A systematic review of best practices in HIV care

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Abstract

Best practices in HIV care have the potential to improve patient outcomes and inform practice. We conducted a systematic review of best practices in HIV care that were published from 2003 to 2013. Practices that demonstrated success in achieving desired results based on their objectives were included in the review. Two themes emerged from the eight articles reviewed: (a) the importance of linking newly diagnosed people living with HIV to care and (b) the role of integrated and comprehensive service provision in improving patient outcomes. Inconsistencies in reporting and arbitrary use of the term “best practices” were hurdles in this review.

Keywords

AIDS; best practices; HIV; systematic review

Introduction

In 2012, 35.3 million people globally were living with HIV (UNAIDS, 2013). Access to health services and HIV care for people living with HIV (PHAs) remains a significant global concern especially for vulnerable populations such as youth, women, people who use substances, and minorities who continue to experience major barriers in obtaining treatment and access to care (UNAIDS, 2013). Although HIV is now considered a chronic disease, preventing transmission, as well as decreasing morbidity and mortality and improving the quality of life for PHAs, remains a major challenge. Through sharing best practices in HIV care, care providers, policy- and decision-makers, as well as researchers can learn from one another and share expertise, successes, and lessons learned in HIV care.

“Best practices” are defined as those practices that, on rigorous evaluation, demonstrate success, have an impact, and can be replicated in other settings (Heffes, 2002; UNESCO, 2011). To identify best practices, research is directed to those practices that have been proven to generate results and can serve as a model to be learned from and replicated by others (Goetzel, Guindon, Turshen, & Ozminkowski, 2001; Zairi, 1998). The goal of best practices is to promote creative, successful, and sustainable solutions to address a particular practice (UNESCO, 2011). Best practices in health care are seen as having the potential to

transform patient outcomes and improve the standards of health care by informing clinical guidelines and, as a result, practice (DuFour & Eaker, 1998; Ploeg, Davies, Edwards, Gifford, & Miller, 2007). Most recently, the Canadian Association of Nurses in AIDS care (CANAC) (McCall et al., 2012) developed best practice guidelines specifically aimed at supporting front-line nurses to provide HIV care. This document, titled *Best Practice Guidelines: Caring for Clients Who Are at Risk for and Living with HIV/AIDS*, provides a resource for nurses by outlining core competencies for HIV nursing care. The guidelines were developed to ensure that nurses understood their professional responsibilities in relation to PHAs (CANAC, 2013). CANAC drew evidence for their best practice guidelines from a variety of sources, including randomized control trials and surveys. Their primary focus was on acute care for PHAs. These guidelines have yet to be evaluated. According to Goetzel et al. (2001), best practices communicate innovativeness, success, and sustainability of ideas, which can then be replicated in other settings. As a result, they enable practitioners to identify solutions to common problems through tangible and sustainable interventions that impact the quality of lives of patients (UNESCO, 2011).

HIV is a complex illness, and although it is now regarded as a chronic and a manageable disease, it has significant medical and social implications. Although there is a plethora of information (both published and unpublished) on best practices in HIV care, there is a dearth of literature on the scientific rigor or standards to be observed before a practice or a program can be declared a “best practice.” Thus, any research that reported and identified positive outcomes of benefit to clients and that resulted from project implementation or evaluation was included in this review.

Methods

The following terms were used in our systematic search strategy: *HIV* or *AIDS*, cross-referenced with *best practice*, *treatment*, *therapy*, or *intervention* in the title or abstract of the articles. We limited the search to the past decade (2003–2013) of published works and included only articles written in English. The following bibliographic databases were searched: EMB Reviews, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, CINAHL, EMBASE, MEDLINE, and SCOPUS. Searches of gray literature such as handbooks or reports were done using website searches of Google and TRIP websites (Turning Research into Practice, which is an evidence-based medical search engine). Further ancestry searches of relevant articles were performed.

One investigator (G.M.) screened the titles and abstracts of the studies identified by the search strategy of potential articles to include and then removed duplicates. Two independent reviewers (G.M. and J.C.K.) then screened the title and abstracts independently to check that inclusion criteria were met; discrepancies were discussed before proceeding to the next stage of the review. When both reviewers agreed that an article met the inclusion criteria, the full text was reviewed. Concurrent validity was achieved by negotiating and building consensus between the two reviewers who met frequently to discuss the full-text articles to ensure consensus for final inclusion. We used the PRISMA (Preferred Reporting Items for the Systematic Reviews and Meta-Analysis) tool to manage the review process and results (PRISMA, 2014). We conducted our systematic review according to the guidelines

provided by PRISMA. Figure 1 shows the PRISMA search strategy and reasons for exclusion.

Results

Our search yielded 562 titles and abstracts that were potentially relevant to our topic of interest. After removing duplicates, reviews, and commentaries, abstracts were screened by two independent reviewers. A value of .88 was achieved, indicating high interrater reliability. Thirty full-text articles that fit the inclusion criteria were considered. Eight articles were included for the review. To be considered in the review, articles needed to describe all three elements—(a) best practices, (b) processes, and (c) documented outcomes—for us to evaluate them.

We used an extraction tool to classify and categorize the articles. The variables synthesized included objective of the article, focus of best practice, what worked, country, and outcomes. The summaries of the articles are presented in Table 1.

Thematic analyses to identify commonalities of the programs included in this review were done. Two best practices themes emerged from the review: (a) linking newly diagnosed PHAs into care and (b) providing integrated and comprehensive service provision.

Linking newly diagnosed PHAs to care

Linking newly diagnosed PHAs to care ensured that they received immediate care. This approach recognized that HIV infection is a major destabilizing experience and that PHAs may struggle with stigma, trauma, and rejection. Linking PHAs to requisite care in a timely manner is a way to provide care, support, and stability, so they may engage and remain in treatment. In the programs we reviewed, newly diagnosed PHAs were linked to not only medical care but also social care including housing, finances, employment, and food.

Programs used diverse ways to facilitate linkages from testing to care and to assess the success of their interventions. Bauman et al. (2013) identified best practices in linking HIV clients in two phases. In phase 1 they engaged 24 key informants working in the linkage agencies and engaged them in in-depth conversations about the barriers and facilitators of linking newly diagnosed PHAs to care. The interviews were thematically analyzed to identify the barriers and facilitators promoting a smooth linkage of PHAs to care. In phase 2, they conducted case studies of the 24 organizations from which the 24 key informants were drawn. These organizations had a linkage-to-care rate of 69.9% in 3 months and 84.3% in 12 months. Factors identified as central to linkage to care were having patient navigators and care coordinators, taking a team approach to care, developing and nurturing trusting relationships with PHAs, monitoring linkages and follow-up services, staff training and stigma reduction, reducing wait times, and accessing mental health services (Bauman et al.).

Craw et al.'s (2010) program implementation was based on a randomized control trial for the Antiretroviral Treatment Access Study (ARTAS 1), which compared a brief strength-based case management intervention with standard care by linking newly diagnosed PHAs to care. In the strength management arm, clients were coached to identify and use their

strengths to set goals and search for resources needed to meet these goals. Clients in this arm had a 78% success rate in linking to care compared with a 60% success rate when receiving standard support. Eight best practices identified from the ARTAS 1 trial were the basis for implementing phase 2 of the linkage, referred to as ARTAS II.

Project Inform (2011) linked newly diagnosed clients before receiving an HIV confirmatory test. The staff in this project also offered adherence counseling, follow-up, and support services and gave monetary incentives for PHAs to be linked into care. Through these interventions, between 2006 and 2008 the program saw a 14% increase in linkage to care for their newly diagnosed patients within 3 months of testing.

Providing integrated and comprehensive services

Offering integrated and comprehensive services for PHAs, such as mental health care, addiction treatment, harm reduction services, and access to housing and financial support, was demonstrated to be invaluable to PHAs because the services responded to their diverse needs. Charalambous et al.'s (2007) South African workplace HIV program incorporated testing, counseling, and care through a subsidiary health agency contracted to provide HIV care to its employees. This HIV program had several diverse components: patient education and counseling, pharmacy and data management, staff training, and monitoring and evaluation. Of those patients who were diagnosed with HIV, 98% received treatment. The program retained 78% of the clients in treatment and reduced HIV mortality by 2.3% over 1 year. Their success was based on the seamless coordination of services from testing to care.

Dillard et al. (2010) described integrated HIV care services that combined health services with other social services under one roof for hard-to-reach PHAs. This included PHAs who faced mental health and addiction problems, were homeless, or needed financial support. As a result of the services, PHAs reported reduced wait times, program efficiency increased, and compliance to HIV care increased. Further, as a result of the program, 69% of newly diagnosed PHAs remained in treatment for at least 6 months, while 49% remained in the program for 1 year. Of the clients who used substances, 50% refrained from substance use for at least 30 days, while 37% were substance free for 6 months. In addition, 44% of clients increased their income, while 60% of the previously unemployed clients found employment within 6 months.

A Better Place (ABP) program (Pardasani, 2005) assessed homeless PHAs' readiness to transition into independent living. In addition, they provided clinical and social services to PHAs. The author suggested that because of the provision of comprehensive services were available to homeless PHAs, over time they were stabilized enough to improve treatment adherence. They also were able to learn and develop basic life skills necessary for independent living. Subsequently, 80% of the clients recommended by the ABP program for independent living retained housing for at least 1 year.

The World Health Organization's (2004) Iranian triangular model that included an HIV clinic, addictions unit, and an STI unit attracted and retained the difficult to reach persons at risk or infected with HIV. By integrating prevention and care, services became more patient and client-centered and clients' needs were met holistically. As a result of these

interventions, the authors noticed behavioral modifications in their patients. The clients also embraced harm reduction services.

Brink and Pienaar (2007) described an HIV program that used a business model to provide care for its mining employees. To achieve their company health targets, they used benchmarking targets, incorporating robust monitoring, and evaluation programs, and provision of comprehensive HIV care for families and the surrounding South African community. Following the implementation of the program, HIV testing increased from 10% in 2003 to 63% in 2005. By 2006, 70% of the HIV clients who needed antiretroviral (ARV) treatment were linked to care, and 94% of PHAs remained employed by the company.

Discussion

Primary health care for PHAs is complex and multifaceted; it requires coordination, appropriate linkages, and the provision of comprehensive services such as clinical, psychosocial, and mental health care, as well as housing support, addiction treatment, and financial support (Ayres et al., 2006; Gallant et al., 2011; Kumarasamy et al., 2005; Merkel et al., 2013; Weeks & Alcamo, 2010). HIV testing and linkage to care, engagement, retention, access to medication and adherence support, medical case management, and social support are critical to HIV service delivery and integrated care (Gallant et al., 2011).

The two themes in this review, linkage to care and comprehensive care services, are vital to the post-HIV diagnosis experiences of PHAs. Continuity of care from testing to treatment with a focus on patient-centered care was a prominent feature of the programs reviewed. HIV testing is the first step in an HIV treatment cascade consisting of HIV testing and diagnosis, linkage to appropriate care, and treatment support (Wilton & Broeckart, 2013). Enrolling PHAs into care at the earliest opportunity ensures that they are assessed for eligibility for ARVs, thereby increasing longevity and reducing HIV transmission (WHO, 2013; Wilton & Broeckart, 2013). Linkage, guidance, and direction for PHAs at the time of diagnosis are needed as HIV diagnosis is destabilizing. Studies have shown that poor linkages between treatment and care hinder the effectiveness of the test-to-treat strategy (Gardner, McLees, Steiner, del Rio, & Burman, 2011). As a best practice for HIV care, linking PHAs to care resulted in an urgency to connect PHAs to care, which in turn minimized the loss to follow-up. Without transition support, retention in care may be suboptimal; studies have demonstrated that about 50% of newly diagnosed persons living with HIV are not linked to care within 6 months of their diagnosis (Philbin et al., 2013). By linking PHAs to care, both their immediate and long-term concerns were addressed.

Although HIV is now considered a chronic disease, timeliness in its management and strict adherence to HIV treatment regimens are still key concerns (Rathbun, Lockhart, & Stephens, 2006). Given that ARV medication is the cornerstone of any successful HIV program (Gallant et al., 2011), having PHAs access lifesaving ARV treatment in a timely manner optimizes their quality of life and avoids possible complications (Beer et al., 2012). This approach is in addition to meeting other requirements such as socioeconomic and psychological needs (UNAIDS, 2011). Recognizing the importance of an holistic approach to HIV care, UNAIDS (2011) advocates for a multipronged approach to HIV care called

“positive health, dignity, and prevention of HIV” in which both the medical and social needs of PHAs are central to successful HIV care (Lau et al., 2003).

This review has reminded us that although HIV is regarded as a chronic illness, it is still an exceptional disease. It commands attention and investment in order to reduce HIV transmission, morbidity, and mortality. Concerted and coordinated efforts are needed to enable PHAs to live and participate fully in the community. PHAs adherence to care can be affected by issues such as stigma, poor access, poverty, mental health, and addictions (Andersen et al., 2003; Hull, Wu, & Montaner, 2012). Subsequently, they need support to be linked to care and to have access to comprehensive services (medical and social) to stay on a path to wellness and be active members of the community.

Challenges of appraising best practices

Although the benefits of best practices to improve HIV care were evident in the programs, their potential to inform practice and policy may be hampered because of the lack of standardized mechanisms to follow in devising and reporting best practices. As a result, authors are not guided about what to include in their articles, details that would enable an objective appraisal of their programs. For instance, we rejected most publications that purported to report best practices but failed to report a quantifiable measure of success. Although the WHO (2008) attempts to provide a tool to appraise best practices called *Guide for Documenting and Sharing Best Practices in Health Programs*, the items it proposes are not measurable: program effectiveness, relevance, ethical soundness, sustainability, possibility of duplication, partnership, community involvement, and political commitment.

Second, how to interpret the documented outcomes reported as best practices posed a challenge. For instance, quantitative figures such as an increase in the number of clients or the achievement of benchmarks were used to demonstrate success. Given that these figures were not subjected to inferential statistics, we could not determine if the said “success” was statistically or clinically significant? Craw and Colleagues’ program implementation was based on results of a randomized control trial. There was a difference of 18% between treatment and control arms in linking newly diagnosed PHAs to care. Based on the content of the article, the authors did not indicate if the difference between the treatment and control arm were statistically significant. From a qualitative perspective, the programs that reported best practices had no inputs or views from the PHAs as recipients of care to explore their views about care. Further, the lack of an objective benchmark that a researcher or a practitioner could use to appraise a program meant that it was up to the individual author or program manager to decide what they deemed as best practice.

Third, a majority of the programs included in this review were conducted in the United States, where it is possible for large investments of money and resources to enable such programs to occur and be evaluated. In addition, other programs included in this review were supported by multinational companies (Brink & Pienaar, 2007; Charalambous et al., 2007). We wonder how such programs could be replicated in resource-constrained settings. In addition, most of these programs were conducted in context-specific settings, serving clients with specific sociodemographic characteristics such as homelessness or health issues

including mental health and drug use. We wonder if the best practices devised from such contexts would be applicable to contexts where HIV is pandemic.

The arbitrary use of the term “best practice” in the literature proved most challenging; often authors had no intention of communicating a novel practice or a desirable model. Reporting practitioners’ opinion or their experiences working with people with or at risk of HIV as best practice becomes difficult to appraise when there is the potential lack of measurable outcomes. Our limited searching in the gray literature may not have yielded all relevant work in the area of best practice for HIV care. Furthermore, a lack of a methodological rigor in some of the reported best practice articles proved to be a major challenge in this review. Finally, the search for articles published in English could potentially have missed relevant materials published in other languages.

Conclusion

Best practices are helpful tools to communicate the innovations of practitioners and researchers who work in the field of HIV treatment and care. However, due to the variations in understanding, development, and reporting of best practices, questions abound as to the scientific merit in offering guidelines as a mechanism of communicating successes. Also, given the many challenges identified through the review related to the identification, authentication, and possibilities of adopting best practices to other settings, our review may have numerous limitations. A lack of a scientifically sound tool for appraising best practices, a standardized language for defining best practices, and variations in reporting of contents of the best practices further compounded the appraisal. This limited the appeal of using best practices as viable tools to communicate innovation and adaptability in diverse settings. To make best practices in HIV care valuable in driving innovation, change, and the sharing of what works in a variety of settings, we propose the following: (a) the development of a scientifically sound approach to guide the reporting and appraisal of best practices and (b) the creation of an agreed-on and standardized definition of what constitutes best practices and how they are developed and reported.

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Figure 1.
PRISMA flow diagram of best practice in HIV care search strategy.

Characteristics of included studies.

Table 1

Paper	Objectives of the article	Focus of best practices	What worked	Country	Documented outcomes
1. Bauman et al. (2013):	Describe the barriers and facilitators to linkages to care for confirmed HIV-positive clients.	Linkage to treatment for newly diagnosed persons with HIV	The use of system navigators, champions, and peers in HIV care proved successful. The development of teamwork and building a trusting relationship between the staff and clients reduced HIV stigma among staff and reduced long waiting periods. Addressing non-HIV needs and having a robust monitoring of the linkage to care and follow-up promoted adherence.	USA	Linked 85% of the newly diagnosed PHAs into care within 3 months of diagnosis
2. Brink and Pienaar (2007):	Describes an HIV program at an international mining company whose employees lived and worked primarily in South Africa.	HIV prevention, HIV treatment, community interventions, and counseling services	Benchmarking HIV testing and treatment targets, a strong monitoring and evaluation of programs under implementation and provision of a comprehensive HIV care for the employees and their families and the surrounding community.	South Africa	Uptake of HIV testing increased from less than 10% in 2003 to 63% in 2006; ARV enrollment increased by 37% between 2005–2006.
3. Charalambous et al. (2007):	To describe the ART program implementation at a workplace in South Africa.	Provide cost-effective HIV care to industrial workers in South Africa and the provision of ART.	The company contracted a health provider to provide comprehensive HIV care to employees. Linking HIV testing and HIV care, providing education and training, and having a robust monitoring and evaluation system in place were the hallmarks of the program.	South Africa	Enrolled 98% of eligible PHAs into care. Retained 78% in care after 1 year.
4. Crow et al. (2010):	To describe the best practices, factors, and structural characteristics of an ARV treatment program.	Linkage to HIV treatment for newly diagnosed PHAs.	Appropriate partnership between HIV testing and HIV care ensured a seamless transition and linkage for the newly diagnosed PHAs. Further, providing consistent and ongoing support and supervision to linkage coordinators. Supporting postintervention continuation of linkage programs.	USA	Built on a randomized controlled trial that showed that PHAs that had care manager support were 78% more likely to link with care compared with 60% with standard care.
5. Dillard et al. (2010):	To evaluate two comprehensive programs and their impact for PHAs with substance abuse issues.	Special services, integrated nested services.	To provide HIV care to the hard to reach, at risk of, or living with HIV virus, addressing addiction, mental health, and HIV care services together is critical.	USA	69% of PHAs remained on HIV treatment for at least 6 months and 49% remained for up to 1 year.
6. Pardasani (2005):	To provide a service model of housing and social services for PHAs.	Clinical and social services. Congregate model of service for HIV-positive clients.	Short-term intensive clinical and social services are fundamental to the stabilization of homeless HIV clients while waiting for an independent living placement.	USA	80% of PHAs who received services from the program remained in independent housing for at least 1 year.
7. Project Inform (2011):	To examine successful components of Test, Link to Care, Plus Treat (TLC-Plus). Identify strategies that improve health outcomes for PHAs.	Screening, linkage, treatment and social support, housing, and food.	Reducing waiting time from the time of HIV-positive diagnosis to first contact with a health care provider is critical to a successful linkage of newly diagnosed PHAs. This was achieved through using a presumptive diagnosis with rapid testing and linkage to care without waiting for confirmatory tests, implementing routine opt-out HIV testing and increasing incentives to service providers to contact and follow patients.	USA	An increase in linkage by 14% from 2006 to 2008.
8. WHO (2004):	To describe the triangular clinic in Kermanshah provincial medical university	HIV treatment, HIV prevention, HIV-associated services.	Treatment of STDs, addressing substance abuse, and providing care and support for PHAs are	Iran	Attracting and retaining hard-to-reach patients in the clinic. These include the HIV-positive and injection drug users.

Paper	Objectives of the article	Focus of best practices	What worked	Country	Documented outcomes
	using a three-pronged approach.	Comprehensive and patient-centered care.	cornerstones in addressing HIV issues in an Iranian context.		