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HIV medication therapy management services in community pharmacies

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Abstract

Objectives—To present a rationale and a proposed structure to support pharmacist-delivered medication therapy management (MTM) for human immunodeficiency virus (HIV) disease and to outline challenges to implementing and sustaining the service.

Data sources—Professional literature.

Summary—Historically, the effect of pharmacy services for HIV-infected persons has been demonstrated in inpatient and clinic-based settings. Developing similar programs adapted for community pharmacists could be a model of care to improve patient adherence to antiretroviral therapy and retention in care. Initiation of antiretroviral therapy and regular monitoring of CD4+ cell count, HIV RNA viral load, adverse drug events, and adherence form the backbone of successful medical management of HIV infection. Support for these services can be provided to HIV-infected patients through pharmacist-managed HIV MTM programs in community pharmacy settings in collaboration with primary providers and other health care professionals.

Conclusion—Community pharmacists can help meet the growing need for HIV care through provision of MTM services. Although resources have been developed, including the general MTM framework, challenges of adequate training, education, and support of community pharmacists need to be addressed in order for HIV MTM to be a successful model.

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Keywords

Medication therapy management; HIV; community pharmacy; antiretroviral therapy

In the 21st century, care of persons infected with human immunodeficiency virus (HIV) has transitioned from treatment of an acute illness to comprehensive management of a chronic infection accompanied by a number of comorbidities.¹ HIV-infected patients are typically referred to infectious disease specialists, a model of care that meets patients' needs. As more effective therapy has led to profound reductions in HIV-associated morbidity and mortality, providers are faced with the challenges of long-term management of HIV infection and other comorbidities.² Adverse effects associated with antiretroviral therapy (ART), continued inflammation despite virologic control, and increased risk of age-associated nonAIDS-related morbidity and mortality become increasingly common clinical problems.² The increasing numbers of persons living with HIV infection requires more primary care providers at a time when the HIV health care workforce may be declining.³ A survey of American Academy of HIV Medicine members revealed that 45% of the workforce is older than 50 years of age and is expected to retire within 10 years, raising concern as to whether an adequate workforce committed to care of persons with HIV disease will be available in the future.⁴

In 2010, the White House released the U.S. National HIV/AIDS Strategy emphasizing three primary goals: (1) reduce the number of people who become infected with HIV, (2) increase access to care and optimize health outcomes for people living with HIV infection, and (3) reduce HIV-related health disparities.⁵ Achieving these goals requires the health care system to identify HIV-infected persons at an earlier stage of infection, link infected persons to health care practitioners, retain patients in the care system, and provide ART when appropriate. The U.S. National HIV/AIDS Strategy suggests increasing the number and diversity of health care practitioners to strengthen the current provider workforce and to ensure quality HIV care. Pharmacists perform HIV prevention services through syringe access programs where allowed by law⁶ and more recently pharmacies have been used as sites to perform rapid HIV testing to identify new HIV-infected persons and refer them to care.⁷⁻⁹ Pharmacists are positioned to further fill the workforce gap through provision of MTM services to persons with HIV disease by ensuring quality care to improve adherence to ART and retention in HIV care. A rationale and proposed structure to support pharmacist-delivered MTM for HIV disease is presented here, as well as an outline of challenges to implementing and sustaining the service.

Rationale for community pharmacist–based medication therapy management for HIV

Community pharmacies provide easily accessed locations. A 2007 evaluation of Medicare Part D recipients indicated that 90% of urban beneficiaries lived within four miles, and 70% of rural beneficiaries lived within 15 miles of a pharmacy.¹⁰ Community pharmacists also have demonstrated success in managing medication-related needs of patients with chronic illness, leading to improvements in clinical outcomes and decreases in health care

expenditures.^{11–14} Furthermore, community pharmacists provide flexible hours for patients (e.g., during evenings and weekends). This flexibility provides a way for patients to access care at a time and place that may be convenient for them. Lack of flexibility of HIV clinic hours to accommodate work schedules has been identified as a barrier to consistent HIV care.¹⁵ In urban areas, busy or overcrowded clinics may have limited resources for comprehensive adherence and retention services. In rural settings, patients often travel long distances to receive HIV care, which can deter adherence and retention efforts.¹⁶

Supporting literature

Historically, the effect of pharmacist services for persons with HIV infection has been documented in clinic-based settings, particularly in promoting antiretroviral adherence.^{17,18} An analysis of more than 10,000 new ART-regimen starts in a large, integrated health care system demonstrated the value of a clinical pharmacist as a member of a multidisciplinary HIV care team, resulting in improvements in ART adherence and CD4+ cell count responses.¹⁹ Developing similar programs adapted for community pharmacists could improve patient adherence to ART and retention in care. These changes will likely improve outcome and potentially limit emergence of ART resistance. Specialized MTM programs for HIV-infected patients have emerged in response to growing ART-related expenses and to improve HIV patient health outcomes. Such a program has been developed by Ramsell Pharmacy Solutions and MIRIXA Corp.²⁰

A brief PubMed literature search returned 20 distinct publications using the combined search terms “pharmacist medication therapy management and HIV” and “pharmacist medication therapy management and antiretroviral.” Five of these articles described community-based pharmacist-provided MTM.^{21–25} Three community-based articles were related to the California HIV/AIDS specialty pharmacies selected to provide MTM services to HIV/AIDS Medi-Cal patients.²¹ That study compared medical claims of HIV-infected patients in pilot pharmacies offering HIV MTM services with medical claims of HIV-infected patients in other Medi-Cal pharmacies that did not offer MTM services. Investigators observed improved medication adherence for HIV-infected patients who received MTM services. An additional 3-year examination of the Medi-Cal HIV MTM services demonstrated that pilot pharmacy patients, in comparison to nonpilot pharmacy patients, were more likely to have clinically appropriate ART regimens and to be more adherent to those regimens.²² This study also demonstrated sustainability of HIV MTM services by maintaining satisfactory medication adherence over three years. Provision of HIV MTM services resulted in greater drug-related expenditures than expected but was associated with lower costs for hospital admissions and emergency room visits. Increased expenditures were mostly attributed to nonART medications used to mitigate HIV and ART-related peripheral neuropathy, gastrointestinal, and psychotherapeutic adverse effects. This program indicates both the effect of pharmacists’ HIV MTM services and the potential sustainability of HIV MTM services by lowering overall costs associated with patient care.

An additional article compared pharmacies that offer specialized services for HIV-infected patients with nonspecialized pharmacies.²⁴ The study demonstrated improvements in adherence as measured by proportion of days covered by antiretroviral drug prescriptions as

well as persistence with remaining on antiretroviral therapy, though the absolute differences were modest.

Another evaluation of patients who filled antiretroviral prescriptions in 2007–09 found that those served at any one of seven HIV-specialty Walgreen pharmacies in California had better regimen refill adherence as measured by a modified medication possession ratio (90%) compared with traditional Walgreens pharmacies in California (77%). The specific interventions associated with improvement was not documented, though pharmacists at these stores all had completed an HIV certificate training program designed for community pharmacists.²⁵

Retention in care, adherence to antiretroviral therapy, and viral suppression should be the measures of improvements investigated in future community pharmacy-based MTM programs for persons with HIV.

Initiating community pharmacist-based HIV MTM

A first step to achieving HIV MTM programs is for community pharmacists to establish formal relationships with health care providers and patients with HIV. Identification and communication of key issues to be considered when establishing and formalizing HIV MTM services and roles is important. Issues include (1) care coordination, (2) pharmacist education and use of available resources, and (3) achievement of reimbursement for services.

Care coordination

Care coordination with collaborative relationships (e.g., collaborative practice agreements) with primary providers of care can define pharmacists' role on the interprofessional HIV care team. Pharmacists can perform comprehensive HIV MTM to ensure appropriate dose, efficacy, safety, and adherence to medications and provide regular reports to providers. Access to medical information and the therapeutic goals established in the clinic through an electronic medical record would assist pharmacists in doing this. Relationships between community pharmacists and other health care providers could be established through partnerships between pharmacy networks and HIV clinics. Community pharmacists willing to provide MTM services to HIV-infected patients should be identified and connected to interested clinics and ultimately linked to patients living with HIV infection in regions.

Care coordination between the community pharmacist and the clinical provider may vary depending on the level of HIV expertise of the provider and their clinic staff. The community pharmacist's services may be valuable to a primary care physician who manages a few HIV-infected clients without dedicated HIV specialty trained staff. Another instance may be a clinic situation where HIV disease is one of many medical conditions the staff manages, and where care may be provided by health care professionals without specific expertise in HIV medicine, such as primary care physicians, mental health providers, nurse practitioners, physician assistants, nurses, and social work staff. A typical example may be a federally qualified health center in an underserved area or a place where the pharmacist works as a member of a medical home model of care and provides patient education and

counseling. Community pharmacists could also provide service to HIV specialty clinics that may have HIV expert pharmacists on staff.

In any of these three scenarios, community pharmacists may facilitate regular contact with patients between clinic visits to reinforce therapeutic goals and monitor/enhance retention in care of patients, preventing loss to follow-up. Pharmacists could be involved in care coordination by ensuring patients complete laboratory tests (e.g., CD4+ cell counts, HIV RNA viral load, and lab tests to monitor for adverse effects of the drugs) ordered by the physician or ordered by the pharmacist under a collaborative practice agreement. Refill patterns, adherence to medication, patient tolerability of the regimen, and laboratory results could be reviewed and communicated to the physician during regularly scheduled meetings, with more rapid feedback for predefined critical lapses in adherence or laboratory values.

Formal relationship establishment and communication of potential roles in care coordination and management to patients also may be beneficial. Emphasis of pharmacists' accessibility to patients' residences (e.g., may be closer and more available to the patient than clinics) can create opportunities to establish patient relationships whereby pharmacists play active roles in comanaging patients' care with the primary provider. Patients benefit from the convenience of the service location. Additionally, frequent contacts between pharmacists and patients for refilling medications can formalize relationship roles in monitoring engagement in care and identifying potential nonadherence to medication between scheduled clinic visits. Pharmacists can aid in the identification of drug interactions and perform medication reconciliation for patients with multiple medical providers.²⁶ Additional pharmacists' roles outside of typical clinic encounters can improve patients' health literacy and improved understanding of medical care through motivational interviewing.²⁷ Pharmacists' ability to improve retention in care and adherence can be documented as one measure to justify the service.²⁸

Pharmacist HIV education and available resources

To support roles of community pharmacists in HIV MTM, adequate training and mentors with expertise in HIV therapy management are required.²⁹ Training in HIV care specifically for pharmacists as certificate programs and continuing education programs may be appropriate for community pharmacists.³⁰ Training programs targeting a variety of HIV providers, including physicians, physician assistants, nurse practitioners, nurses, and pharmacists through the AIDS Education & Training Center, may be completed.³¹ Pharmacists may obtain credentialing through the American Academy of HIV Medicine.³² While full credentialing may not be feasible for all community pharmacists, a mentor-mentee relationship with a pharmacist credentialed in HIV may be a potential strategy to ensure expertise in HIV pharmacotherapy. Objectives of these programs typically are to train community pharmacists to educate patients about HIV disease and opportunistic infections, to promote ART adherence, and to prevent medication-related adverse effects and serious drug interactions, with the ultimate goal to improve patient care and decrease medication and hospitalization-related expenses.

Reimbursement for services

Financial sustainability is necessary for effective HIV care delivery, and lack of adequate reimbursement for HIV MTM services or for providing medication counseling services has been cited as a barrier to provision of optimal MTM services.^{23,33,34} Adequate reimbursement is essential to sustain new MTM services for HIV disease. The value of these services will need to be clearly demonstrated to secure payers' support.^{35,36} Other changes in health care are encouraging as patient-centered medical homes and accountable care organizations may represent models of care that could provide a sustainable mechanism for reimbursement of pharmacist services in the future.³⁷

Conclusion

HIV management has evolved to the point that HIV MTM can enhance patients' quality of life and decrease mortality. Initiation of ART and regular monitoring of laboratory values, adverse drug events, and adherence form the backbone of successful medical management of HIV infection. Support for these services can be provided to HIV-infected patients through pharmacist-managed HIV MTM programs in community pharmacy settings in collaboration with primary providers and systems. Although resources have been developed including the general MTM framework, challenges of adequate training, education, and support of community pharmacists need to be addressed in order for HIV MTM to be successful. With an estimated HIV incidence of nearly 50,000 new cases per year in the United States, the need for clinical care for HIV disease continues to grow.³⁸ Community pharmacists can help meet this growing need by providing MTM services for HIV-infected persons.

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At a Glance

Synopsis

Based on the model of medication therapy management (MTM) focused on specific conditions, such as diabetes management, the authors call for the application of MTM in HIV/AIDS care. Pharmacist-based management of HIV infection has been shown effective in speciality clinics, with attention to adherence and monitoring of HIV markers such as CD4+ cell count. The authors here advocate extending this management into community pharmacies in collaboration with physicians and other health care workers. Community-pharmacy HIV MTM would help to fill a gap in accessibility for many patients.

Analysis

Attention to medication adherence and monitoring of HIV markers are critical to HIV care, but specialty clinics can be underfunded or located far from the patients who need the care. Thus while monitoring in HIV treatment can be effective, many patients do not have easy access to a clinic that provides monitoring. The ability of community pharmacists to provide monitoring and MTM and to increase adherence has been shown effective with other medical conditions, but most pharmacists are not doing so in a focused way for HIV. It is a logical step to bring a need for more monitoring together with an ability to monitor, and to engage more pharmacists in meeting this need.