



Review Article

Impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes: An umbrella review



Alvaro San-Juan-Rodriguez^{a,*}, Terri V. Newman^a, Inmaculada Hernandez^a, Elizabeth C.S. Swart^c, Michele Klein-Fedyshin^b, William H. Shrank^c, Natasha Parekh^c

^a Department of Pharmacy and Therapeutics, School of Pharmacy, University of Pittsburgh, Pittsburgh, PA, USA

^b Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA, USA

^c UPMC Center for High-Value Health Care, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

ARTICLE INFO

Keywords:

Pharmacies
Community pharmacy services
Preventive health services
Immunization
Smoking cessation
Hormonal oral contraceptives
Secondary prevention
Direct-to-consumer screening and testing

ABSTRACT

Preventable diseases and late diagnosis of disease impose great clinical and economic burden for health care systems, especially in the current juncture of rising medical expenditures. Under these circumstances, community pharmacies have been identified as accessible venues to receive preventive services. This umbrella review aims to examine existing evidence on the impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes in the United States (US). We included systematic reviews, narrative reviews and meta-analyses published in English between January 2007 and October 2017. Of 2742 references identified by our search strategy, a total of 13 research syntheses met our inclusion criteria. Included reviews showed that community pharmacists are effective at increasing immunization rates, supporting smoking cessation, managing hormonal contraception therapies, and identifying patients at high risk for certain diseases. Moreover, evidence suggests that community pharmacies are especially well-positioned for the provision of preventive services due to their convenient location and extended hours of operation. There is general agreement on the positive impact of community pharmacists in increasing access to preventive health, particularly among patients who otherwise would not be reached by other healthcare providers. The provision of preventive services at US community pharmacies is feasible and effective, and has potential for improving patient outcomes and health system efficiency. However, high-quality evidence is still lacking. As the healthcare landscape shifts towards a value-based framework, it will be important to conduct robust studies that further evaluate the impact of community pharmacist-provided preventive services on utilization and economic outcomes.

1. Introduction

Given the high clinical and economic burden of preventable diseases, preventive services are essential tools in population health management. For instance, in the United States (US), influenza infections account for 140,000–710,000 hospitalizations and 12,000–56,000 deaths annually (Rolfes et al., 2016). During the 2015–2016 flu season, the Centers for Disease Control and Prevention (CDC) estimated that, even when adult vaccination rates were as low as 41.7%, influenza vaccinations prevented 5.1 million influenza cases, 2.5 million medical visits, 71,000 hospitalizations, and 3000 deaths (Rolfes et al., 2016). Similarly, tobacco consumption is a factor in up to 20% of deaths in the US (U.S. Department of Health and Human Services, 2014); however,

quitting smoking before the age of 40 has been shown to lessen the risk of smoking-related death by about 90% (Jha et al., 2013).

With the ongoing shift from volume to value and increased accountability of health care providers for managing population health and costs, health systems must adopt new strategies for utilizing their resources more efficiently, including the delivery of preventive services. Community pharmacies are particularly well positioned to support these efforts (Kelling et al., 2016). With approximately 110,000 practitioners, community pharmacists are the largest health care professional group after physicians and nurses (Mossialos et al., 2015). Furthermore, with 67,000 community pharmacies and 92% of the population living within 1.6 miles of a pharmacy, community pharmacists are the most accessible health care professionals (Feehan et al., 2017).

* Corresponding author at: University of Pittsburgh School of Pharmacy, Department of Pharmacy and Therapeutics, 3501 Terrace Street, 570 Salk Hall, Pittsburgh, PA 15261, USA.

E-mail addresses: als440@pitt.edu (A. San-Juan-Rodriguez), tvn6@pitt.edu (T.V. Newman), inh3@pitt.edu (I. Hernandez), swarte@upmc.edu (E.C.S. Swart), kleinf@pitt.edu (M. Klein-Fedyshin), shrankwh@upmc.edu (W.H. Shrank), parekh@upmc.edu (N. Parekh).

<https://doi.org/10.1016/j.ypmed.2018.08.029>

Received 9 March 2018; Received in revised form 13 August 2018; Accepted 21 August 2018

Available online 23 August 2018

0091-7435/ © 2018 Elsevier Inc. All rights reserved.

Over the last few decades, community pharmacies in the US have offered an increasing number of preventive services, including smoking cessation, immunizations, hormonal contraception, and disease screening. Several systematic reviews have attempted to summarize the existing evidence about the impact of community pharmacists on the provision of preventive services, yet these reviews have several limitations. For example, they often focus on a single preventive service rather than offering a more comprehensive overview (Ayorinde et al., 2013; Burson et al., 2016). Some reviews address the evaluation of community pharmacist-provided preventive services from an international perspective instead of focusing on the US (Brown et al., 2016). Others summarize the evidence available on the impact of pharmacist-provided services without differentiating between inpatient, outpatient, or community settings. This can lead to incomplete conclusions about the impact of community-based pharmacist interventions, since the type of interventions and cost of services provided in the community pharmacy setting are considerably different than those provided in the inpatient or outpatient settings (Mossialos et al., 2015). As a result, more information is needed to understand the impact of community pharmacist-provided preventive services in the US, their value and potential for preventing and detecting disease, and appropriate models for reimbursing and sustaining these services.

This report summarizes the evidence available from existing research syntheses on the impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes in the US. To our knowledge, this is the first umbrella review to comprehensively evaluate the impact of community pharmacist-provided preventive services in the US.

2. Methods

An umbrella review (Aromataris et al., 2015) was conducted to identify systematic reviews, narrative reviews, and meta-analyses pertaining to the impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes published in English between January 1, 2007 and October 17, 2017. A protocol was developed a priori outlining the proposed research question and outcomes of interest following the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) reporting requirements and submitted through PROSPERO (International Prospective Register of Systematic Reviews, registration number CRD42017079061).

2.1. Search strategy

A clinical medical librarian (MKF) developed and conducted the database searches. The search strategy aimed to find all systematic reviews, narrative reviews, and meta-analyses covering community pharmacist-provided preventive interventions. Multiple synonyms for community pharmacists and pharmacies were implemented to enhance reference retrieval. Similarly, the MeSH heading “Preventive Health Services”[Mesh] was exploded to include diverse subordinate terms (further details on the search strategy and terms used can be found in the Supplemental Material). MEDLINE on the PubMed platform, Elsevier EMBASE.com and reviews in the Cochrane Library (John Wiley & Sons) were searched. Supplementary searches were conducted in EMBASE and Cochrane Library using adjacency syntax, and citations were downloaded into EndNote software (Thomson Reuters) to merge references and remove duplicates. In our search strategy, we collectively retrieved papers related to both the provision of preventive and chronic disease management services in community pharmacies. In this umbrella review, we describe our findings related to preventive services. The literature retrieved on chronic disease management is described in a companion report. One article was included in both reviews.

2.2. Eligibility criteria

The setting of interest for this review was US community pharmacies, defined as independent, chain, or supermarket drug stores that directly serve the general public. Other contexts in which pharmacists may play roles in the community, such as hospital, clinical, ambulatory, inpatient, or outpatient settings, were not covered in this review.

This review addressed the provision of preventive services by community pharmacists, defined as services that were carried out, led, or overseen by community pharmacists. Preventive services included immunization, smoking cessation, hormonal contraception, and disease screening. The target population was community pharmacy customers. We did not impose restrictions in terms of customer age, gender, race/ethnicity, occupation, socioeconomic status, disease state, insurance coverage, or location within the US.

Reviews covering only qualitative studies were excluded. Primary or original literature, grey literature, and published opinion were also excluded. We limited our review to research syntheses that included peer-reviewed studies conducted in the US, since standards of care and pharmacists' scope of practice vary markedly across countries. We excluded articles in which we could not attribute specific findings to studies performed in the US.

This review includes only research syntheses that address one or more of the following outcomes: clinical outcomes (e.g., incidence of vaccine-preventable diseases, rates of cardiovascular disease, rates of disease diagnosis due to screening, rates of smoking abstinence, mortality, quality of life, and patient satisfaction), health services utilization outcomes (e.g., emergency department visits, hospital admissions, or number of medications filled), and economic outcomes (e.g., intervention costs, medical, pharmaceutical, or total health care costs).

2.3. Study selection

We used DistillerSR (Evidence Partners, Ontario, Canada) throughout the study screening and selection process. Two independent reviewers among five authors (AS, TN, IH, ES and NP) screened the title and abstract of each article retrieved through the search strategy. Full-text of all articles identified as potentially relevant were extracted and screened using the eligibility criteria by one reviewer and checked by a second reviewer. Disagreements were discussed among five authors (AS, TN, IH, ES and NP) and resolved by unanimous agreement.

2.4. Data extraction

Data were extracted by one reviewer using a standard data extraction form and checked by a second reviewer. The following data were extracted: citation details, type of review, proportion of studies in a given review that met our inclusion criteria (i.e., performed in community pharmacies in the US), primary preventive services assessed, description of interventions, outcomes of interest, individual studies' findings, and reviews' overall conclusions. Conclusions of the selected reviews were extracted in order to provide an overall summary of their findings. However, since the conclusions of prior reviews were based on a larger subset of studies—which included studies not conducted in the US or in the community pharmacy setting—we did not incorporate these broader conclusions into our own inferences. When reviews included a multinational or interdisciplinary focus, only data from studies assessing US-based and community pharmacist-provided interventions were extracted. Effect sizes of meta-analyses' were only considered when all the included studies were eligible for our review. Discrepancies were resolved through discussion and agreement of five authors (AS, TN, IH, ES and NP).

2.5. Quality appraisal

The methodological quality of the reviews was assessed using the

Download English Version:

<https://daneshyari.com/en/article/9991950>

Download Persian Version:

<https://daneshyari.com/article/9991950>

[Daneshyari.com](https://daneshyari.com)