representiveness of this data. Selection bias may have occurred from the recruitment process as patients who could not be contacted on telephone or were not due for review during the data collection period were excluded from the study. Another limitation was the use of nurses for recruitment, which may have compelled some to participate. This impact was mitigated by emphasising voluntary participation prior to interviews. There was also some loss of meaning in translation, which was minimised by back translation.

Selection and access of study sites, data production and analysis have been explicitly outlined. Interactions between the researcher, a medical doctor, and the providers were influenced by existing social context: the managers were medical

doctors and related at par in terms of power relations while other providers (nurses) related as subordinates. The researcher's previous experience in TB control facilitated the use of technical language. The use of service providers in recruiting patients may have influenced patient participation. This impact was mitigated by emphasising voluntary participation, and assurance of confidentiality and privacy. Participants were also assured that non-participation would not influence their care. Strategies used to ensure rigour in this study included methodological coherence and transparency, sampling sufficiency, reflexivity, and relevance.

5.0 Conclusion

Health system barriers to integration were staff shortages, lack of resources, existing financial management practices, provider resistance to change, differences in TB and HIV programmatic approaches, and separation of services, especially at the referral site. Facilitators included political will, direct supervision, improved access to services, privacy and confidentiality, as well as standardisation of work, skills and knowledge, and outputs. Standardisation of norms and values, as well as new staff training strategies should be used to achieve staff behavioural changes towards integration. Patient-related barriers to and facilitators of TB/HIV integration need to be explored from the data generated in this study as well as other relevant sources to provide more insight into the TB/HIV integration in Ghana.

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