Improving medication adherence:
Resources to support local delivery
Introduction

Improving medication adherence has the potential to improve patient outcomes, reduce medicines waste and increase NHS return on investment. This will require a change to the pharmacy consultation paradigm and can be achieved through a multifaceted, long term strategy, working with practitioners, academics and the wider profession. Adherence, as compared to compliance, refers to a process of agreement about a treatment between clinician and patient. This resource aims to support practitioners in their daily practice, working with patients in primary and secondary care, to improve medication adherence.

Background information on medication adherence

We know that patients want more involvement in their care, as evidenced by the push towards shared decision making, supported by national guidance and methods of supporting medication adherence that take this into account are therefore required. NICE guidance on medication adherence (NICE 2009) suggests that up to 50% of medicines in England are not taken as intended. This figure, which is reflected in US statistics, raises awareness of immense cost to patients’ health, as well as to the health economy, from suboptimal medicines adherence. While a recent study (Kongkaew et al. 2013) suggests that 11.2% of hospital admissions are related to adverse effects of medicines, with over half preventable, this does not account for the hospital admissions that are contributed to through either over or under compliance. There is a clear relationship between medication adherence and improved outcomes (Boswell et al 2013) and an evaluation of the scale, causes and cost of waste medicines (York Health Economics Consortium and UCL school of pharmacy 2010) suggests that up to £500m could be potentially saved if adherence was improved in five key health categories.

Key factors affecting adherence, identified in the WHO report (WHO 2003) include issues related to social, economic and cultural values as well as health systems, health care teams, therapy and clinical condition. In addition, patients’ levels of disability, acuity and the severity of their condition affects adherence as do patient beliefs about medicines. However, results of studies attempting to predict non-adherence are inconsistent: the effects of patients’ age, sex, socioeconomic status, living arrangement, co morbidities, number of physician visits, and knowledge, attitudes, and beliefs about health provide no clear direction for targeted action.

What does this mean for pharmacists?

Pharmacists are well versed in methods managing practical problems that patients may have about medicines (Oboh 2013) and this is also a natural subject for inclusion in a pharmacist prescriber consultation. However, until recently, pharmacist training has rarely included support with behavioural change or exploration of beliefs about medicines. NICE guidance explores issues around necessity and concerns (perceptual issues) as well as ease and convenience of medicine taking (practical issues) and although no single approach will solve the medicines adherence conundrum, the evidence base for a behavioural approach to medicines adherence is growing. It appears that behavioural support is one of a number of key interventions that can be used to work towards decreasing the 50% of patients who do take their medicines as intended.

How is the resource structured?

Section A: Overview of key papers  Section B: Knowledge and skills development/training  Section C: Tools to support practice  Section D: Further reading

Who is the resource for?

This resource is useful for all health professionals who work or liaise with patients to support medication adherence: through access to key papers, knowledge, skills development and information on training. Education and training leads may find this useful for their staff in developing adherence support, as well as individuals using it to support continuing professional development. Due to the rapidly developing evidence base, please note that this resource cannot be comprehensive.
### Section A: Overview resources

| A1  | Organisation: World Health Organisation  
Website: [www.who.int](http://www.who.int)  
Title: Adherence to long term therapies – evidence for action 2003  
Overview:  
This report provides a comprehensive and critical review of what is known about adherence to long-term therapies. It reviews the main concepts leading to the definition of adherence and its relevance to epidemiology and economics. This is then discussed with relevance to specific countries and the document summarises lessons learned from the reviews, in the context of the impact of nonadherence, with respect to health and economics. There are disease specific reviews in relation to adherence for nine clinical areas. The first annex explores behavioural models in relation to supporting adherence and evidence around this.  
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| A2  | Organisation: National Institute for Health and Care Excellence  
Website: [www.nice.org.uk](http://www.nice.org.uk)  
Title: Medicines Adherence: involving patients in decisions about prescribed medicines and supporting adherence 2009  
Overview:  
This guidance for England and Wales is about enabling patients to make informed choices by involving and supporting them in decisions about prescribed medicines. It includes an exploration of patients’ perspectives of medicines and the reasons why they may not want or are unable to use them. This guideline makes recommendations about methods for healthcare professionals to help patients make informed decisions by facilitating the involvement of patients in the decision to take and adhere to a prescribed medicine.  
See [http://www.nice.org.uk/CG76](http://www.nice.org.uk/CG76) |
| A3 | **Organisation:** National Co-ordinating Centre for NHS Service Delivery and Organisation R & D  
**Website:** [http://www.netscc.ac.uk](http://www.netscc.ac.uk)  
**Title:** Concordance adherence and compliance in medicines taking: Report for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO) 2005  
**Overview:**  
This document is the result of a scoping exercise and contents include a summary of knowledge at the time about the determinants of medication-taking and a description of the current understanding of the nature of compliance, adherence and concordance. There is a comprehensive literature review of patient perceptions and behaviour, patient-provider interactions and healthcare communication, societal policy and practice and interventions. The document suggests areas which require development for effective interventions to support medicines optimisation through use of appropriate interventions to benefit patients.  
**See** [http://www.netscc.ac.uk/hsdr/files/project/SDO_FR_08-1412-076_V01.pdf](http://www.netscc.ac.uk/hsdr/files/project/SDO_FR_08-1412-076_V01.pdf) |
|---|---|
| A4 | **Organisation:** American Society on Aging and American Society of Consultant Pharmacists foundation.  
**Website:** [www.ascpfoundation.org](http://www.ascpfoundation.org)  
**Title:** “Adult Meducation” - Improving medication adherence in older adults  
**Overview:** This is a web based document focussing on important aspects of medication adherence in older adult. Sections include; adherence concepts & terminology, statistics related to adherence, Consequences of medication nonadherence, Factors affecting medication adherence, Prerequisites for adherence to medication regimens and predictors of medication nonadherence. This website also classifies adherence issues by social, patient, condition, health system and therapy related factors. It provides links to resources and tools including assessment of health literacy and nonadherence.  
| A5 | **Organisation:** National Council on Patient Information and Education (NCPIE)  
**Website:** [http://www.talkaboutrx.org](http://www.talkaboutrx.org)  
**Title:** Enhancing Prescription Medicine Adherence: a national action plan August 2007  
**Overview:** This is a non health care organisation that convened a panel of experts to create consensus on ten national priorities in the hope of creating positive impact on adherence issues in the USA. The document outlines key changes required to improve adherence, examining the need for consistent terminology, scoping of the issue and highlighting people at increased risk. The factors affecting medication adherence are explored with reference to key documents and strategies for improving adherence are discussed. Key factors include increasing patient awareness of the importance of adherence, providing better information support for patients and engaging multidisciplinary health professionals in behavioural support. Ten priorities for action are outlined  
| A6  | Organisation: The Journal of Family Practice  
Website: [http://www.jfponline.com](http://www.jfponline.com)  
**Title:** Improving Medication Adherence in Chronic Disease Management (2011)  
**Overview:**  
Review of current state of medication adherence, key stakeholder views, factors influencing adherence and methods of improving adherence including interventions and tools. Discussion of collaborative solutions to optimally support adherence.  
| A7  | Organisation: Mckinsey and Company  
Website: [www.mckinsey.com](http://www.mckinsey.com)  
**Title:** Changing patient behaviour: the new frontier in healthcare value 2012  
**Overview:** This review discusses key elements in addressing improved medication adherence beginning with the need to change the thinking of health professionals from a disease focussed approach to a person focussed approach. This will allow behaviourally orientated interventions to become central to care. The document outlines a potential new paradigm around patient focussed care including:  
Effective engagement with individuals using lessons from behavioural psychology  
Integrating behaviour change as a key component for new delivery models,  
Using networks and influencers to support behavioural change  
Using self-care and remote technology to empower individuals and help them connect with clinicians and  
Adopting a multi-stakeholder approach and private-public partnerships to drive the agenda forward  
The evidence for the success of these approaches are given through examples in practice.  
## Section B: Knowledge & Skills Development and Training

| B1 | Organisation: Centre for Postgraduate Pharmacy Education  
Web-site:  [http://www.cppe.ac.uk](http://www.cppe.ac.uk)  
Title: Consultation skills training to support adherence through more effective conversations with patients,  
Overview: CPPE provides E-learning programmes (as well as face to face) for patient-facing practitioners to improve patient engagement. The consultations skills resource includes description of patient centred consultations, benefits of a structured approach and details of stages of effective consultations. The importance of verbal and nonverbal skills is covered. It can be used as a stand-alone resource of or prior to attending a consultation skills workshop:  
A further resource, entitled "Understand the importance of medication adherence in the management of type 2 diabetes." examines the types of questions that can be used to elicit how patients are managing their type 2 diabetes medication. Further resources to support improving medicines adherence are planned |
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| B2 | Organisation: London GP deanery  
Website:  [http://www.londondeanery.ac.uk/general-practice](http://www.londondeanery.ac.uk/general-practice)  
Title: Online module for health coaching – relates to consultation techniques to support medicines adherence  
Overview: This document reviews the evidence for behavioural change interventions through coaching and helps the reader examine areas amenable to change using these techniques. The text explains who can be a health coach, skills required and which patients may benefit. Case studies are given with questions. Models of coaching, including motivational interviewing /behavioural change techniques, are described with questions for the reader. Suggestions of how to manage challenging situations are given with example questions and further case studies.  
See  [http://mentoring.londondeanery.ac.uk/coaching-for-health/e-learning-module/Coaching%20for%20Health%20e-Learning%20module.pdf](http://mentoring.londondeanery.ac.uk/coaching-for-health/e-learning-module/Coaching%20for%20Health%20e-Learning%20module.pdf) |
| B3 | Organisation: European Public Health Alliance – presentation from Professor Rob Horne  
Presentation  
Title: How can we improve adherence to medicines in Europe?  
Overview: This presentation is an excellent overview of the adherence issue with information on existing myths about adherence. It provides information on key beliefs around medicines, explains the necessity concerns framework and the Beliefs about Medicines questionnaire. The presentation includes references and interprets research in terms of which interventions are likely to be effective, using the practical/perceptual model as a guide. There is short discussion of policy and a brief review of the medicines adherence reporting scale. |
### B4 Organisations: National Community Pharmacists association (USA)

#### Title: Innovative Medication Adherence Educators Challenge: Summary of Submissions

#### Overview: This resource presents six summaries which address both practical and perceptual barriers to adherence. Designed for teaching undergraduate pharmacy students about adherence.

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### B5 Organisations: Various – Training opportunities
#### Websites:
- HIV: Institute for healthcare improvement tool [http://www.ihi.org/knowledge/Pages/Tools/ReadinessAssessmentHIVMedicationAdherence.aspx](http://www.ihi.org/knowledge/Pages/Tools/ReadinessAssessmentHIVMedicationAdherence.aspx)
- Mental health: Adherence therapy - [http://bjp.rcpsych.org/content/189/6/508](http://bjp.rcpsych.org/content/189/6/508) also manual and training available see [http://www.adherencetherapy.co.uk/what-is-our-solution.php](http://www.adherencetherapy.co.uk/what-is-our-solution.php)
- Health coaching: many courses for health professionals, some commissioned by NHS e.g. [http://www.pcc-cic.org.uk/sites/default/files/articles/attachments/dr_penny_newman_the_health_coaching_experience_in_nhs_midlands_and_east_0.pdf](http://www.pcc-cic.org.uk/sites/default/files/articles/attachments/dr_penny_newman_the_health_coaching_experience_in_nhs_midlands_and_east_0.pdf)

#### Summary: Skills development courses to support or contribute to improving medication adherence

#### Overview: There are a variety of resources available from both private providers and in NHS hospitals. Some are specifically focussed on disease areas e.g. mental health, HIV and others address behavioural change in a broader way. Motivational interviewing training is widely available and the evidence base tends to support its use in addiction. Cognitive behavioural therapy can be used to support medication adherence, particularly in mental health but also in the wider arena, although short courses focussed on this are not yet available.

Health coaching courses, which include some elements of motivational interviewing, have been provided as short (two or three day) training courses for behaviour change support including behaviour change to support improved medication adherence. Some providers develop skills around short consultations. These courses are all commissioned, for example, recently commissioned in East of England.

Until recently, the national cancer action team provided training in difficult consultations with patients using role play for individuals to improve skills in areas in which they felt challenged. These skills were relevant to patients with nonadherence issues. This training can also be commissioned from the original provider. Some NHS pharmacists are providing support with communication skills to improve medication adherence in both mental health and older people settings in secondary and primary care. For more information contact nina.barnett@nhs.net
## Section C: Tools to support practice

| C1 | Organisation: North Carolina Alliance for healthy communities  
|    | Title: Assessing Your Patients for Non-Adherence (Tools and Predictors to Assess Medication Adherence for the Healthcare Provider)  
|    | Overview: This website provides a number of resources to help the practitioner with medicines adherence management, which includes a list of links to tools commonly used to assess adherence, such as Morisky and ASK 20 as well as the REALM health literacy questionnaire. There are a number of other tools available, such as: Beliefs about Medicines Questionnaire (BMQ), [http://eprints.pharmacy.ac.uk/2219/](http://eprints.pharmacy.ac.uk/2219/)  
|    | Satisfaction with Information about Medicines (SIMS), [http://www.health-policy-systems.com/content/supplementary/1478-4505-9-6-s2.pdf](http://www.health-policy-systems.com/content/supplementary/1478-4505-9-6-s2.pdf)  
|    | Medicines Use and Self Efficacy (MUSE) [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3184839/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3184839/) |

| C2 | Organisation: National medication adherence campaign 2011 - Script your future  
|    | Website: [http://www.scriptyourfuture.org](http://www.scriptyourfuture.org)  
|    | Overview: Suite of resources from the USA national consumers’ league to raise awareness among patients and health professionals about medication adherence. It advocates health professionals having conversations with patients about adherence in the first instance, particularly around management of chronic conditions such as diabetes, asthma, COPD, hypertension and high cholesterol to raise awareness of the importance of medicines in managing these conditions. The website has a large collection of patient aids around specific medical conditions to support adherence as well as links to key references to medicines adherence assessment scales and key publications via the “journal articles” side bar tab. FAQs are also provided.  
|    | See [http://www.scriptyourfuture.org/hcp/m/SYF_Campaign_FAQs.pdf](http://www.scriptyourfuture.org/hcp/m/SYF_Campaign_FAQs.pdf) 

| C3 | Organisation: King County, US  
|    | Website: [http://www.kingcounty.gov](http://www.kingcounty.gov)  
|    | Title: Medication adherence educational messages  
|    | Overview: This is a six page plan of adherence support for healthcare professionals which reviews the problems, method of assessment, tools to support intervention and provides a quiz to check understanding.  
<p>|    | <a href="http://search.kingcounty.gov/search?q=medication+adherence&amp;site=w&amp;client=w_frontend&amp;output=xml_no_dtd&amp;proxystylesheet=w_frontend">http://search.kingcounty.gov/search?q=medication+adherence&amp;site=w&amp;client=w_frontend&amp;output=xml_no_dtd&amp;proxystylesheet=w_frontend</a> |</p>
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<th>Organisation</th>
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<td>University of Wisconsin and product toolkits</td>
<td><a href="http://unityhealth.com/intranet/groups/pubweb/documents/unity_nativefile/ui_012742.pdf">http://unityhealth.com/intranet/groups/pubweb/documents/unity_nativefile/ui_012742.pdf</a></td>
<td>Adherence guide leaflet</td>
<td>A pocket summary of key issues in supporting medicines adherence under the headings: Knowledge recall motivation and financial issues, with suggestions for questions to ask patients. There is a medication profile review summary which outlines pre, during and post visit activities. There are toolkits available for purchase for specific disease area support.</td>
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<td>Boehringer Ingleheim</td>
<td><a href="http://www.pharmacysatisfaction.com/resources/pdf/2009med-adherence-report.pdf">http://www.pharmacysatisfaction.com/resources/pdf/2009med-adherence-report.pdf</a> and <a href="http://www.pharmacysatisfaction.com/pep.jsp">http://www.pharmacysatisfaction.com/pep.jsp</a></td>
<td>Medicine Adherence Study 2009 and Patient empowerment programme</td>
<td>The medicine adherence study document provides a brief overview of the development of understanding in this area and key tools to support identification of patients with suboptimal adherence. The study investigates adults over 45 years and, using 50 statements about attitudes towards medication, creates a Medicines Adherence Profiling System with eleven dimensions. This document goes through each dimension of risk e.g. enhancing communication, empowering the patient and provides suggestions to improve practice. The patient empowerment programme is a suite of resources including an app. Of particular interest is the intervention handbook providing tools for patients to support adherence against the eleven dimensions. This could be useful as an adjunct to consultations once the issues are identified.</td>
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<td>American College of Preventative Medicine</td>
<td><a href="http://c.ymcdn.com/sites/www.acpm.org/resource/resmgr/timeto/adherenceclinicalreference.pdf">http://c.ymcdn.com/sites/www.acpm.org/resource/resmgr/timeto/ adherenceclinicalreference.pdf</a></td>
<td>Adherence resource and tools</td>
<td>A document providing a comprehensive overview of the problem of adherence, terminology (US) and practical methods of managing adherence issues in practice. This includes the SIMPLE acronym and suggested questions to ask patients to elicit adherence issues. Strategies to improve adherence are also included.</td>
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### Section D Further Reading

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<th>Organisation: the Health Foundation:</th>
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<tr>
<td><strong>Title:</strong> Self management resource centre: health coaching for patients</td>
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<th>Organisation: The Health Foundation:</th>
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<tr>
<td><strong>Title:</strong> Research scan: Training professionals in motivational interviewing November 2011</td>
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<th>Organisation: American Journal of Pharmacy Benefits:</th>
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<td><strong>Title:</strong> Does taking prescription medication as prescribed make a difference?</td>
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<th>Organisation: US pharmacist:</th>
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<td><strong>Title:</strong> The Pharmacist's Role in Medication Adherence</td>
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<td><strong>Website:</strong> <a href="http://www.uspharmacist.com/content/d/feature/i/1500/c/28121/">http://www.uspharmacist.com/content/d/feature/i/1500/c/28121/</a></td>
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<th>Organisation: Pharmaceutical Journal:</th>
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<td><strong>Title:</strong> Adherence: are you asking the right questions and taking the best approach?</td>
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<td><strong>Website:</strong> <a href="http://www.pjonline.com/cpd/adherence_are_you_asking_the_right_questions_and_taking_the_best_approach">http://www.pjonline.com/cpd/adherence_are_you_asking_the_right_questions_and_taking_the_best_approach</a></td>
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| **Title:** The New Medicines Service and Beyond – taking concordance to the next level |
| **Website:** [http://www.pjonline.com/news/the_new_medicines_service_and_beyond_%E2%80%94_taking_concordance_to_the_next_level](http://www.pjonline.com/news/the_new_medicines_service_and_beyond_%E2%80%94_taking_concordance_to_the_next_level) |
References

Haynes BR, Ackloo E, Shahota N, McDonald HP Yao X. Interventions for enhancing medication adherence. The Cochrane Library Copyright © 2008 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.


NICE guidance CG 76 Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence 2009

Oboh. L Supporting older people in the community to optimise their medicines including the use of multi compartment compliance aids (MCAs) Vs3 July 2013 https://www.sps.nhs.uk/articles/supporting-older-people-in-the-community-to-optimise-their-medicines-including-the-use-of-multi-compartment-compliance-aids-mcas/
