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Implementing practice guidelines for depression: Applying a new framework to an old problem

Michael D. Cabana, M.D., MPH.^{a,*}, Jerry L. Rushton, M.D., MPH.^a, A. John Rush, M.D.^b

^a*Division of General Pediatrics, the University of Michigan Medical Center, Ann Arbor, MI, USA*

^b*Department of Psychiatry, University of Texas, Southwestern Medical Center, Dallas, TX, USA*

Abstract

We discuss the challenges of implementing clinical practice guidelines for depression in the primary care setting. Multiple potential barriers can limit physician guideline adherence and translation of research into improved patient outcomes. Six primary barriers relate to providers (lack of awareness, lack of familiarity, lack of agreement, lack of self efficacy, lack of outcome expectancy, and inertia of previous practice). In addition, factors related to patient, guideline, and practice environment factors encompass external barriers to adherence. By delineating the underlying barriers to adherence, different interventions that are tailored to improve physician adherence to guidelines can be utilized. We review examples of these barriers, as well as interventions to improve guideline adherence. We also review characteristics of successful interventions to improve physician adherence to guidelines for depression. Since different physicians and practice settings may encounter a variety of barriers, multifaceted interventions that are not focused exclusively on the physician tend to be most effective. © 2002 Elsevier Science Inc. All rights reserved.

Keywords: Clinical practice guidelines; Depression; Physician practice patterns

1. Introduction

Depressive disorders are common, yet often challenging to identify, evaluate and manage. Advances in screening instruments, pharmacotherapy and counseling approaches have provided promise for improved outcomes. However, multiple barriers in the health care system, stigmatization and other factors have limited attempts to reduce the significant morbidity and mortality of depression. Thus, despite the frequent presentation of depression in primary care settings and the availability of effective treatments, the diagnosis and treatment of depression by many primary care practitioners is poor [1].

For example, despite the availability of screening instruments, most primary care physicians do not recognize or properly identify depressed patients. Even when depression

is properly diagnosed, primary care physicians often do not provide adequate treatment [2–5]. Primary care physicians face many pressures and demands; thus, multiple approaches have been recommended to improve the delivery of care for depressed patients.

One method to improve the quality of medical care is to implement clinical practice guidelines, “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances” [6].

Practice guidelines for the diagnosis and treatment of depression were one of the first guidelines addressed by the Agency for Health Care Policy and Research (AHCPR) now known as the Agency for Healthcare Research and Quality (AHRQ). This article focuses on the AHRQ guidelines to illustrate the barriers to physician guideline adherence. However, the same general principles likely apply to other guidelines that have been developed for depression [7,8].

Well-implemented clinical practice guidelines, in general, can improve patient outcomes [9]. In primary care settings, Katon et al. found that implementation of the

* Corresponding author. Tel.: +1-734-615-9797; fax: +49-734-764-2599.

E-mail address: mcabana@med.umich.edu (M. Cabana).

AHRQ guidelines for depression increased the quality of care and improved clinical outcomes [10].

However, there is evidence that the AHRQ guidelines have not been effective in changing physician practice in certain settings. For example, although the guidelines are addressed to primary care providers, several studies have documented poor awareness of the guideline [11,12]. Using AHRQ guideline criteria, Goldberg et al., noted that primary care practitioners had low rates of diagnosing unrecognized cases of depression and continued to prescribe first generation tricyclics, versus newer, safer medications as recommended by the AHRQ guidelines [13]. In addition, Wells et al. surveyed 1,204 patients with depression from 46 primary care clinics in seven different managed care organizations and found that “only 35 to 42% of patients used antidepressant medication in appropriate dosages” using AHRQ criteria [14]. Finally, Young et al. found that only 19% of patients received appropriate care for depression also using AHRQ criteria [15].

As a result, the NIMH National Advisory Mental Health Council has encouraged the improvement of methods for both evaluating clinician implementation and adherence to treatment guidelines [16]. We have previously described a general framework to understand reasons why physicians might not follow practice guidelines [17]. The purpose of this paper is to apply these general concepts to the specific challenges of implementing clinical practice guidelines for depression in the primary care setting. By delineating the underlying barriers to adherence, different interventions which are tailored to improve physician adherence to guidelines can be utilized. We will also examine characteristics of successful attempts to improve guideline adherence and primary care of depression.

2. Barriers to guideline adherence

Multiple barriers can limit guideline adherence and translation of research into improved patient outcomes. Six primary barriers relate to individual providers, while factors associated with patients, guidelines and the practice environment constitute external barriers. These are described in detail in the following text.

Primary care physicians may not adhere to a guideline simply due to *lack of awareness* of a guideline's existence. Although practice guidelines are meant to help physicians keep up to date by providing a synthesis of current knowledge, even the volume of guidelines to read can be overwhelming. A recent American Medical Association Guideline directory lists over 1,800 clinical practice guidelines alone.

The volume of new information and the lack of time to stay informed can affect awareness to the AHRQ depression guidelines. For example, one year after the publication of the guidelines, Feldman and colleagues surveyed 519 members of the New York Academy of Family Physicians to

measure physician awareness. Although 91% of respondents treated patients with depression, only 34% were aware of the existence of the AHRQ guidelines on depression in primary care, and only 13% reported having a copy. Awareness of the guidelines was associated with an increased likelihood of treating depression [11].

Even if physicians are aware of a guideline, there may still be a *lack of familiarity* with the specific content or details of the guideline that, in turn, leads to nonadherence. To facilitate familiarity, guidelines must also be readable and easy to understand. In attempting to completely describe the management of even a simple disease, guidelines can be perceived as being too “cumbersome.” However, methods to simplify guideline presentation can make them seem too “simplistic” [18]. Between the Charybdis of being too cumbersome and the Scylla of being too “simplistic,” guideline developers struggle with formatting, organization and dissemination of practice guidelines [19].

The AHRQ depression guidelines are formatted into two volumes totaling 299 pages to address practitioner attitudes and knowledge about the disease, as well as the extensive number of trials describing treatment options. The 20 page quick reference guide was provided to help ease the burden of staying familiar with the guidelines, and to improve adherence [1]. Betz-Brown et al. described how clinicians at Kaiser Permanente Northwest Region transformed the AHRQ guideline for “reasons of convenience, credibility, audience, purpose and context” [12]. In summarizing the justification for the revisions, one clinician stated, “the main problem will be not to let the size of the guideline get too long. It should be kept short and user-friendly. It must be quick and simple and efficient to use” [12].

Lack of agreement with guidelines may also lead to nonadherence. Physicians may disagree with the concept of guidelines, in general. Surveys of physician attitudes toward guidelines often reveals attitudes describing guidelines as a biased synthesis of evidence, a threat to autonomy, or “cookbook medicine” [18,20].

Even if physicians agree with the concept of guidelines, they may disagree with specific aspects of a particular guideline. For example, some physicians note that the recommendations in the AHRQ guidelines are primarily based on data from studies that were conducted in tertiary care centers. As a result, some suggest that selected guideline recommendations may not be applicable to physicians in general practice [1,21,22]. However, as noted in the AHRQ guidelines and in a review of randomized clinical trials in primary care settings, “both antidepressant pharmacotherapy and time limited depression targeted psychotherapies are efficacious when transferred from psychiatric to primary care settings” [23].

Current available evidence has yet to address and compare every logically possible treatment option with every clinical situation [24]. Gaps in knowledge, or differences in interpretation of evidence exist and may lead to disagreement and thus, nonadherence. For example, clinicians may

disagree with the lack of emphasis on the role of psychotherapy in the treatment of depression [25,26].

Guidelines authored by different organizations may also conflict. For example, contrary to the AHRQ guidelines, the U.S. Preventive Services Task Force does not recommend routine screening for depression, since the benefits of routine screening have not been directly linked to improved treatment and improved outcomes [27]. When conflicting recommendations are provided, confusion and decreased guideline adherence by clinicians may follow.

Physicians may not feel comfortable screening for or treating depression due to a *lack of self efficacy*, the belief that one can actually perform one or more behaviors recommended by the guideline [28]. For example, with the development of new antidepressant medications, clinicians far removed from medical school and residency are less likely to feel comfortable with the subtle differences in medicines. Clinicians must choose among an array of different medications, such as fluoxetine (Prozac), or bupropion (Wellbutrin) or venlafaxine (Effexor), with different side effects and interactions [29]. Physicians may also feel uncomfortable interpreting the different clinical presentation of depressive symptoms or acceptance of therapy among different patients [30].

Physicians may not adhere to depression guidelines due to *low outcome expectancy*, the belief that the performance of a behavior will lead to the desired outcomes. In this case, it is the belief that implementing the guideline recommendations will lead to improved health outcomes [28]. Specifically, physicians may feel that even if they were to follow AHRQ recommendations, there remains a low likelihood that patient outcomes will improve. For example, physicians may not have confidence that depressed patients in a primary care setting will comply [31]. Treatment may require frequent office visits, changing from one medication to another, arranging for psychotherapy and numerous follow-up visits. Schulberg and colleagues followed a cohort of patients with depression who were treated as recommended by AHRQ guidelines. Only 1/3 of patients completed the regimen. The authors concluded, “the treatment of depressed primary care patients within AHRQ guidelines is feasible, but complex. Although primary care physicians ably adhere to these guidelines, keeping patients in treatment is difficult. . . ” [31]

If only a minority of patients comply with the treatments recommended by the AHRQ guidelines, it can be frustrating for physicians. Given the prevalence of depression in the population, however, even a success rate of 1/3 can have large effects for the health care system. On the other hand, physicians see patients on an individual level rather than on a population level, and may focus on the failure rate. Consequently, they may overlook the effect of the guidelines on a larger level. Without this perspective, both outcome expectancy and the likelihood of physician adherence are low.

The *inertia of previous practice* due to habit or custom may also be a barrier to guideline adherence. Current med-

ical education reinforces and emphasizes inpatient treatment psychiatric disorders such as depression, in contrast to outpatient detection and longer-term disease management [32]. Based on behaviors set in medical school and subsequent training, it may be difficult for physicians to develop new routines of asking patients about depression in primary care. Furthermore, a fear of stigmatizing or alienating patients may lead physicians to avoid direct discussion of the diagnosis of depression, preferring to base it on another condition, to both protect the patient and recover a higher reimbursement [39].

Finally, organizational or environmental constraints, beyond a physician’s control are *external barriers* to guideline adherence. Even if a physician is aware of the guideline and overcomes the barriers previously mentioned, external barriers from patients, practice organizations, payers and other forces may limit effective translation of guidelines. For example, practice structure may provide insufficient time, reminder systems, or reimbursement.

Reminder systems have been shown to improve physician preventive management and possibly could be adapted to help prompt adherence to depression guidelines [34]. However, many practices may not have systematic traditional or computer-based methods to remind physicians to screen for depression [35]. Barriers to implementing currently available systems include time and effort required for data entry, maintenance of patient confidentiality and ease of use at the point of care [36].

In addition, tools or scales used to measure the symptom effects of medication, commonly used to drive treatment in research studies, are not routinely used in primary or specialty care. For example, blood pressure is routinely measured in primary care and helps guide the treatment of hypertension. However, there is no routine equivalent for the care of depression. There are a number of readily available tools to measure the effect of treatment on depression, but their use is not routine [38]. Although use of these tools does not guarantee successful treatment, it is an important step in treatment.

An evaluation of the quality of care for patients with depression under managed care organizations demonstrates additional barriers. Increased time demands, coupled with other competing issues during a patient visit may be a barrier. During new problem visits or walk-in visits, clinicians are inclined to attend to the “presenting problem and defer more systematic evaluations” [14]. A cross sectional survey of 240 patients with depressive symptoms presenting to primary care physicians noted that the presence of another chronic illness or comorbidity decreased the odds that physicians would discuss depression [37]. Ironically, however, the presence of one or more general medical conditions *increases* the likelihood of depression being present [1].

Management of depression is time and labor intensive and reimbursement for primary care physicians may not match this effort [32]. As a result, poor reimbursement may

Table 1
Interventions that could be combined to address different barriers

Barrier	Possible Intervention
Lack of Awareness	<ul style="list-style-type: none"> • Traditional continuing medical education (CME) • Increased distribution of guideline • Mass media to increase patient awareness
Lack of Familiarity	<ul style="list-style-type: none"> • CME that focuses on specific guideline recommendations
Lack of Agreement	<ul style="list-style-type: none"> • Opinion leaders • Physician participation in guideline development • Specialty society endorsement of guideline
Lack of Self-efficacy	<ul style="list-style-type: none"> • CME focusing on skills development, interactive learning • Audit and feedback of individual performance
Lack of Outcome Expectancy	<ul style="list-style-type: none"> • Audit and feedback of practice-wide performance • Citation of previous published success at improving outcomes through guideline implementation
Inertia of Previous Practice	<ul style="list-style-type: none"> • Motivational strategies that utilize audit and feedback
External Barriers	<ul style="list-style-type: none"> • Opinion leaders • Address specific barrier, such as lack of a reminder system, poor staff support to implement guideline, poor reimbursement for guideline adherence, etc.

lead to poor guideline adherence. For example, a study of over 400 primary care physicians examining reasons for alternative coding for the diagnosis of depression suggested that problems with third party reimbursement for treatment was common [39].

Finally, successful management of a chronic and relapsing condition such as depression requires partnership with patients and families. Patient-specific barriers like lack of access to care, transportation, insurance coverage and concerns of confidentiality and stigma can hamper physician intentions and appropriate implementation of treatment plans [40]. In addition, patient treatment preferences and expectations may not match guideline recommendations [41].

3. Combining interventions based on the barriers

By understanding the underlying barriers, more effective interventions can be combined to address barriers that prevent physician guideline adherence (Table 1). For example, while traditional continuing medical education (CME) might be useful for improving awareness or familiarity to guidelines, more intensive interventions, such as the use of opinion leaders, may be needed for other barriers like lack of agreement. In situations where multiple barriers exist, a

broader approach that combines multiple interventions to address these different barriers is needed. We highlight below specific interventions to address these specific, single barriers.

A hypothetical example can help illustrate the process of understanding barriers and tailoring interventions. For example, an investigation of why physicians in a large group practice do not regularly screen for or aggressively treat patients for major depression in accordance with the AHRQ guidelines might reveal several possible explanations. Alternatively, a survey of patients may reveal obstacles to their understanding of and adherence to treatment recommendations.

While many of the recommended ways to overcome specific barriers make logical sense, there is limited empirical evidence and few trials that have rigorously evaluated these interventions in relation to overcoming *specific* barriers. We highlight those studies that report data on overcoming specific barriers below.

The problem might be due to the fact that physicians might not be aware or familiar with the AHRQ guidelines for depression. Simple dissemination of the guideline at grand rounds, noon conferences or through direct mailings might be a component of a larger intervention to address this specific barrier [42].

Perhaps low rates of recognition and treatment are due to a lack of agreement. Physicians may disagree with the generalizability of the guidelines to their practice. The use of local opinion leaders might help address this specific barrier, lack of agreement [43,44]. Anecdotally, physician participation in guideline development may also be useful in improving guideline acceptance by physicians [45,46]. Endorsement of the guidelines by a speciality society can also improve the confidence in the guidelines by its members.

Another possibility is a lack of self efficacy. Physicians may lack training or confidence in their skills to diagnose and treat depression. More interactive continuing medical education that focuses on skill development may be useful for improving self efficacy [47–49].

Low recognition and treatment may be due to low outcome expectancy. Physicians may perceive that following the guidelines may not lead to any appreciable differences in patient outcomes. Low outcome expectancy may result from physician inability to discern the success of counseling guidelines on a population level. Physicians see patients one at a time, but may not be cognizant of practice-wide results. Therefore, feedback of population-level impact and outcomes may improve outcome expectancy and subsequent adherence [50].

From health behavior theory, observing someone similar performing a task successfully, can improve a patient's self efficacy and outcome expectancy [51]. Similarly, demonstrating to physicians the positive outcomes obtained by other groups that have implemented guidelines may improve outcome expectancy and self-efficacy. Citation of several published studies demonstrating how guideline im-

plementation improved patient outcomes could improve physician outcome expectancy [10,52,53].

The problem may be due to the inertia of previous practice since physicians may have difficulty changing well-established patterns of practice. To address the inertia of previous practice, interventions may need to address the physicians' "readiness to change" [54]. Setting gradually increasing goals to physicians for recognition and treatment might also ease the transition from older to more current practice patterns.

Overcoming external barriers might also facilitate implementation. Physicians may have appropriate knowledge and attitudes, but practice constraints might limit guideline adherence. Examples include provision of a nurse educator to address time limitations in a busy clinic [55]; restructuring reimbursement to reward guideline adherence [56]; or creating a reminder system for guideline adherence [57]. For example, Trivedi et al. review the elements for an effective computerized decision support system (CDSS), as well as describe a the use of a prototype CDSS to improve physician use of guidelines for depression [36].

Primary care physicians may benefit from the use of clinical tools to measure the effect of treatment to help guide therapy. To detect changes in patient symptoms, and to guide the revisions in the treatment plan, the Texas Medication Algorithm Project (TMAP) also utilizes patient self-report inventories [58]. A possible intervention includes providing physicians with self-administered patient surveys [59–61].

Quality improvement may require several stages since overcoming one barrier may reveal another barrier. For example, lack of awareness of the guidelines may be a prominent barrier. As a result, barriers due to low agreement or low self-efficacy may not yet be apparent, since it is difficult for physicians to develop these attitudes if they are not yet aware of the guideline. An iterative process may be needed as different "layers" of barriers are uncovered.

4. The need for multi-faceted interventions

Since physicians have different training, experiences and skills, multiple barriers will most likely exist and affect different steps of behavior change. As a result, multiple interventions to improve physician guideline adherence are necessary to address these multiple barriers. Studies that have demonstrated the greatest lasting effect involve intensive interventions at several levels.

Rubenstein et al. developed a multifaceted intervention to improve depression care involving 46 practices in six managed care organizations. The interventions were locally adapted and included additional physician training and education using academic detailing, audit and feedback, incorporation of a depression nurse specialist, use of expert leaders to disseminate information, patient follow-up systems, as well as improved patient access to treatment. Re-

sults showed that many of these interventions were feasible and able to be implemented in diverse settings [62].

Shon et al. also offer an example of a multiple strategy approach, which was required in the implementation of the TMAP for the treatment of mental illness. Besides physician involvement in guideline development, TMAP required physician education regarding new medications and the recommended treatment sequence, as well as administrative support for updating the formulary, scheduling longer initial patient visits, and providing additional patient/family education resources [63].

The most successful quality improvement studies in primary care of depression have involved a team approach of physicians with nursing staff, administrative staff, and mental health providers. Rost et al., placed consultants and mental health providers onsite to lower accessibility barriers for patients and referring physicians. [53]. Other studies by Katon and Wells have successfully used support staff and enhanced consultation with mental health providers to improve processes of care and long-term outcomes. [10,52] This type of restructuring may allow primary care physicians to more efficiently take on new roles and more effectively improve overall coordination of care and patient outcomes. These studies have also successfully incorporated education, feedback, and follow-up approaches to patients in addition to their physicians.

Since depression is a chronic disease, time, education, and office staff requirements will change over time as the management of the disease is fine-tuned. In many cases, combinations of interventions tend to be more effective than one method alone [64,65]. Like multi-drug therapy, interventions specifically effective for some barriers could be used in combination with other interventions aimed at overcoming the remaining barriers.

5. Characteristics of interventions that are effective

An assessment of studies that have attempted to improve guideline adherence in the primary care setting points to several characteristics of strategies that are effective. Effective strategies are multifaceted and are not exclusively physician-centered. As expected, due to the many barriers to adherence that physicians face, multi-faceted interventions are more effective than single interventions [78]. Physician-oriented educational sessions have only limited effect [79–81]. Kick et al. describes the success a brief physician educational intervention, however, the physician subjects were internal medicine residents, and improved effects were noted only for patients with greater depressive symptoms [82]. Physician academic detailing has also had limited success [83].

Continuous quality improvement (CQI) interventions have had mixed results. Studies by Goldberg et al., and Betz-Brown et al. suggested that CQI had limited effect in improving guideline adherence and clinical outcomes [13,

83]. Betz-Brown et al. note the importance of organizational restructuring as a prerequisite for successful CQI. A controlled trial by Wells et al. showed that CQI including institutional commitment, a collaborative care model of treatment, education, and patient identification led to improvement of patient outcomes [52].

Katon et al. also demonstrate the importance of a multifaceted intervention that is not physician-centered. The intervention combined patient and physician education, increased time for patient visits and provided close patient follow-up [10]. The limited effects of physician education were apparent when other components of the intervention were removed [81]. Rost et al. reported the effectiveness of a multi-disciplinary approach involving nurses, physicians and administrators. However, the effects were limited to those patients with whom treatment with medication was acceptable. [53]

6. Management of depression and the primary care system

The barriers described in this review are not unique to the management of depression and occur with other chronic illness such as hypertension and asthma. For example, multiple studies have shown that physician treatment of hypertension does not always match national guidelines for hypertension. [66–70]. These guidelines also encourage physicians to counsel patients about diet modification for the primary prevention of hypertension [66]. Just as in the treatment of depression, physicians with less confidence in specific skills are less likely to adopt guidelines that require such skills. Although many physicians can provide general nutrition information, many physicians lack training in obtaining a thorough dietary history and offering specific advice on food selection [71]. In addition, the time constraints of a brief patient visit, the mundane nature of lifestyle modification lacks the “urgency” of a patient’s chief complaint [72].

For the treatment of pediatric asthma, the National, Heart, Lung and Blood Institute guidelines recommend that physicians prescribe a daily inhaled-corticosteroid to patients with daily symptoms [73]. However, only half of pediatricians describe prescribing practices that match the recommendation [74]. In focus groups, pediatricians point to the disagreement with the overall safety of long term inhaled steroids for children, as well as frustration with patient adherence to a daily medication [18].

This review emphasizes the physician-level barriers as a starting point to develop interventions to improve guideline adherence. However, the common barriers that prevent the successful management of many chronic diseases (e.g., depression, asthma and hypertension), suggest that the external barriers, as opposed to physician-level barriers may be the most significant. Wagner suggests five system barriers to high quality chronic illness care which include organization

of care around the acute care visit, reliance on the physician, lack of access to medical and nonmedical expertise, inadequate information, and lack of incentives to provide better care for chronically ill patients [75].

The structure of the primary care system, which works well for the acute treatment of disease, is not always conducive to the longer term management of chronic diseases, which might require close follow-up, monitoring outcomes and significant patient education. For example, a study of family physicians suggested that longer primary care visits would improve adherence to preventive care guidelines [76].

Many clinical guidelines focus on physician management of a specific disease. However, in the future, these initiatives and research strategies may need to go beyond traditional medical care and physician-centered primary care to include bolder efforts to redesign care [77].

7. Recommendations

Effective implementation of the AHRQ depression guidelines can help decrease inappropriate variation in care and is one method for improving quality of care. Lack of adherence to guidelines can be due to a variety of barriers that we describe in the above framework. Just as in patient care, diagnostic strategies are needed “to determine the reasons for suboptimal performance and to identify barriers to change and to select carefully the interventions most likely to be effective in light of the diagnosed problems” [78].

Before selecting one or more interventions, the underlying barriers should be identified by focus groups, structured interviews, or surveys, to understand which steps of behavior change are being interrupted by these barriers [18,19]. This assessment could include other health care and office personnel to detect barriers that physicians are not aware of. For example, the practice nurse who checks in the patient might be more sensitive to the lack of time or privacy for patients to complete a self-report inventory. This additional perspective can uncover barriers, as well as interventions to overcome these barriers, that physicians may not be aware of.

The process of investigating barriers to adherence may be an iterative process of customizing interventions. With this knowledge, interventions appropriate for each stage of behavior change can then be implemented and improve patient outcomes for depression.

We have described a conceptual model of depression guidelines that provides a structure to address the complex needs in the care of depression. Using this framework, we have reviewed the multiple individual barriers that physicians face, and the inherent difficulty in treating chronic illness in a system designed for acute care. These multiple barriers suggest the need for multifaceted interventions. An overview of the characteristics of successful interventions to

improve physician guideline adherence and patient outcomes for depression also supports the use of multiple interventions.

Applying guidelines in today's health care environment faces challenges on many fronts. In addition to translation of existing guidelines into more effective care, we must continue study on better methods of screening, diagnosis, and treatment that can advance the field. Multiple patient, physician, health care system, and financial barriers must also be considered and addressed as we seek to improve outcomes through guidelines.

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