Pharmacist Prescriptive Authority for Acne: An Evidence-Based Approach to Policy
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Abstract
The diagnosis of acne is typically straightforward and based on physical signs and symptoms. Some jurisdictions in Canada, the United Kingdom, and United States have enabled a pharmacist treatment model to diagnose and manage patients with mild acne using prescription medications. Studies have found the model to be safe and effective, while simultaneously increasing more timely access to care for patients which may reduce the potential adverse impacts of acne. Further, use of a standardized protocol may alleviate some of the concerns expressed over the model. This paper summarize answers to frequent questions to help policymakers consider the objective evidence for their jurisdiction.

Pharmacist Management of Acne: An Evidence-Based Approach

Background
Acne is a chronic inflammatory skin disease that affects up to 50 million Americans annually.1-3 While acne can occur at any age, it most commonly begins in puberty and affects an estimated 85% of people between the ages of 12 and 24.2-3 Acne manifests as skin lesions on the face, neck, chest, upper arms and back, and as a result, can cause significant embarrassment, anxiety, depression, and low self-esteem in patients.1,5 Moreover, acne can lead to scarring.4-7 The diagnosis of acne is typically straightforward and based on physical signs and symptoms.8

In 2013, acne accounted for $1.2 billion in medical costs, including $400 million in lost productivity among patients and caregivers.9 Despite these costs, acne remains undertreated. Moreover, many adolescents delay seeking treatment, or seek medical assistance only with more severe acne.10-12 Access to care for acne is compounded by the nationwide shortage of physicians generally, and dermatologists specifically, and the uneven geographic distribution of dermatologists in the United States.13

As a result, some have called for new ways to reduce barriers to access for patients with acne. Some jurisdictions have enabled a pharmacist treatment model to manage patients with mild acne using prescription medications. This pharmacist-led model has been explored in Canada14-16, the United Kingdom17-20, and the United States21-23. This paper aims to summarize answers to the frequently asked questions we have received on this topic by using objective evidence from the literature.

Key Areas of Concern

Pharmacists are not trained diagnosticians. How will they identify acne relative to other skin conditions?

Dermatologists have noted that acne is generally “easy to diagnose” though some work is necessary to classify its severity to determine an appropriate course of treatment.24-25 Acne classification schemes are not universally accepted, but the condition is commonly differentiated as mild, moderate, or severe, depending on the types of lesions and their frequency.1 Patients often successfully self-diagnose and manage mild to moderate acne. In a study of 18 females and three males, 100% accurately self-diagnosed their condition, with high concordance of lesion type and count with the investigators.25 Another study found self-diagnosis validity was moderate, with results improving as subjects’ total amount of observable acne increased.26

Overall, with the reported accuracy of patient self-diagnosis, it is plausible that trained pharmacists can assist in diagnosing mild to moderate acne, while referring patients to other health professionals when appropriate. Further, given that patients routinely seek over-the-counter medications and self-treat acne more frequently than consulting a physician, a pharmacist management model may increase access to a broader array of medications that may be more appropriate for specific patients. Current accreditation standards for U.S. Doctor of Pharmacy programs indicate that graduates are able to design and implement intervention strategies for individuals to improve health and wellness. Additionally, the Core Entrustable Professional Activities for New Pharmacy Graduates developed by the American Association of Colleges of Pharmacy give examples of tasks that pharmacy graduates must be able to perform without direct supervision upon entering practice indicating pharmacists are trained to “assess a patient’s signs and symptoms to determine whether the patient can be treated within the scope of practice or requires a referral” and to “follow an evidence-based disease management protocol”.27

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Pharmacists and physicians have formally expressed few concerns with pharmacists ability to diagnose and treat acne. In surveys and in a multi-stakeholder process, neither pharmacists nor physicians rated acne as a condition of high concern with respect to pharmacist treatment in both the U.K. and Canada.\textsuperscript{28-30} In addition, Australian pharmacists were presented case vignettes to assess their readiness to treat certain conditions; pharmacists demonstrated they were able to select appropriate antibiotics for adolescent acne 100% of the time.\textsuperscript{31}

Community pharmacists have successfully leveraged standardized protocols to manage and prescribe for minor conditions such as influenza,\textsuperscript{32} strep throat,\textsuperscript{33} and cold sores,\textsuperscript{34} among others. Such protocols assist with the identification of patients who are good candidates for treatment in the pharmacy versus patients who should be referred to other providers. Standardized protocols are already available for the treatment of acne by pharmacists.\textsuperscript{35} In general, pharmacist prescribing for acne is typically limited to mild acne. As a result, referral parameters tend to revolve around identifying more severe acne or other potential conditions (e.g., rosacea). In addition, referral is usually indicated if a patient has tried two topical products from the pharmacist without noted improvement in the condition, or if a patient is pregnant or breastfeeding.

Pharmacists have leveraged protocols in successfully treating patients with mild acne. Collectively, published studies from the UK and Canada show pharmacists have successfully treated more than 1,000 patients with acne over a 10-year period.\textsuperscript{14-20} We found no published studies that reported any negative outcomes of acne patients treated by pharmacists. While the studies generally examined a broad range of pharmacist-treated minor ailments and did not break out data for acne separately, patients reported high rates of satisfaction with the care provided and reported high rates of symptomatic improvement.\textsuperscript{14,16}

**Pharmacist Treatment Could Lead to Adverse Outcomes Such as Scarring**

As noted previously, published studies have found pharmacists have successfully managed and treated more than 1,000 patients with acne, with no reported negative health outcomes including scarring. It could be argued that pharmacist management could actually decrease adverse outcomes, if the accessibility of pharmacists reduces delays in treatment.

Indeed, patients delaying treatment of acne is reported as a frequent cause of scarring by dermatologists.\textsuperscript{36} Unfortunately, delaying acne treatment is common: studies have reported 40% to 51% of patients did not seek medical help, and another found 74% of patients waited over a year to seek medical assistance.\textsuperscript{37-38} In another study, the majority of respondents did not seek help from a physician because of either embarrassment or the belief that acne was not severe enough for medical assistance.\textsuperscript{33}

Pharmacies may increase access to care for patients with mild acne given their convenience. In the United States, 90% of all Americans live within five miles of a pharmacy, and pharmacies also offer convenient hours of operation including nights, weekends, and holidays.\textsuperscript{39} In studies of pharmacist treatment of other minor ailments, patients report seeking care at pharmacies faster than other medical venues, and a high percentage of patients seek care on evenings or weekends.\textsuperscript{40}

**Allowing pharmacists to prescribe could worsen antimicrobial resistance.**

Given that pharmacist management and treatment of acne is generally limited to mild acne, the development of antimicrobial resistance is unlikely from pharmacist prescribing. First, there has been a general shift towards non-antibiotic medications to treat mild acne.\textsuperscript{31} The clinical guidelines in both the U.S. and Europe recommend topical benzoyl peroxide or a retinoid as first-line therapy for acne.\textsuperscript{8,42} When antibiotics are used, topical products including clarithromycin and erythromycin are recommended for mild acne. Neither guideline supports use of these agents as monotherapy and the guidelines recommend combination with benzoyl peroxide as a strategy to minimize antibiotic resistant organisms.\textsuperscript{8,42-43}

Pharmacists have a long history of successfully engaging in outpatient antimicrobial stewardship initiatives generally, and in the treatment of minor ailments specifically.\textsuperscript{44} Pharmacists have demonstrated higher adherence to guideline-based prescribing than other health professions, and thus, it could be argued pharmacists may actually decrease antimicrobial resistance related to mild acne.\textsuperscript{45}

**This will fragment care delivery and it is inconsistent with the Patient-Centered Medical Home (PCMH) model of care.**

Care provided by urgent care facilities, emergency departments and other venues has the potential to lead to what some consider “fragmentation of care.” Jurisdictions have remedied this by requiring notification of care provided by a pharmacist within a specified timeframe (5 days in Idaho, for example), although pharmacists are often alone in closing this communication gap.\textsuperscript{46} Further, care cannot be fragmented if it is never provided; as previously reported, a significant portion of acne patients either delay or never seek medical care. By enabling treatment at pharmacies, patients can get treatment sooner and, therefore, connected to the medical team sooner.

A related concern is about pharmacist access to the electronic medical record (EMR). In the U.S., this concern is not unique to pharmacy as it is rare for various healthcare points of access to utilize the same EMR (e.g. urgent care, private medical practices, etc.) and practitioners rely on patient history in order
to provide care. While pharmacy EMR access is growing, pharmacists have demonstrated the ability to collect the relevant information necessary to diagnose and treat patients within their practice settings. To that end, a standardized data collection form is available for pharmacists. The form ascertains key parameters that may facilitate a referral. For example, by inquiring about the use of specific medications (e.g., glucocorticoids), it helps the pharmacist identify if the acne may be the result of, or worsened by, certain medications.

Conclusions
Pharmacist management of acne with use of a standardized protocol has been tested and has proven successful over at least a decade in the U.S., U.K., and Canada. Studies have found the model to be safe and effective, while simultaneously increasing more timely access to care for patients. Other jurisdictions considering this service should allow the available evidence to inform the inevitable policy debates.

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