Patient Education and Counseling 95 (2014) 201–210

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Review

Optimizing lay counsellor services for chronic care in South Africa: A qualitative systematic review

Inge Petersen [a,*], Lara Fairall [b], Catherine O. Egbe [a], Arvin Bhana [a,c]

[a] Psychology, School of Applied Human Sciences, University of KwaZulu-Natal, South Africa
[b] Knowledge Translation Unit, University of Cape Town Lung Institute, South Africa
[c] Human and Social Development, Human Sciences Research Council, South Africa

ARTICLE INFO

Article history:
Received 17 September 2013
Received in revised form 6 January 2014
Accepted 1 February 2014

Keywords:
Chronic care
Lay counsellors
South Africa
Systematic review

ABSTRACT

Objective: To conduct a qualitative systematic review on the use of lay counsellors in South Africa to provide lessons on optimizing their use for psychological and behavioural change counselling for chronic long-term care in scare-resource contexts.
Method: A qualitative systematic review of the literature on lay counsellor services in South Africa.
Results: Twenty-nine studies met the inclusion criteria. Five randomized control trials and two cohort studies reported that lay counsellors can provide behaviour change counselling with good outcomes. One multi-centre cohort study provided promising evidence of improved anti-retroviral treatment adherence and one non-randomized controlled study provided promising results for counselling for depression. Six studies found low fidelity of lay counsellor-delivered interventions in routine care. Reasons for low fidelity include poor role definition, inconsistent remuneration, lack of standardized training, and poor supervision and logistical support.
Conclusion: Within resource-constrained settings, adjunct behaviour change and psychological services provided by lay counsellors can be harnessed to promote chronic care at primary health care level.
Practice implications: Optimizing lay counsellor services requires interventions at an organizational level that provide a clear role definition and scope of practice; in-service training and formal supervision; and sensitization of health managers to the importance and logistical requirements of counselling.

Contents

* Corresponding author at: Psychology, School of Applied Human Sciences, Howard College, University of KwaZulu-Natal, Durban 4000, South Africa. Tel.: +27 31 2607970; fax: +27 31 2602618.
E-mail address: peterseni@ukzn.ac.za (I. Petersen).

http://dx.doi.org/10.1016/j.pec.2014.02.001
0738-3991

1. Background

Many countries in Africa are experiencing a rising burden of non-communicable diseases (NCDs); expected to be the leading cause of mortality in 2030 [1]. Spurring the rising burden of NCDs are mental disorders, accounting for nearly 10% of the total burden of disease in sub-Saharan Africa [2]. This together with the transitioning of communicable diseases, such as HIV/AIDS, to chronic conditions, is demanding a shift in the organization of health care from acute episodic care to collaborative long-term care.

Co-existence of chronic conditions is common, having a mutually reinforcing relationship that increases the risk or impact of comorbid conditions [3–7]. In particular, comorbid depression poses a public health threat. It is common in HIV-positive patients [8,9] and linked to HIV disease progression and poor ART adherence [10,11]. It is also prevalent among people with cardiovascular disease and diabetes, and increases risk of coronary heart disease and stroke [12,13].

In high-income countries, collaborative chronic care of co-existing physical and mental disorders adopting a multidisciplinary case management approach, has been shown to be the most effective approach for improving health outcomes [14]. Collaborative chronic care incorporates, inter alia, linkages to community resources such as support groups, the promotion of self-management and access to behaviour change programmes [15]. Given the shortage of specialist personnel in low- and middle-income countries (LAMIC), while a multidisciplinary approach is not feasible, task shifting, whereby tasks are shifted to less specialized personnel, has been mooted as the solution to this resource problem [16].

South Africa is one of the first countries in Africa to respond to the challenge of reorganizing health care along the lines of chronic care, with the introduction of an integrated chronic disease management (ICDM) model in three pilot districts. This model, inter alia, services all chronic care patients at one service point; provides regular and planned health visits for follow-up care; provides specialist decision support to PHC using a set of nurse-led clinical guidelines developed for the identification and management of multiple chronic diseases, called Primary Care 101 (PC 101); incorporates a registry of chronic patients to assist in tracking and follow-up of defaulters; and provides linkages to community resources through community health worker driven outreach teams. These teams screen and identify patients with chronic conditions as well as follow-up non-adherent patients [17].

While PC101 does include health promotion educational material, to be effective, psychosocial interventions that promote self-management and behaviour change require a patient-centred approach that strives to increase patients' control over their own health. Nurses may typically provide this service in high-income countries, but in sub-Saharan Africa, this is hindered by high patient loads as well as the historical dominance of biomedical task oriented care typically associated with advice giving [18–21]. A gap thus exists with respect to the provision of psychosocial interventions to promote self-management and behaviour change. There is also a 75% treatment gap for common mental disorders [22] which are often co-morbid with other chronic diseases as previously indicated.

Embracing task shifting, South Africa, like many other countries in Africa and other LAMIC have an existing cadre of lay health workers that can potentially be leveraged to fill this gap. Lay HIV counsellors, historically funded by the United States President's Emergency Plan for AIDS Relief (PEPFAR) to provide health counselling and testing (HCT) in South Africa, are particularly well positioned as they have already been harnessed to provide behaviour change counselling for HIV/AIDS patients. However, their role has, as yet not been clearly defined in the ICDM model. Lay health workers, including lay counsellors, do not have any formal professional or paraprofessional qualifications and are trained to provide health related services [23].

Against this backdrop, this study sought to systematically review the literature to assess the potential, and under what conditions, lay counsellors could be leveraged for the provision of adjunct psychosocial and behavioural change interventions for chronic care in South Africa. The review was restricted to South Africa given that: (i) South Africa is leading the transition towards integrated chronic care in sub-Saharan Africa; and (ii) A policy window for defining the role of HIV counsellors within the shift from a vertical HIV service to ICDM in South Africa exists. Lessons learned from this review should be helpful for other countries transitioning to chronic care and who face similar resource challenges.

2. Method

2.1. Search strategy

The scope of the review was limited to studies in South Africa for the reasons given in the introduction. The search strategy is contained in Fig. 1. All data bases reflected in Fig. 1 were searched for publications up to November 2012. The following key phrases were used: 'lay counsellors', 'lay health worker counsellor', 'non-professional counsellor', 'counselling', 'behaviour change', 'mental disorders', 'common mental disorders', 'tuberculosis', 'cancer', 'diabetes', 'cardiovascular diseases', 'HIV/AIDS' and refined using 'South Africa'. Key phrases and not mesh terms were used as the latter would have limited the yield to medical "subject headings". Hand searches were also conducted on references of key authors identified in the initial search. Key authors were notable authorities who had published two or more works involving the subject matter of this review.

Inclusion criteria were that the articles had to be written in English, focus on the adult population and one of the health conditions of interest (common chronic communicable and non-communicable diseases), involve dedicated lay counsellors offering counselling or behavioural change interventions (including, but not limited to psychological therapies, psycho-education, adherence support, motivational interviewing).

Using the search strategies, a total of 1726 key articles were initially retrieved by the third author out of which 190 were selected and extracted into Endnote based on the relevance of their title to the scope of the review. Three rounds of selection were then conducted by the first and third authors using the following exclusion criteria: grey literature, interventions involving children, interventions by professional/non-professional health service providers other than lay counsellors, descriptive reports, or from settings outside South Africa. Eighty-five articles were selected after the second round of selection on the basis of consensus reached on the inclusion criteria by the first and third authors based on the abstracts of the articles. The full text of these

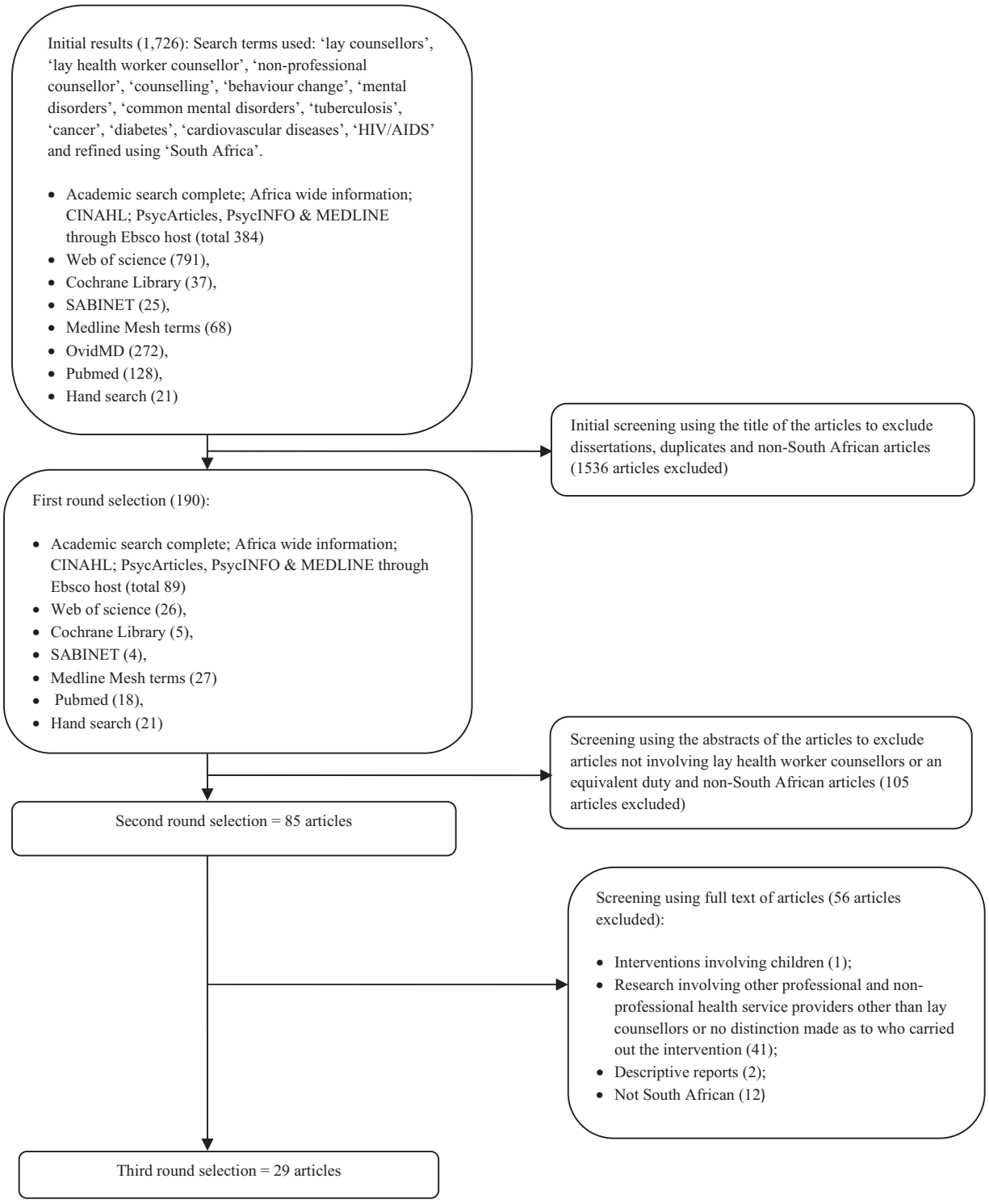

Fig. 1. Flow chart of literature search.

85 articles were again scrutinized for inclusion in the third round of selection by the first and third authors based on consensus reached on whether they met the inclusion criteria. A total of 29 articles were finally included for use in the analysis. See Fig. 1 for a breakdown of the literature search.

2.2. Data extraction

Given that the aim of the study was to assess the potential effectiveness of lay counsellors and under what conditions their services could be maximized, data from the 29 articles which scaled through the final round of selection were extracted onto a spread-sheet under the following subheadings: (i) reference (ii) purpose/aim of study (ii) disease subject (iii) design (iv) main findings (see Table 1 for a summary of the data).

2.3. Quality assessment

The 29 articles were subjected to a quality assessment procedure by the first and third authors using the QualSyst

Table 1
Data Summary.

Reference	Purpose/Aim of study	Illness focus	Design	Main findings
Black et al. (2011)	Investigated whether employment and remuneration arrangements for lay counsellors affect HIV testing at 3 clinics in inner-city Johannesburg.	HIV/AIDS	Cross sectional quantitative survey	The mean number of women tested for HIV in the months that followed lay counsellor payment was significantly higher (529) (SD 46.9) compared with 326 (SD 84.3) following non-payment
Breuer et al. (2012)	Determined the reliability of lay adherence counsellors in the administration of the substance abuse and mental illness symptom screener (SAMISS) for common mental disorders and International HIV Dementia Scale (IHDS) for HAND in a South African sample	Common mental disorders & HIV/AIDS	Cross-sectional reliability study	Counsellors tended not to miss symptoms, and detected symptoms more often than nurses for both the SAMISS and IHDS
Cornman et al. (2008)	Evaluated the feasibility, fidelity, and effectiveness of an HIV prevention intervention delivered to HIV-infected patients by counsellors during routine clinical care in KwaZulu-Natal, South Africa.	HIV/AIDS	RCT	Patients who received the counsellor-delivered intervention reported a significant decrease over time in number of unprotected sexual events. There was a marginally significant increase in these events among patients in the standard-of-care control condition. Number of unprotected vaginal and anal sex events ($p = .016$, CI = .01–.87); number of unprotected sex events with perceived HIV-negative or unknown status partners ($p = .06$, CI = .008–1.11); total number of vaginal and anal sex events-protected and unprotected ($p < .01$, CI = 1.48–2.78)
Cornman et al. (2011)	Adapted and piloted the Options for Health intervention for use with PLWHA who obtain their HIV care at primary healthcare clinics	(HIV/AIDS	Pilot study	A multi-step process is required to adapt a theory based HIV prevention intervention so that it addresses the specific risk reduction needs of a particular population.
Dewing et al. (2012)	To determine factors affecting the implementation of the Options for Health intervention in the Western Cape.	HIV/AIDS	Qualitative study	Barriers to implementation include a lack of counselling space, time pressure and patient resistance to counselling. Counsellors felt that Options was not appropriate for use with all patients with adherence problems, and used parts of the intervention as it suited their needs with low fidelity to the model.
Evangeli et al. (2009)	Training evaluation of a Motivational Interviewing (MI) course for lay HIV counsellors	HIV/AIDS	Single group cohort study	Only a small proportion of the counsellors reached the level of beginning MI proficiency. There was no evidence of any change on global therapist ratings (e.g., empathy, collaboration).
Evangeli et al. (2011)	One-year follow-up of MI competence in a cohort of lay HIV counsellors.	HIV/AIDS	A single group cohort follow-up study	As in Evangeli et al. (2009), the majority of counsellors did not demonstrate beginning MI proficiency.
Fourie et al. (2007)	Investigated the effects of job demands, job resources and sense of coherence on burnout and work engagement of lay counsellors in South African banks.	Mental health	Cross-sectional survey	Non-professional counsellors with a stronger sense of coherence experienced more work wellness (low burnout and high work engagement) than those with a weaker level of coherence
Haffejee et al. (2010)	Identified the extent and nature of counselling and support services provided to PLWHA by lay counsellors in Gauteng Province.	HIV/AIDS	Qualitative study	Available counselling and support services are focused largely on HCT, which is primarily educational rather than therapeutic. Lay counsellors have inadequate knowledge and capacity to identify mental health problems.
Heunis et al. (2011)	Explored perceived barriers to and facilitators of uptake of HCT by TB patients from the perspective of service providers and managers.	HIV/AIDS & TB	Qualitative study	Relatively low acceptance rate of HCT services among TB patients attributed to fears of TB-HIV co-infection, death, and stigma; perceived lack of confidentiality of HIV test results; staff shortages and high workload; poor infrastructure to encourage, monitor, and deliver HCT. Perceived factors that facilitate uptake include encouragement and motivation by health workers, alleviation of health worker shortages, improved HCT training, and community outreach activities.

Table 1 (*Continued*)

Reference	Purpose/Aim of study	Illness focus	Design	Main findings
Horwood et al. (2010)	Evaluated the integration of prevention of mother to child transmission of HIV (PMTCT) into routine maternal and child health services in two districts of KwaZulu-Natal, including the responsibilities of nurses and lay counsellors.	HIV/AIDS	Quantitative cross-sectional study	There was a lack of clarity with respect to some of the roles and responsibilities of nurses and lay counsellors, particularly in the post-natal period. This has a negative impact on postnatal care of mothers and infants.
Kalichman et al. (2007)	Tested the efficacy of a behavioural risk reduction counselling intervention for use in sexually transmitted infection (STI) clinics in southern Africa.	HIV/AIDS; STI	RCT	There was a significant reduction in HIV-risk behaviours and alcohol use in sexual contacts in the experimental condition compared to the control condition. Effect size reported for primary outcomes significant at 6-months follow-up: unprotected vagina intercourse = 0.53, $p < .05$; percent condom use = .54, $p < .05$
Kalichman et al. (2008)	Tested the efficacy of a brief single-session HIV–alcohol risk-reduction intervention for men and women who drink at informal alcohol serving establishments (i.e., shebeens) in South Africa.	HIV/AIDS & alcohol abuse	RCT	The risk-reduction intervention demonstrated significantly less unprotected intercourse, alcohol use before sex, numbers of sex partners, partners met at drinking establishments and greater condom use relative to the control group. Intervention effects were moderated by alcohol use; lighter drinkers demonstrated significantly more intervention gains than heavier drinkers in the risk-reduction condition. Significance and effect size reported for primary outcomes significant at 6-months follow-up: unprotected vagina and anal sex = 0.21, $p < .05$
Kalichman et al. (2011)	To test the efficacy of a brief counselling intervention designed to reduce HIV risk behaviours and sexually transmitted infections (STIs) among patients receiving STI services in Cape Town, South Africa.	HIV/AIDS	RCT	There were significant reductions in unprotected vaginal and anal intercourse among participants who received the risk reduction counselling relative to the control condition. Moderator analyses showed shorter lived outcomes for heavy alcohol drinkers than for lighter drinkers. Significant 3-way interaction between intervention condition, assessment time and alcohol use $p = < .01$
Malema et al. (2010)	To understand the experiences of the lay counsellors who provide HCT in Limpopo, South Africa.	HIV/AIDS	Qualitative study	While the content of training and counselling skills received by lay counsellors were deemed satisfactory, there was lack of counsellor support and in-service education.
Naik et al. (2012)	To investigate client characteristics and acceptability of a home based HCT intervention using lay counsellors in rural South Africa.	HIV/AIDS	Quantitative Cross sectional survey	A high uptake (75.0%) of home-based counselling and testing was achieved suggesting acceptability of lay counsellors
Peltzer et al. (2010)	To evaluate the feasibility and fidelity of an HIV risk reduction intervention delivered to HIV-infected patients by lay counsellors during routine HIV counselling and testing (HCT) public service in Mpumalanga, South Africa.	HIV/AIDS	Single group cohort study	At 4-month follow-up participants reported a significant reduction of multiple partners, unprotected sex, alcohol or drug use in a sexual context, and transactional sex. In addition, sexual abstinence increased and alcohol use was reported to decrease in the past 3 months.
Peltzer et al. (2012)	To test the efficacy of a brief one session (180 min) culturally tailored group HIV risk reduction intervention among men undergoing medical circumcision in South Africa.	HIV/AIDS	RCT	Behavioural intentions and risk reduction skills significantly increased and sexual risk behaviour (reduction of the number of sexual partners and the number of unprotected vaginal sexual intercourse) significantly decreased in the intervention compared to the control group Sexual risk and risk reduction outcomes; number of sex partners in the past 3 months $p = .002$; number of sex partners in the past months $p = .042$; unprotected vaginal sexual intercourse occasions in the past 3 months $p = .019$; HIV risk reduction strategies $p = .036$

Table 1 (*Continued*)

Reference	Purpose/Aim of study	Illness focus	Design	Main findings
Rohleder & Swartz (2005)	To understand counsellors' experiences of their unclear position within the health care system.	HIV/AIDS	Qualitative study	The findings reveal a clash between the patient centred nature of counselling and the task-oriented health system; a lack of appreciation for their work; a sense of being marginalized; and a lack of understanding of the needs of clients by the health sector.
Thurling & Harris (2012)	To investigate the training of lay counsellors.	HIV/AIDS	Qualitative	Training curricula have different styles of delivery, and the approaches to learning and courses vary, resulting in inconsistent training outcomes. There is a need for standardization of training programmes as well as a system of supervision and mentorship
Woolman et al. (2009)	To investigate the impact of state policies and inefficiencies on the delivery of services by HIV counsellors.	HIV/AIDS	Quantitative study	Deployment of inadequately and inconsistently remunerated, inadequately trained and institutionally marginalized lay counsellors impacts negatively on the quality of counselling provided.
Petersen et al. (2012)	To assess the feasibility of an adapted manualized version of grouped based Interpersonal Therapy (IPT) delivered by lay counsellors.	Mental health	Non-randomized matched control study	Participants in the group-based IPT intervention showed a significant reduction in depressive symptoms on completion of the 12-week intervention as well as 24 weeks post baseline compared to the control group. Qualitative process evaluation suggests that improved social support, individual coping skills and improved personal agency assisted in the reduction of depressive symptoms.
Dewing et al. (2013)	To evaluate fidelity to Egan's client centred counselling model by lay ARV adherence counsellors in Cape Town	HIV/AIDS	Qualitative design	Low fidelity to Egan's client centred model was found. Counsellors mainly used information giving and advice as strategies for addressing clients' non-adherence.
Fatti et al. (2012)	To evaluate the outcomes of a community-based adherence-support (CBAS) programme on ART outcomes across 57 South African sites.	HIV/AIDS	Multi-centre cohort study	The large-scale implementation of a low cost CBAS programmes was shown to improve survival, retention in care and virological outcomes for adults receiving ART, with benefit sustained or increasing up to 5 years after starting ART.
Peltzer et al. (2009)	To evaluate the feasibility, fidelity, and outcomes of an HIV prevention intervention delivered to HIV-uninfected patients by lay counsellors during routine HCT service in Mpumalanga, South Africa.	HIV/AIDS	Single group cohort study	At follow-up, participants demonstrated a significant reduction in high risk practices, including lower rates of multiple partners, unprotected intercourse, alcohol or drug use in the context of sex, transactional sex and greater likelihood of reduction of alcohol use and abuse.
Peltzer & Davids (2011)	To understand the experiences of lay counsellors who provide HIV counselling services.	HIV/AIDS	Qualitative and quantitative cross sectional study	Lay counsellors reported medium to high job stress, but with relatively high job satisfaction, role conflicts when working in a health team and poor support and supervision, inadequate training and lack of future career pathways.
Dewing et al. (2011)	To evaluate the implementation of Options for Health, a sexual risk-reduction intervention based on Motivational Interviewing (MI), in an antiretroviral clinic in Cape Town, South Africa.	HIV/AIDS	Case study	In most cases Options was not delivered with fidelity and less than one-third of intended recipients received it
Richter et al. (2001)	To evaluate HIV/AIDS counselling services within South Africa	HIV/AIDS	Cross sectional survey	Despite high expectations of the role of HCT, these services were thinly-stretched. Poor fidelity to counselling models prevailed with education and advice giving being dominant.
Peltzer (2012)	Evaluation of the prevalence and correlates of posttraumatic stress in a sample of HIV lay counsellors in South Africa.	Mental health: PTSD	Cross-sectional survey	5.1% met the criteria for posttraumatic stress disorder (PTSD); and 19.7% scored on the sub-threshold of PTSD. About half (49.5%) were not satisfied with their work environment.

standard quality assessment criteria for evaluating primary research papers from a variety of fields by the Alberta Heritage Foundation for Medical Research [24]. Assessment criteria include whether the objective of the study is sufficiently described and if the study design is evident and appropriate. For qualitative studies, additional criteria include connection to a theoretical framework and wider body of knowledge, sampling strategy, data collection and data analysis methods clearly described and systematic, use of verification procedure(s) to establish credibility, reflexivity of the account and a conclusion supported by the results. For quantitative outcome articles, other criteria include: risk of bias and appropriately described input variables, outcome assessments and appropriate sample size [24]. Two of the 29 articles had assessment scores of 55 and 70 while the 27 others scored 82% and above. With a cut-off point of 55% agreed upon by two of the authors, all articles were found to be of sufficient quality for inclusion in the analysis. In addition, the 5 RCTs were also subjected to an assessment of risk of bias by the first and third authors using the Cochrane Collaboration's tool for assessing risk of bias in randomized trials [25] which revealed a low risk of bias for four studies and medium risk for one (see supplementary files).

2.4. Data analysis

The findings and recommendations extracted from the articles were thematically analyzed by the first and third authors.

3. Results

The authors read the manuscripts independently and agreed upon the following main recurring themes: outcomes of lay counsellor delivered counselling interventions; fidelity of counselling in routine care; training; supervision and support; marginalization and biomedical organizational culture. The findings from the various studies on these themes was synthesized and tabulated (see Table 2).

3.1. Overview of articles

Of the twenty-nine articles finally selected for inclusion in the study, just under a third (9) of the articles reported on studies evaluating the outcomes of various lay counsellor delivered counselling interventions. Just under one third of the articles (9) investigated the experiences and needs of lay counsellors and/or service users [26–34]. There were a handful of articles (6) reporting on studies investigating the fidelity of lay counselling in routine care [26,35–38]. There were three articles reporting on studies which reviewed existing services provided by lay counsellors [33,39,40], two which focused on exploring the impact of organizational issues on the functioning of lay counsellors [41,42] and one assessing the reliability of using lay counsellors to administer mental health screening [43].

3.2. Outcomes of lay counsellor delivered counselling interventions

A number of studies evaluated the outcomes of using lay counsellors to provide risk reduction counselling. These include five randomized control trials (RCTs) [44–48] and two feasibility cohort studies [49,50]. These studies provide evidence that under controlled conditions with adequate training and supervision, lay counsellor behaviour change counselling interventions using various adaptions of the information- motivation-behavioural skills (IMB) model can reduce HIV-risk behaviours including unprotected sex [44,48] [45–47,49] alcohol use before sex [45,49,50], number of sexual partners [45,47,49,50]; and transactional sex [50]. These studies covered high HIV risk groups (e.g., STI Clinics and shebeens/taverns) [44–47] as well as in HIV infected [48,49] and uninfected patients attending HCT sites [50].

There was one multi-centre cohort study of a community adherence support programme provided by patient advocates which showed improved adherence in those receiving the intervention [51]. No effectiveness trials of lay counsellor delivered behaviour change counselling offered as part of routine counselling on reduced risk behaviour or improved adherence could be found.

There was one non-randomized control study which investigated the use of lay counsellors to deliver a group-based psychosocial intervention using the principles of Interpersonal Therapy which demonstrated promising findings and was well received by the participants [52].

3.3. Fidelity of counselling in routine care

A number of studies showed the fidelity of lay counsellor interventions delivered under routine circumstances to be sub-optimal. Two studies found that lay counsellors trained in a client centred non-directive approach did not adhere to this approach, with counselling provided characterized by advice giving,

Table 2
Synthesis of findings of Studies.

Outcomes of lay counsellor delivered counselling interventions	With adequate training and supervision, lay counsellor behaviour change counselling interventions using various adaptions of the information- motivation-behavioural skills (IMB) model can reduce HIV-risk behaviours including unprotected sex [44–49] alcohol use before sex [45,49,50], number of sexual partners [45,47,49,50]; and transactional sex [50]. Lay counselors demonstrate promising potential to deliver a group-based counselling for depression [52].
Fidelity of counselling in routine care	Fidelity of lay counsellor interventions to any counselling model in routine care is not optimal [26,36–38,53].
Training provided	Wide variation in the length of training of lay counsellors [32,39]. Little in-service training or refresher training and course updates provided [29,32,33]. Common approaches use Egan's Skilled Helper model [35] and more recently behaviour change counselling (BCC) techniques to reduce risk behaviour and improve adherence [26,35,36,44–50,54].
Training needs	Training needs to be expanded beyond HCT and BCC to include screening for mental disorders [39]; in-depth counselling skills to deal with mental health problems, especially bereavement and depression [29,32,33]; couples counselling, running a support group [29]; and stress reduction techniques and coping skills [27].
Supervision and Support	Support and supervision of lay counsellors is generally poor in routine care [29,32–34,38,39].
Marginalization & biomedical organizational culture	Lack of a clear role definition of lay counsellors [31–33,40].
	Lack of clear career pathways for advancement for lay counsellors [31–33].
	Remuneration of lay counsellors is poor and inconsistent which is demoralizing and impacts negatively on their work motivation, leading to a poor work ethic, added stress and high drop-out [33,34,41,42].
	Counselling space is mostly inadequate as is time allocated to counselling sessions, limited referral pathways and poor follow-up of patients counselled [33–35,39].

directiveness, control and confrontation [37,38]. Four studies of counsellors trained in motivational interviewing found low fidelity to the model when incorporated into routine care [26,35,36,53], with the majority of lay counsellors not able to achieve entry level MI competency following training and at one year follow-up [26].

3.4. Training

Two studies noted wide variation in the training of lay counsellors [32,39], largely provided by Non-Governmental Organizations (NGOs). A review of 15 organizations showed variation in training ranging from a five day course to a year-long training at an accredited institute [39]. This training was generally once off, with little in-service training, refresher training or course updates provided [29,32,33].

In relation to the content of the training, a client centred problem management approach, historically characterized training for HCT in South Africa [35]. More recently, there has been training in behaviour change counselling (BCC) to reduce risk behaviour and improve adherence, using variations of the Information, Motivation and Behavioural Skills (IMB) model [26,35,36,44–50,54]. The need for training to be expanded beyond HCT and BCC to include screening and counselling for mental disorders, especially depression was identified by a number of studies [39] [29,32,33]. The inclusion of stress reduction techniques and coping skills to help lay counsellors manage job stressors was identified by one study [27].

3.5. Supervision and support

Several studies reveal that support and supervision of lay counsellors in routine care is generally poor [29,32–34,38,39]. Two independent reviews over a decade apart [38,39] found that anywhere from a quarter [38] to one third [39] of organizations reviewed provide any form of structured supervision and support. Where supervision and support is provided, there also appears to be little distinction between supervision and debriefing [39]. Given the tendency for lay counsellors to resort to advice giving, regular supervision in micro-counselling skills (attending behaviour and basic skills that facilitate listening and exploration to achieve understanding of a problem) was suggested by one study [37]. Given the stressors associated with counselling, a number of studies recommend the need for psychological support structures to improve quality and prevent burn-out [29,33,34].

3.6. Marginalization

Poor role definition and lack of clear pathways for advancement for lay counsellors emerged from a number of studies [31–33,40]. Lay counsellors feel excluded from the professional hierarchy and are often treated as an extra resource at primary health facilities, being expected to perform multiple tasks over and above their counselling duties [33], wherever there is a need. These tasks include administration, taking vital signs, doing home visits [33], as well as tasks that should be the responsibility of the professional nurse, e.g., conducting CD4 counts, providing feedback about the results, and issuing medication [32,40]. This poor role definition impacts negatively on how lay counsellors are perceived by other health care staff, as well as their own self-perception. Several studies found that lay counsellors do not feel appreciated or accepted as part of the health care team by other health care staff [29,31,33] and also held a negative perception of their own roles [31,33] resulting in poor work engagement and burn-out [27]. This is notwithstanding acknowledgement that their help is appreciated by patients/clients [29,33].

Poor and inconsistent remuneration as well as lack of protection by labour laws was also identified by a number of studies. This was reported to be demoralizing for lay counsellors, impacting negatively on their work motivation, leading to a poor work ethic and added stress, as well as high drop-out [33,34,41,42]. This in turn was shown to have a negative impact on service provision by two studies which demonstrated reduced rates of HIV counselling and testing at public sector clinics following late payment of lay counsellors [41,42].

3.7. Biomedical organizational culture

A number of studies highlighted the problem of the mismatch between the needs of counselling, which requires patient-centred collaborative care, and the dominant task-oriented biomedical care that prevails at PHC clinics. It was suggested that the latter is more conducive of advice giving [31,37,38] and underpins the lack of attention to the provision of appropriate counselling space, insufficient time allocated to counselling sessions, limited referral pathways and poor follow-up of patients counselled [33–35,39].

4. Discussion and recommendations

Evidence reviewed in this study indicates that lay counsellors have the potential to effectively provide behaviour change counselling as well as counselling for common mental disorders, notably depression at PHC level. In the context of the shift to multi-disease management of chronic conditions in South Africa, it would be apposite for lay HIV counsellors, previously reserved for a vertical HIV/AIDS service to be leveraged to fill the gap in counselling interventions to promote behavioural and mental health for all chronic conditions. This review, however, indicates that there are a number of organizational issues that need to be addressed in order to create the conditions under which lay counsellor services can be optimized. Based on the quality assessments conducted on the studies finally extracted for the narrative synthesis, we believe the findings of this review to be fairly robust.

Lessons emerging from the review indicate the need for the following organizational interventions to optimize the effective use of lay counsellor services in South Africa:

(i) The marginalized status of lay counsellors and lack of standardized training indicates the need for a clear definition of their role and scope of practice and formal incorporation into the human resource package at PHC level. This would assist with remuneration challenges as well as inform core competencies and the development of accredited training courses within the national qualification framework, providing for pathways for career development.

(ii) Low fidelity to training models under routine care suggests the need for in-service training and refresher training as well as formal supervision and support. This requires a human resource plan harnessing psychosocially oriented specialist health care providers such as psychologists to play this role. In addition, there is a need for standardized training models using simple counselling guidelines for both behaviour change and psychosocial problems. These guidelines should incorporate micro-counselling skills to promote understanding of a problem, helping patients set goals for behaviour change [35], as well as helping them achieve these goals and act on problems. Elements of problem solving therapy (PST) and cognitive behaviour therapy (CBT) have been effectively used to this end within a task shifting approach in LAMIC [37,55].

(iii) The dominant biomedical culture and poor logistical support for counselling at a facility level points to the need for

sensitization and orientation of health managers to the value and requirements of chronic care, and counselling specifically.

Limitations of the review include firstly, that it only provided a narrative synthesis of the extracted studies. While five RCT studies were extracted, they were not subjected to a meta-analysis given the diversity of the outcomes. Secondly, the review only focused on South Africa, with the need for a similar review for sub-Saharan Africa as a whole. Nevertheless, given that lay health workers are a common phenomenon in Africa and other LAMIC countries [16], emergent lessons are likely to be applicable to other resource-constrained countries faced with a similar challenge of a transitioning burden of disease to chronic conditions [56].

In relation to future research, there is a need for pragmatic trials to demonstrate the cost effectiveness of lay counsellor delivered behavioural change and counselling for common mental disorders on health outcomes in the routine care of comorbid chronic conditions in LAMIC. Only then will there be greater appreciation of their role in protecting investment in ART and containing the burgeoning cost of NCD care in scarce-resource contexts.

Competing interests

None declared.

Authors' contributions

IP lead the analysis, and wrote the first and final drafts.

LF assisted with the conceptualization and critically reviewed the first and final drafts.

COE assisted with the analysis and reviewed the final draft.

AB critically reviewed the first and final drafts.

Acknowledgements

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. However, the views expressed are not necessarily those of or endorsed by DFID, which can accept no responsibility for such views or information or any reliance placed on them.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at http://dx.doi.org/10.1016/j.pec.2014.02.001.

References

[1] Marquez PV, Farrington JL. The challenge of non-communicable diseases and road traffic injuries in sub- Saharan Africa: an overview. Washington, DC: The World Bank; 2013.
[2] Stein DJ, Seedat S. From research methods to clinical practice in psychiatry: challenges and opportunities in the developing world. Int Rev Psychiatry 2007;19:573–81.
[3] van Wijk JP, Cabezas MC. Hypertriglyceridemia, metabolic syndrome, and cardiovascular disease in hiv-infected patients: effects of antiretroviral therapy and adipose tissue distribution. Int J Vasc Med 2012;2012:e201027.
[4] Triant VA, Lee H, Hadigan C, Grinspoon SK. Increased acute myocardial infarction rates and cardiovascular risk factors among patients with human immunodeficiency virus disease. J Clin Endocrinol Metab 2007;92:2506–12.
[5] Longo-Mbenza B, Longokolo Mashi M, Lelo Tshikwela M, Mokondjimobe E, Gombet T, Ellenga-Mbolla B, et al. Relationship between younger age, autoimmunity, cardiometabolic risk, oxidative stress, HAART, and ischemic stroke in Africans with HIV/AIDS. ISRN Cardiol 2011;2011:e897908.
[6] Law M, Friis-Moller N, Weber R, Reiss P, Thiebaut R, Kirk O, et al. Modelling the 3-year risk of myocardial infarction among participants in the Data Collection on adverse events of anti-HIV drugs (DAD) study. HIV Med 2003;4:1–10.
[7] Bloomfield GS, Hogan JW, Keter A, Sang E, Carter EJ, Velazquez EJ, et al. Hypertension and obesity as cardiovascular risk factors among HIV seropositive patients in Western Kenya. PLoS ONE 2011;6:e22288.
[8] Brandt R. The mental health of people living with HIV/AIDS in Africa: a systematic review. Afr J AIDS Res 2009;8:123–33.
[9] Owe-Larsson B, Sall L, Salamon E, Allgulander C. HIV infection and psychiatric illness. Afr J Psychiatry 2009;12:115–28.
[10] Leserman J. Role of depression, stress, and trauma in HIV disease progression. Psychosom Med 2008;70:539–45.
[11] Gonzalez JS, Batchelder AW, Psaros C, Safren SA. Depression and HIV/AIDS treatment nonadherence: a review and meta-analysis. J Acquir Immune Defic Syndr 2011;58:181–7.
[12] Prince M, Patel V, Saxena S, Maj M, Maselko J, Phillips MR, et al. No health without mental health. Lancet 2007;370:859–77.
[13] Ziegelstein RC, Fauerbach JA, Stevens SS, Romanelli J, Richter DP, Bush DE. Patients with depression are less likely to follow recommendations to reduce cardiac risk during recovery from a myocardial infarction. Arch Intern Med 2000;160:1818–23.
[14] Katon WJ, Lin EH, Von Korff M, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. N Eng J Med 2010;363:2611–20.
[15] Bonomi AE, Wagner EH, Glasgow RE, VonKorff M. Assessment of chronic illness care (ACIC): a practical tool to measure quality improvement. Health Serv Res 2002;37:791–820.
[16] Lehmann U, Van Damme W, Barten F, Sanders D. Task shifting: the answer to the human resources crisis in Africa? Hum Resour Health 2009;7:e49.
[17] Asmall S, Mahomed OH. The integrated chronic disease management manual. Pretoria: National Department of Health; 2013.
[18] Mall S, Sorsdahl K, Swartz L, Joska J. I understand just a little... perspectives of HIV/AIDS service providers in South Africa of providing mental health care for people living with HIV/AIDS. AIDS Care 2012;24:319–23.
[19] Petersen I, Swartz L. Primary health care in the era of HIV/AIDS. Some implications for health systems reform. Social Sci Med 2002;55:1005–13.
[20] Petersen I. Comprehensive integrated primary mental health care for South Africa. Pipedream or possibility? Social Sci Med 2000;51:321–34.
[21] van der Walt HM, Swartz L. Task orientated nursing in a tuberculosis control programme in South Africa: where does it come from and what keeps it going? Social Sci Med 2002;54:1001–9.
[22] Seedat S, Williams DR, Herman AA, Moomal H, Williams SL, Jackson PB, et al. Mental health service use among South Africans for mood, anxiety and substance use disorders. South Afr Med J/Suid-Afrikaanse tydskrif vir geneeskunde 2009;99:346–52.
[23] Lewin SA, Dick J, Pond P, et al. Lay health workers in primary and community health care. Cochrane Database Syst Rev 2005;CD004015.
[24] Kmet L, Lee RC, Cook LS. Standard quality assessment criteria for evaluating primary research papers from a variety of fields. Health technology assessment initiative. Alberta, Canada: Alberta Medical Heritage for Medical Research; 2004.
[25] Higgins JP, Altman DG, Gotzsche PC, Juni P, Moher D, Oxman AD, et al. The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. Brit Med J 2011;343:d5928.
[26] Evangeli M, Longley M, Swartz L. No reductions and some improvements in South African lay HIV/AIDS counsellors' motivational interviewing competence one year after brief training. AIDS Care 2011;23:269–73.
[27] Fourie L, Rothmann S, van de Vijver FJR. A model of work wellness for non-professional counsellors in South Africa. Stress Health: J Int Soc Investig Stress 2008;24:35–47.
[28] Heunis JC, Wouters E, Norton WE, Engelbrecht MC, Kigozi NG, Sharma A, et al. Patient- and delivery-level factors related to acceptance of HIV counseling and testing services among tuberculosis patients in South Africa: a qualitative study with community health workers and program managers. Implement Sci 2011;6:27–36.
[29] Malema RN, Malaka DW, Mothiba TM. Experiences of lay counsellors who provide VCT for PMTCT of HIV and AIDS in the Capricorn District, Limpopo Province. Curationis 2010;33:15–23.
[30] Naik R, Tabana H, Doherty T, Zembe W, Jackson D. Client characteristics and acceptability of a home-based HIV counselling and testing intervention in rural South Africa. BMC Public Health 2012;12:824–924.
[31] Rohleder P, Swartz L. 'What I've noticed what they need is the stats': lay HIV counsellors' reports of working in a task-orientated health care system. AIDS Care 2005;17:397–406.
[32] Thurling CH, Harris C. Prevention of mother to child transmission lay counsellors: are they adequately trained? Curationis 2012;35:1–7.
[33] Peltzer K, Davids A. Lay counsellors' experiences of delivering HIV counselling services in public health facilities in a eastern cape province district of south Africa. J Psychol Afr 2011;21:53–61.
[34] Peltzer K. Prevalence and correlates of posttraumatic stress in HIV lay counsellors in Nkangala District, South Africa. J Psychol Afr 2012;22:387–92.
[35] Dewing S, Mathews C, Schaay N, Cloete A, Louw J, Simbayi L. Behaviour change counselling for ARV adherence support within primary health care facilities in the Western Cape, South Africa. AIDS and behavior 2012;16:1286–94.
[36] Evangeli M, Engelbrecht S, Swartz L, Turner K, Forsberg L, Soka N. An evaluation of a brief motivational interviewing training course for HIV/AIDS counsellors in Western Cape Province, South Africa. AIDS Care 2009;21:189–96.
[37] Dewing S, Mathews C, Schaay N, Cloete A, Louw J, Simbayi L. It's important to take your medication everyday okay?" an evaluation of counselling by lay

counsellors for ARV adherence support in the Western Cape, South Africa. AIDS and behavior 2012;1–10.
[38] Richter LM, Rooyen H, Solomon V, Griesel D, Durrheim K. Putting HIV/AIDS counselling in South Africa in its place. Society in transition 2001;32:148–54.
[39] Haffejee S, Groeneveld I, Fine D, Patel R, Bowman B. An assessment of counselling and support services for people living with HIV in Gauteng, South Africa: findings of a baseline study. Afr J AIDS Res (AJAR) 2010;9:367–72.
[40] Horwood C, Haskins L, Vermaak K, Phakathi S, Subbaye R, Doherty T. Prevention of mother to child transmission of HIV (PMTCT) programme in KwaZulu-Natal, South Africa: an evaluation of PMTCT implementation and integration into routine maternal, child and women's health services. Trop Med Int Health 2010;15:992–9.
[41] Black V, Sprague C, Chersich MF. Interruptions in payments for lay counsellors affects HIV testing at antenatal clinics in Johannesburg. S Afr Med J 2011;101:407–8.
[42] Woolman S, Sprague C, Black V. Why State policies that undermine HIV lay counsellors constitute retrogressive measures that violate the right of access to health centres for pregnant women and infants. S Afr J Hum Rights 2009;25:102–25.
[43] Breuer E, Stoloff K, Myer L, Seedat S, Stein DJ, Joska J. Reliability of the lay adherence counsellor administered substance abuse and mental illness symptoms screener (SAMISS) and the international HIV dementia scale (IHDS) in a primary care HIV clinic in Cape Town, South Africa. AIDS and behavior 2012;16:1464–71.
[44] Kalichman SC, Simbayi LC, Vermaak R, Cain D, Jooste S, Peltzer K. HIV/AIDS risk reduction counseling for alcohol using sexually transmitted infections clinic patients in Cape Town, South Africa. JAIDS J Acquir Immune Defic Syndr 2007;44:594–600.
[45] Kalichman SC, Simbayi LC, Vermaak R, Cain D, Smith G, Mthebu J, et al. Randomized trial of a community-based alcohol-related HIV risk-reduction intervention for men and women in Cape Town South Africa. Ann Behav Med 2008;36:270–9.
[46] Kalichman SC, Cain D, Eaton L, Jooste S, Simbayi LC. Randomized clinical trial of brief risk reduction counseling for sexually transmitted infection clinic patients in Cape Town, South Africa. Am J Public Health 2011;101: e9– e17.
[47] Peltzer K, Simbayi L, Banyini M, Kekana Q. HIV risk reduction intervention among medically circumcised young men in South Africa: a randomized controlled trial. Int J Behav Med 2012;19:336–41.
[48] Cornman DH, Kiene SM, Christie S, Fisher WA, Shuper PA, Pillay S, et al. Clinic-based intervention reduces unprotected sexual behavior among HIV-infected patients in KwaZulu-Natal, South Africa: results of a pilot study. J Acquir Immune Defic Syndr (1999) 2008;48:553.
[49] Peltzer K, Tabane C, Matseke G, Simbayi L. Lay counsellor-based risk reduction intervention with HIV positive diagnosed patients at public HIV counselling and testing sites in Mpumalanga, South Africa. Eval Prog Planning 2010;33:379–85.
[50] Peltzer K, Tabane C, Matseke G, Simbayi L. Lay counsellor-based risk reduction intervention with HIV negative diagnosed patients at HIV counselling and testing sites in a rural South African setting. J Psychol Afr 2009;19:541–7.
[51] Fatti G, Meintjes G, Shea J, Eley B, Grimwood A. Improved survival and antiretroviral treatment outcomes in adults receiving community-based adherence support: five-year results from a multicentre cohort study in South Africa. JAIDS J Acquir Immune Deficiency Syndr 2012;61:50–8.
[52] Petersen I, Bhana A, Baillie K. The feasibility of adapted group-based interpersonal therapy (IPT) for the treatment of depression by community health workers within the context of task shifting in South Africa. Comm Ment Health J 2012;48:336–41.
[53] Dewing S, Mathews C, Schaay N, Cloete A, Simbayi L, Chopra M. The feasibility of implementing a sexual risk reduction intervention in routine clinical practice at an ARV clinic in Cape Town: a case study. AIDS and behavior 2011;15:905.
[54] Cornman DH, Christie S, Shepherd LM, MacDonald S, Amico KR, Smith LR, et al. Counsellor-delivered HIV risk reduction intervention addresses safer sex barriers of people living with HIV in KwaZulu-Natal, South Africa. Psychol Health 2011;26:1623–41.
[55] Dua T, Barbui C, Clark N, Fleischmann A, Poznyak V, van Ommeren M, et al. Evidence-based guidelines for mental, neurological, and substance use disorders in low- and middle-income countries: summary of WHO recommendations. PLoS Med 2011;8:e1001122.
[56] Mayosi BM, Flisher AJ, Lalloo UG, Sitas F, Tollman SM, Bradshaw D. The burden of non-communicable diseases in South Africa. Lancet 2009;374:934–47.