

Enhancing Respiratory Medication Adherence: The Role of Health Care Professionals and Cost-Effectiveness Considerations



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Date of Original Release: September 1, 2016. Credit may be obtained for these courses until August 31, 2017.

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Overall Purpose/Goal: To provide excellent reviews on key aspects of allergic disease to those who research, treat, or manage allergic disease.

Target Audience: Physicians and researchers within the field of allergic disease.

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Learning objectives:

1. To identify different types of non-adherence in asthma/chronic obstructive pulmonary disease (COPD) patients.
2. To understand how to apply effective communication styles to discuss non-adherence.
3. To target and tailor adherence-enhancing interventions in order to optimize cost-effectiveness.

Recognition of Commercial Support: The Expert Adherence Panel Meeting from which the concepts presented in this article were first discussed and the manuscript submission costs were supported by the Respiratory Effectiveness Group.

Disclosure of Significant Relationships with Relevant Commercial Companies/Organizations: CME authors' COI statement: J. F. M. van Boven has received travel support from the Respiratory Effectiveness Group and European COPD Coalition; has received consultancy fees from AstraZeneca; and has received research support from AstraZeneca, GlaxoSmithKline, Boehringer Ingelheim, and Chiesi. M. N. Eakin has received travel support from the Respiratory Effectiveness Group; has received consultancy fees from Boehringer Ingelheim; has received research support from the National Institutes of Health, Cystic Fibrosis Foundation, and American Lung Association; and has received lecture fees from Praxis Pharmaceuticals. J. M. Foster has received travel support from the Respiratory Effectiveness Group and European Academy of Allergy and Clinical Immunology; is on the Vertex Pharmaceuticals advisory board; and has received research support from GlaxoSmithKline and AstraZeneca. The rest of the authors declare that they have no relevant conflicts of interest.

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Respiratory Effectiveness Group. Teva supported the meeting costs at which the concepts in this paper were discussed by the co-authors and the open access publication fee for this article. The authors had full editorial control over the ideas presented. Conflicts of interest: J. F. M. van Boven has received travel support from the Respiratory Effectiveness Group and European COPD Coalition; has received consultancy fees from AstraZeneca; and has received research support from AstraZeneca, GlaxoSmithKline, Boehringer Ingelheim, and Chiesi. M. N. Eakin has received travel support from the Respiratory Effectiveness Group; has received consultancy fees from Boehringer Ingelheim; has received research support from the National Institutes of Health, Cystic Fibrosis Foundation, and American Lung Association; and has received lecture fees from Praxis Pharmaceuticals. J. M. Foster has received travel support from the Respiratory Effectiveness Group and European Academy of Allergy and Clinical Immunology; is on the Vertex Pharmaceuticals advisory board; and has received research support from GlaxoSmithKline and AstraZeneca. The rest of the authors declare that they have no relevant conflicts of interest.

Adherence to medication comprises a multiphased temporal process involving (1) initiation of prescribed therapy, (2) implementation as prescribed, and (3) subsequent persistence. Medication adherence remains suboptimal in most patients with long-term respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD). Interventions have been shown to effectively improve treatment initiation, implementation, and persistence when delivered at the health care professional level or the system level, but demonstration of the cost-effectiveness of these interventions is necessary to ensure their widespread use. This review summarizes how health care professionals can intervene to improve medication adherence in patients with asthma and COPD, provides some examples of effective primary care interventions, and illustrates some of the challenges to optimal implementation arising from cost-effectiveness modeling. Improving adherence is shown to be an economically viable treatment option for patients with asthma and COPD, but there are differences in the health economics pertaining to each condition and setting that can affect whether an intervention is considered cost-effective. Targeting adherence interventions at patients with the greatest to gain, and tailoring them to individual patient needs, may help to optimize cost-effectiveness ratios and improve the probability of positive reimbursement decisions, systemwide implementation, and resultant health benefits. © 2016 The Authors. Published by Elsevier Inc. on behalf of the American Academy of Allergy, Asthma & Immunology. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). (J Allergy Clin Immunol Pract 2016;4:835-46)

Key words: Asthma; COPD; Medication adherence interventions; Initiation; Implementation; Persistence; Health care professionals; cost-effectiveness

Adherence to asthma and chronic obstructive pulmonary disease (COPD) medication is central to achieving the desired treatment outcomes, but epidemiological studies suggest adherence remains suboptimal in most patients.¹ Adherence—a term that comprises (1) initiation of prescribed therapy; (2) implementation of therapy as prescribed (correct dose, inhalation technique, and frequency); and (3) persistence (obtaining refills to maintain adherence over time)—can be affected by many factors,² including patient and societal determinants.³ Numerous studies have assessed the role of the patient (eg, their health beliefs, proficiency, and comorbidities)^{4,5} and specific treatment aspects (eg, dosing regimen, inhaler type, and adverse effects)⁶⁻⁹ with respect to adherence to asthma and COPD medications; far fewer have explored the effect of system-level determinants, such as the relationship between adherence and clinician-patient interactions or the organizational structure of health care (eg, consultation time or co-payment).

System-level determinants may, at least in part, result in limited uptake of medication adherence interventions in routine care. In many countries a key requirement for applying of

medical interventions is reimbursement, which often necessitates demonstration of the cost-effectiveness of the intervention¹⁰ and a supporting health care policy. Interventions must be complex enough to be effective, but simple enough to allow them to be scaled up and adopted in routine care. A cost-effectiveness analysis provides insight into the trade-off between financial investment in health care interventions and the degree of health improvement offered. A structured assessment can inform policymakers of the value of interventions before their broad uptake.

The role of health care practitioners is one of the main adherence determinant “domains” identified by the ASTRO-LAB Group (see article “Mapping the asthma care process: implications for research and practice” in this issue¹¹). In this article, we discuss roles and actions that different health care providers can take to support medication adherence. We review a number of clinician-delivered interventions that may improve adherence to asthma and COPD medications. We also discuss system-level cost considerations and health economic assessment of adherence interventions for both conditions and consider how these may affect their uptake in routine care.

THE ROLE OF PRIMARY HEALTH CARE PROFESSIONALS IN OPTIMIZING ADHERENCE

Because most patients with asthma and COPD are managed in primary care, interventions that general practitioners, nurses, or pharmacists can implement within routine care have the opportunity to reach the greatest number of patients with respiratory conditions.

Structured assessment in consultations

In asthma, use of structured frameworks such as the SIMPLES (Smoking status, Inhaler technique, Monitoring, Pharmacotherapy, Lifestyle, Education, Support) approach can help to identify self-management problems and empower patients through standardized holistic assessment, avoid unnecessary medication escalations, and guide referrals to specialist care.¹²

Standardized holistic assessment suggests a dynamic consultation, facilitating dialogue between the clinician and the patient, exploring all aspects of the impact of asthma on the individual and vice versa, and ending with shared decision making concerning management. A number of components of the SIMPLES approach are relevant to supporting medication adherence—at each step of the adherence pathway. For example, correct *Inhaler technique* is integral to the successful delivery of respiratory medications¹³ and a key cause of unintentional poor medication implementation. Technique varies substantially between devices, with most patients (and their clinicians) unable to consistently demonstrate correct inhaler use.^{14,15} Clinicians should have knowledge of a range of devices so that they can tailor the device choice to the needs and characteristics of the patient, minimize use of different device types (to facilitate more accurate therapy delivery),^{13,16} and teach, assess, and, where necessary, rectify inhaler technique each time the patient is reviewed.

Monitoring of symptoms and lung function by the patients can improve their ability to identify a deterioration in their level of

Received for publication February 9, 2016; revised March 18, 2016; accepted for publication March 23, 2016.

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2213-2198

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<http://dx.doi.org/10.1016/j.jaip.2016.03.007>

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