

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Centre for Clinical Practice – Surveillance Programme

Recommendation for Guidance Executive

Clinical guideline

CG76: Medicines adherence: Involving patients in decisions about prescribed medicines and supporting adherence

Publication date

January 2009

Previous review dates

June 2011

Surveillance report for GE

March 2015 (6 year surveillance review)

Surveillance recommendation

GE is asked to consider the following proposals:

- CG76: Medicines adherence should not be considered for an update at this time. GE is asked to note that this 'no to update' proposal will not be consulted on.
- The next surveillance review of the guideline should be scheduled at the same time as the 2 year review of the [NG5 Medicines Optimisation](#), due to the overlap between the two guidelines.

GE is asked to note that this 'no to update' proposal will not be consulted on as described in 'Developing NICE Guidelines: the manual', which states that there is no public consultation on the decision at the 6 and 10-year timepoints because a decision not to update is verified at the subsequent surveillance timepoint.

Key findings

			Potential impact on guidance	
			Yes	No
Evidence identified from literature search				✓
Feedback from Guideline Development Group				✓
Anti-discrimination and equalities considerations				✓
No update	CGUT update	Standard update	Transfer to static list	Change review cycle
✓				✓

* The next surveillance review of the guideline should be scheduled at the same time as the 2 year review of [NG5 Medicines Optimisation](#), due to the overlap between the two guidelines.

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Centre for Clinical Practice – Surveillance Programme

Surveillance review of CG76: Medicines Adherence: Involving patients in decisions about prescribed medicines and supporting adherence

Recommendation for Guidance Executive

Background information

Guideline issue date: January 2009

2 year review: 2011 (no update)

NCC: National Clinical Guidelines Centre (formerly the National Collaborating Centre for Primary Care)

Main conclusions from previous surveillance review

1. CG76 previously underwent a surveillance review in 2011 which recommended that the guideline should not be considered for an update. Although limited new evidence was identified relating to the correlation between increasing adherence and clinical benefit, causes of non-adherence, and interventions for increasing adherence, it was determined that the evidence identified in these areas would not change the direction of current guideline recommendations.

Main findings of the current six year surveillance review

2. A literature search for systematic reviews was carried out between 1st April 2011 (the end of the search period for the 2 year surveillance review) and 18th December 2014 and relevant abstracts were assessed. Clinical feedback on the guideline was obtained from six members of the GDG through a questionnaire.
3. No new evidence that may impact on recommendations was identified relating to any of the clinical areas within the guideline.

4. Three of the GDG members that responded to the questionnaire felt that CG76: Medicines adherence requires an update because of potential new evidence on interventions to improve medicines adherence. In particular wireless technology, financial incentives and medicines optimisation were stated as areas of new research, although no evidence was cited.
5. During the surveillance review, intelligence was received indicating potential overlap between the shared decision making aspects of CG76 and subsequent guidance [NG5 Medicines Optimisation](#). In the light of this, it is considered appropriate to synchronise the next surveillance timing of both guidelines for simultaneous review.

Ongoing research

6. The following ongoing research was identified by the GDG relating to interventions to improve medicines adherence:
 - An ongoing trial [MD.2 Medication Dispenser Medication Adherence Study](#), had an estimated completion date of May 2008 but the results have yet to be published.
 - A systematic review currently in process on educational interventions to support patients of South Asian origin with coronary heart disease. This review has no published protocol. Its publication will be monitored for consideration at the next surveillance review.

Anti-discrimination and equalities considerations

7. None identified.

Implications for other NICE programmes

8. This guideline relates to referred quality standards on medicines management: managing the use of medicines in community settings for people receiving social care, and on medicines optimisation (covering medicines adherence and safe prescribing). Provisional start dates have still to be agreed.
9. The referred quality standards are unlikely to be affected by the decision not to update the guideline.

Conclusion

10. Through the 6 year surveillance review of CG76 no new evidence which may potentially change the direction of guideline recommendations was identified. The proposal is not to update the guideline at this time.
11. The next surveillance review of the guideline should be scheduled at the same time as the 2 year review of the in process guidance on medicines optimisation, due to considerable overlap between the guidelines.

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Centre for Clinical Practice
March 2015

Appendix

Decision Matrix

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
Patient involvement in decisions about medicines			
76-01 What do we mean/understand by patient involvement in decisions about medicines			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-02 Does involvement in decisions about medicines influence adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-03 Is it possible to increase patient involvement in decisions about medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-04 What tools are available to help elicit patients beliefs about medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-05 What tools are available to help elicit patients information needs about medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
76-06 Does shared understanding of the diagnosis (need for treatment/symptoms) increase SDM?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-07 How can a practitioner detect whether a patient agrees/disagrees with recommendation to take medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-08 How can practitioners elicit patient's preferences for involvement in decisions about medicines?			
No new evidence identified.	A systematic review ¹ (115 studies) examined patient preferences for shared decisions and found that patient role preferences varied across measures, time and patient population. A practice implication identified was that the role preference measure itself must be considered when interpreting patient responses to a measure or question about a patient's preference for decision roles.	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendations in section 1.1 on patient involvement in decisions about medicines.
76-09 What tools are available to support the patient in reaching an informed decision?			
No new evidence identified.	A systematic review ² (118 RCTs) of	No GDG feedback was provided	The new evidence is unlikely to

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	decision aids for patients found that only a small fraction of the available decision aids were systematically developed and have been subjected to systematic evaluation.	by the GDG questionnaire	impact on CG76, which does not make recommendations on specific decision aids. Further evaluation studies are required before specific decision aids can be recommended in the guideline.
76-10a What information about medicines should be provided for patients in order to enhance SDM in regard to medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-10b How can information about medicines be provided for patients in order to enhance SDM in regard to medicines:			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-11 (Not treated as separate questions following agreement of model of shared decision making to use) (a) Which are the specific/practical barriers and facilitators for individuals to allow them to engage in shared decision making? (b) How can a HCP identify these barriers and facilitators? (c) Is there a way of doing this so intervention can be targeted?			
No new evidence identified.	A systematic review ³ (21 studies) aimed to identify barriers and enablers that may influence a patient's decision to cease a medication. The findings	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendations in section 1.1 on patient involvement in decisions about

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	indicated that the decision to stop a medication by an individual is influenced by multiple competing barriers and enablers. The most common barrier/enabler identified was 'appropriateness' of cessation.		medicines.
76-12 Do interventions to increase patient involvement increase length of the consultation?			
No new evidence identified.	A systematic review ⁴ (43 studies) examined interventions for providers to promote a patient centred approach to clinical consultations, including shared decision making. Pooled analysis of fewer than half of included studies with adequate data suggested moderate beneficial effects from interventions on the consultation process; and mixed effects on behaviour and patient satisfaction, with small positive effects on health status.	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendations in section 1.1 on increasing patient involvement in decisions about medicines.
76-13 What 'aspects' of consultation style increase patient involvement in decision-making?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
76-14 What are the skills and competencies required from HCPs to deliver interventions designed to increase SDM about medicines?			
No new evidence identified.	A systematic review ⁵ (21 studies) evaluated the effectiveness of interventions to improve health professionals' adoption of shared decision making in routine clinical practice, as seen by patients. Only three of the 21 studies reported a clinically significant effect for the primary outcome that favoured the intervention. These interventions included educating health professionals about sharing decisions with patients and patient-mediated interventions, such as patient decision aids.	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendations in section 1.1 on increasing patient involvement in decisions about medicines. In particular recommendation 1.1.6 advises awareness that the consultation skills needed for increasing patient involvement can be improved.
Supporting adherence			
76-15 How common is non-adherence? What is the correlation between increasing adherence and clinical benefit?			
2-year review (2011) A study ⁶ aimed to offer an indirect measure of patient welfare based on whether	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	The evidence identified in the 2 year surveillance review was considered to be consistent with

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p>patients comply with the prescription they receive. They concluded that both the theoretical and empirical results suggest that, for comparable clinical efficacy and toxicity levels, a higher adherence level is associated with higher patient welfare, thus adding valuable information to conclusions drawn by a mere biostatistical analysis. Therefore, from the perspective of the patient, the adherence-enhancing drug must be favoured.</p>			<p>CG76 guideline recommendations.</p>
<p>76-15b What are the main causes of non-adherence? Is adherence worse in vulnerable groups, if so which ones?</p>			
<p><u>2-year review (2011)</u> A study⁷ investigated the relationship between five-factor model personality factors (Conscientiousness, Neuroticism, Agreeableness,</p>	<p>A review of systematic reviews⁸ (51 reviews) on determinants of patient adherence identified 771 individual factor items, of which most were determinants of implementation, and only 47-determinants of persistence with medication. Factors with an</p>	<p>No GDG feedback was provided by the GDG questionnaire</p>	<p>It was considered that the identified evidence at the 2 year review, on personality, population and disease characteristic factors, was consistent with the existing guideline</p>

<p>Conclusions of 2 year surveillance review (2011)</p>	<p>Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?</p>	<p>Clinical feedback from the GDG</p>	<p>Conclusion of this 6-year surveillance review (2015)</p>
<p>Extraversion, and Openness) and medication non-adherence among older participants during a six-year randomized placebo-controlled trial (RCT). The authors concluded that neuroticism was associated with medication non-adherence over 6 years of follow-up in a large sample of older RCT participants. Personality measurement in clinical and research settings might help to identify and guide interventions for older adults at risk for medication non-adherence.</p> <p>In terms of factors causing non-adherence, several factors were identified such as population and disease characteristics, neuroticism, and people from different culturally and linguistically diverse (CALD) backgrounds but nothing new</p>	<p>unambiguous effect on adherence were further grouped into 8 clusters of socio-economic-related factors, 6 of healthcare team- and system-related factors, 6 of condition-related factors, 6 of therapy-related factors, and 14 of patient-related factors. The lack of standardised definitions and use of poor measurement methods resulted in many inconsistencies.</p> <p>A systematic review⁹ (30 studies) found limited evidence of an absence of longitudinal association between psychosocial factors and non-adherence to chronic preventive maintenance medication (CPMM). The strength of evidence for the review's findings is limited by the low quality of included studies.</p> <p>A systematic review¹⁰ found that depression is associated with poor adherence to medication across a range of chronic diseases. The</p>		<p>recommendations.</p> <p>The new evidence at the 6 year review related to determinants of patient adherence, the association between psychosocial factors and non-adherence to chronic preventive medication, association between depression and non-adherence, and the association between alcohol consumption and non-adherence to medication for chronic diseases.</p> <p>The evidence, although weakened by the variable quality of included studies, is consistent with the evidence included in CG76 in section 5.3 Barriers and facilitators for individuals in medicines taking, and section 7 Assessment of adherence.</p>

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p>was identified that had not already been included in the guideline with recommendations already covering these areas.</p> <p>Overall, it was considered that the identified evidence was consistent with the existing guideline recommendations.</p>	<p>association was similar across disease types but was not as strong among studies that used pharmacy records compared to self-report and electronic cap measures.</p> <p>A systematic review¹¹ (60 studies) examined the association of alcohol consumption with non-adherence to medications for four chronic diseases (HIV, diabetes, hypertension and depression). Most studies reported significant effect sizes of an association of alcohol consumption with non-adherence, and indicated an association, including 6 of the 7 highest quality studies.</p>		
76-16 What is the influence of side effects on adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-17 a) Which are the specific/practical barriers and facilitators for individuals in medicine taking? (b) How can HCP identify these barriers and facilitators (c) Is there a way of doing this so intervention can be targeted?			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p><u>2-year review (2011)</u></p> <p>A study¹² evaluated the impact of interventions to improve medication adherence in people of culturally and linguistically diverse (CALD) backgrounds through a systematic review and meta-analysis. The authors concluded that relatively little high-quality work has been conducted on adherence-enhancing interventions for people of CALD backgrounds. Greater attention needs to be given to examining the needs of specific CALD population groups. Future researchers should consider rigorously testing interventions that take into account the enormous diversity and differences that exist within any particular CALD group.</p>	<p>A systematic review¹³ (10 studies) examined barriers to medication adherence in cognitively impaired older adults and interventions aimed at improving medication adherence. Unique barriers to adherence included understanding new directions, living alone, scheduling medication administration into the daily routine, using potentially inappropriate medications, and uncooperative patients. One study improved adherence through telephone and televideo reminders at each dosing interval. However, the results of the review are limited by reviewing only published articles, missing barriers or interventions due to lack of subgroup analysis, and study selection and extraction completed by 1 reviewer.</p> <p>A systematic review¹⁴ found that there is a small statistically significant and positive association between health</p>	<p>No GDG feedback was provided by the GDG questionnaire</p>	<p>The new evidence is consistent with the evidence included in CG76 on barriers and facilitators for individuals in medicine taking, which highlights the varied practical and perceptual barriers that exist.</p>

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p>It was considered that the identified evidence was consistent with the existing guideline recommendations.</p>	<p>literacy and medication adherence.</p> <p>A systematic review¹⁵ investigated the association between health literacy and non-adherence and identified factors that may influence that relationship. Factors that contribute to non-adherence were categorised into patient related factors, including patient beliefs; medication related factors; logistical factors; and factors around the patient-provider relationship. Only a small proportion of studies that investigated the relationship between non-adherence and health literacy, found clear evidence of a relationship. Research on possible mechanisms relating health literacy to non-adherence suggest that disease and medication knowledge are not sufficient for addressing non-adherence while self-efficacy is an important factor.</p>		
<p>76-18 How can HCP tailor information to specific patient groups – cognitive capacity, cultural groups</p>			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-19 What are the needs of carers/families in affecting adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-20 Is medicine taking altered by the purpose of medicine (i.e. symptomatic, preventive etc)?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-21 How do patients' beliefs about medicines and HCP influence adherence?			
No new evidence identified.	A systematic review ¹⁶ (94 studies) assessed the Necessity-Concerns Framework model of beliefs and concerns in explaining non adherence to prescribed medicines. Across studies, higher adherence was associated with stronger perceptions of necessity of treatment and fewer concerns about treatment. These relationships remained significant when data were stratified by study size, the country in which the research was conducted and the type of adherence measure used.	No GDG feedback was provided by the GDG questionnaire	The new systematic review evidence is consistent with CG76 recommendation 1.1.19 which advises awareness that patients' concerns about medicines, and whether they believe they need them, affect how and whether they take their prescribed medicines.
76-22 How can HCP elicit patients' beliefs affecting non-adherence?			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-23 Which interventions are effective in increasing adherence? (content of interventions, how delivered and who delivers them)			
<p><u>2-year review (2011)</u> A study¹² evaluated the impact of interventions to improve medication adherence in people of culturally and linguistically diverse (CALD) backgrounds through a systematic review and meta-analysis. The authors concluded that relatively little high-quality work has been conducted on adherence-enhancing interventions for people of CALD backgrounds. Greater attention needs to be given to examining the needs of specific CALD population groups. Future researchers should consider rigorously testing interventions that take into account the enormous diversity and differences that exist within any particular CALD</p>	<p>A systematic review²⁰ (13 studies) investigated whether tailored internet interventions are effective in improving medication adherence. Data synthesis revealed that there is evidence for the effectiveness of internet interventions in improving medication adherence: 5 studies (3 high-quality studies and 2 low-quality studies) showed a significant effect on adherence; 6 other studies (4 high-quality studies and 2 low-quality studies) reported a moderate effect on adherence; and 2 studies (1 high-quality study and 1 low-quality study) showed no effect on patients' adherence. However, most studies used self-reported measurements to assess adherence, which is generally perceived as a low-quality measurement. There was also large variation in the measured interval between baseline and follow-</p>	<p>Clinical feedback indicated new developments in the following areas:</p> <p>There has been a growth in wireless technology to help monitor adherence and prompt medication taking. Several systems are currently available.</p> <p>There has been research in several areas regarding financial incentives for patients to take medication or comply with medication monitoring.</p> <p>Medicines optimisation since the development of guideline featured prominently and must be considered in the light of the key pharmacological and other interventions.</p>	<p>CG76 recommendation 1.2.5 states that no intervention can be recommended for all patients. Recommendation 1.2.8 states that because evidence supporting interventions to increase adherence is inconclusive, interventions should only be used to overcome practical problems associated with non-adherence if a specific need is identified. Interventions should be targeted to the need.</p> <p>The new evidence identified is also inconclusive and is therefore consistent with this recommendation. Interventions which could potentially impact on CG76 with future high quality evidence are:</p>

<p>Conclusions of 2 year surveillance review (2011)</p>	<p>Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?</p>	<p>Clinical feedback from the GDG</p>	<p>Conclusion of this 6-year surveillance review (2015)</p>
<p>group.</p> <p>A study¹⁷ explored the range and nature of medication adherence interventions tested with older adults. They concluded that gaps were noted in addressing memory aids and self-monitoring strategies; further development of interventions addressing medication and administration factors influencing adherence are also needed. Identified interventions are geared toward self-medicating patients and fail to address caregivers administering medications. Finally, interventions do little to address variations in patterns of adherence among older adults.</p> <p>A review¹⁸ updated another review summarising the results of randomized controlled trials</p>	<p>up measurements, which weakens the impact of the findings.</p> <p>A systematic review²¹ (50 studies) evaluated the association between social support and medication adherence. A greater degree of practical support was most consistently associated with greater adherence to medication; evidence for structural or emotional support was weaker. However, most studies were limited in size and design, which precluded pooling of results and weakened the impact of the evidence.</p> <p>A systematic review²² (62 studies) assessed the effectiveness of patient, provider, and systems interventions or policy interventions in improving medication adherence for various chronic health conditions. The most consistent evidence of improvement in medication adherence was found for interventions that reduced out-of-</p>	<p>No evidence was cited for these areas.</p> <p>A systematic review³¹ (Hegedus) (4 studies) was cited on the effectiveness of adherence therapy (including cognitive behavioural therapy, psycho-education, and motivational interviewing) on the medication adherence of patients with schizophrenia. The findings showed that adherence therapy did not appear to improve patients' medication adherence in comparison to treatment as usual or a control intervention. However, all the studies reviewed showed high-adherence ratings at baseline and further studies are needed to fully assess its effectiveness.</p>	<ul style="list-style-type: none"> • tailored Internet interventions • practical social support • interventions that reduced out-of-pocket expenses • improved prescription drug coverage • case management • educational and cognitive-interventions • cognitive-based behaviour change techniques • devices with dose-memory and combined dose-memory and dose-reminder functions • nurse-led interventions • complex interventions with multiple components • medicines self-monitoring and self-management programmes • wireless technology • financial incentives <p>The areas highlighted by clinical feedback will be monitored for new evidence at the next</p>

<p>Conclusions of 2 year surveillance review (2011)</p>	<p>Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?</p>	<p>Clinical feedback from the GDG</p>	<p>Conclusion of this 6-year surveillance review (2015)</p>
<p>(RCTs) of interventions to help patients follow prescriptions for medications for medical problems, including mental disorders but not addictions. The authors concluded that for short-term treatments several quite simple interventions increased adherence and improved patient outcomes, but the effects were inconsistent from study to study with less than half of studies showing benefits. Current methods of improving adherence for chronic health problems are mostly complex and not very effective, so that the full benefits of treatment cannot be realised. No new intervention was identified to reduce non-adherence from the studies identified.</p> <p>A study¹⁹ looked at the existing</p>	<p>pocket expenses or improved prescription drug coverage, case management, and educational interventions across clinical conditions.</p> <p>A systematic review²³ (79 studies) identified and compared the efficacy of strategies to improve implementation of prescribed drug dosing regimens and maintain long-term persistence. The evidence indicated that feedback to the patients of their recent dosing history and cognitive-educational interventions are potentially effective approaches to enhance patient adherence to medications. The statistical heterogeneity among the studies identified, and potential publication bias may limit the strength of the findings.</p> <p>A systematic review²⁴ (26 studies) investigated cognitive-based behaviour change techniques as</p>		<p>surveillance review point.</p>

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p>reviews of adherence to interventions and identified the underlying theories for effective interventions. They concluded that there is a scarcity of comparative studies explicitly contrasting theoretical models or their components. The relative weight of these theories and the effective components in the interventions designed to improve adherence, need to be assessed in future studies.</p> <p>Overall, it was considered at the 2 year surveillance review that the identified evidence was unlikely to impact on guideline recommendations.</p>	<p>interventions to improve medication adherence. Cognitive-based behaviour change techniques were found to be effective. The most commonly used intervention was motivational interviewing, but other studies used techniques such as aiming to increase the patient's confidence and sense of self-efficacy, encouraging support-seeking behaviours and challenging negative thoughts. Interventions were most commonly delivered from community-based settings by routine healthcare providers such as general practitioners and nurses. Subgroup analyses suggested that these interventions are amenable to use across different populations and in differing manners without loss of efficacy.</p> <p>A systematic review²⁵ of cost effectiveness of medication adherence-enhancing interventions</p>		

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>found that 4 of 14 included studies showed incremental cost-effectiveness ratios (ICERs) below the willingness-to-pay threshold. Few studies seemed to evaluate interventions that successfully changed adherence, indicating that proven-effective adherence programmes should be subjected to comprehensive economic evaluations.</p> <p>A systematic review²⁶ (14 studies) found limited evidence for impact of approaches to optimise the continuity of care in medication management upon hospital admission. The evidence was weakened due to most studies having important methodological limitations and being underpowered to show significant benefits on clinical outcomes.</p> <p>A systematic review²⁷ (10 studies) found that nurse-led interventions enhanced adherence to chronic</p>		

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>medication. Counselling, given face-to-face, in groups or via electronic messages, was the intervention most frequently assessed as effective.</p> <p>A systematic review²⁸ (13 studies) found that devices with dose-memory and combined dose-memory and dose-reminder functions were found to improve self-reported and electronically monitored treatment adherence in chronic conditions. The ability of the devices to provide dose-history information and active medication reminders was considered valuable in disease management by patients, caregivers, and HCPs. The devices were found to enhance patients' confidence in, and motivation to manage their medication and condition, and help reduce forgotten or incorrect medication dosing.</p> <p>An updated systematic review²⁹ (182 studies, 109 new) of interventions for</p>		

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>enhancing medication adherence found that effects were inconsistent from study to study, and only a minority of lowest risk of bias RCTs improved both adherence and clinical outcomes. The RCTs at lowest risk of bias generally involved complex interventions with multiple components, trying to overcome barriers to adherence by means of tailored ongoing support from allied health professionals such as pharmacists, who often delivered intense education, counselling (including motivational interviewing or cognitive behavioural therapy by professionals) or daily treatment support (or both), and sometimes additional support from family or peers.</p> <p>An updated systematic review of systematic reviews³⁰ (75 reviews) of interventions to improve safe and effective medicines use by consumers</p>		

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>was identified. For most outcomes, medicines self-monitoring and self-management programmes were found to be effective in improving medicines use, adherence, adverse events and clinical outcomes. However, some participants were unable to complete these interventions, suggesting they may not be suitable for everyone. Other interventions to improve adherence were simplified dosing regimens, interventions involving pharmacists in medicines management, such as medicines reviews and pharmaceutical care services. The limitations of the available literature due to the lack of evidence for important outcomes and important populations, such as people with multimorbidity, should also be considered in practice and policy decisions.</p>		
<p>76-24 Dosing regime Does change in dosing regime affect adherence?</p>			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
No new evidence identified.	<p>A systematic review³² (51 studies) on the effect of scheduled dosing frequency on medication adherence in patients with chronic diseases found that patients were more adherent with once-daily compared with more frequently scheduled medication regimens. The use of more stringent definitions of adherence magnified these findings.</p> <p>A systematic review³³ (43 studies) assessed the impact of reduced frequency of oral therapies from multiple-dosing schedules to a once-daily (OD) dosing schedule on adherence, compliance, persistence, and associated economic impact. The overall results indicated that OD schedules were associated with higher adherence rates. From a health economic perspective, higher adherence rates with OD relative to multiple dosing in a number of conditions were consistently</p>	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendation 1.2.8 which states that simplifying the dosing regimen is one possible intervention to overcome practical problems associated with non-adherence if a specific need is identified.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	associated with corresponding lower costs of health care resource utilisation.		
76-25 Practical Do prescription costs/charges affect adherence/how do patients handle cost issues?			
No new evidence identified.	<p>A systematic review³⁴ (160 studies) assessed the relationship between patient cost sharing, medication adherence and outcomes. Of the articles that evaluated the relationship between changes in cost sharing and adherence, 85% showed that an increasing patient share of medication costs was significantly associated with a decrease in adherence. For articles that investigated the relationship between adherence and outcomes, the majority noted that increased adherence was associated with a statistically significant improvement in outcomes.</p> <p>A systematic review and meta analysis³⁵ (7 studies, n=199,996) found a significantly increased risk of</p>	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendation 1.2.10 which advises asking patients if prescriptions charges are a problem for them and, if they are, to consider possible options to reduce costs.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	non-adherence, measured by objective measures, to medicines in publicly insured populations where copayments for medicines are necessary.		
76-26 Dosage formulation & packaging Does drug formulation/packaging affect adherence?			
No new evidence identified.	A systematic review ³⁶ (37 studies) investigated whether electronic medication packaging (EMP) devices are associated with improved adherence. Devices integrated into the care delivery system and designed to record dosing events were found to be most frequently associated with improved adherence, but overall the evidence was inconclusive. From the included studies, 5 common EMP characteristics were identified: recorded dosing events and stored records of adherence, audiovisual reminders to cue dosing, digital displays, real-time monitoring, and feedback on adherence performance.	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendation 1.2.8 which states that using alternative packaging for the medicine is one possible intervention to overcome practical problems associated with non-adherence if a specific need is identified. Further robust research is required on electronic medicine packaging devices before this specific category of packaging can be incorporated into CG76.
76-27 Side-effects			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
Is there any evidence on interventions that aim to minimise side-effects in order to increase adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-28 Information and how delivered How does the way and amount of the information that is presented (e.g. pictorial vs. written form) affect adherence?			
No new evidence identified.	A systematic review ³⁷ (8 studies) examined the impact on decisions to start or continue medicines after providing information to patients about possible benefits or harms. There was no significant impact of interventions on decisions about whether to start or continue medicines, although among those who received more information, knowledge was increased and decisional conflict was reduced.	No GDG feedback was provided by the GDG questionnaire	The new evidence is consistent with CG76 recommendation 1.1.29 on providing information, which states that patients differ in the type and amount of information they need and want. Therefore the provision of information should be individualised.
76-29 Financial incentives Do rewards affect adherence/what are they?			
No new evidence identified.	A meta-analysis ³⁸ (15 studies) of financial reinforcers for improving medication adherence found that reinforcement interventions significantly improved adherence	No GDG feedback was provided by the GDG questionnaire	CG76 does not make specific recommendations for or against financial incentives, but the new evidence identified on frequent, longer term financial reinforcers

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	relative to control conditions. Interventions that were longer in duration, provided an average reinforcement of \$50 or more per week, and conducting reinforcement interventions at least weekly resulted in larger effect sizes than those that were shorter, provided lower reinforcers, and reinforced patients less frequently.		is consistent with the evidence included in CG76 section 8 on interventions to increase adherence.
76-30 Psychobehavioural interventions Do specific forms of therapy (e.g. CBT) affect adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-31 Overall treatment plans Is care planning important in affecting adherence? (i). Do patient plans affect adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-32 Contract Would a contractual agreement between HCP and patient affect adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
76-33 Effect of reminders Do reminders (and what types of reminders, text messaging etc) help increase adherence? Are these more important before or after a review?			
No new evidence identified.	<p>An updated systematic review³⁹ (12 studies, 4 new) of reminder packaging for improved adherence to self-administered long-term medications found that reminder packaging increased the proportion of people taking their medications when measured by pill count; however, this effect was not large. Findings suggested that reminder packing for certain individuals could offer a simple method for improving the adherence to medications; further research is needed to improve the design and targeting of these devices before they could be considered for inclusion in CG76.</p> <p>A systematic review⁴⁰ (4 studies) assessed the effects of mobile phone messaging applications designed to facilitate self-management of long-term illnesses, in terms of impact on</p>	A GDG member highlighted an evaluation study ⁴⁴ (n=200) that was undertaken of a passport-sized booklet intervention, 'My Medication Passport' designed by patients for patients to record details about their medicines. The Passport was launched in secondary care with the initial users being older people discharged home. The uptake subsequently spread to other (community) locations and other age groups. Of the participants recruited, 63% completed the structured telephone questionnaire and the intervention was positively evaluated; it provided an insight into how it is used by patients, what they are recording and how it can be an aid to dialogue about medicines with family, carers and	<p>The new evidence on reminder interventions is inconclusive and is therefore unlikely to impact on CG76 recommendation 1.2.8, which states that because evidence supporting interventions to increase adherence is inconclusive, interventions should only be used to overcome practical problems associated with non-adherence if a specific need is identified. Interventions should be targeted to the need.</p> <p>Further high quality research is required on the 'my medication passport' intervention before it can be considered for inclusion in CG76 as a possible intervention.</p>

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>health outcomes and patients' capacity to self-manage their condition. The results showed very limited evidence that in certain cases mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses. However, significant information gaps were identified regarding the long-term effects, acceptability, costs, and risks of such interventions.</p> <p>A systematic review⁴¹ (13 studies) of the effectiveness of interventions using electronic reminders found short term improved adherence to chronic medication in all but one study using SMS reminders, four studies using electronic reminder devices and one pager intervention. In addition, one high quality study using electronic reminder devices found subgroup effects, although the subgroups concerned were not stated.</p>	<p>healthcare professionals. Further development and spread is underway including an application for smartphones that will be subject to wider evaluation to include feedback from clinicians.</p> <p>The Medicines and Prescribing Centre highlighted an RCT⁴⁵ (n=303) of text messaging to patients taking blood pressure and/or lipid-lowering medications to improve adherence. Texts were sent daily for 2 weeks, alternate days for 2 weeks and weekly thereafter for 22 weeks (6 months overall), using an automated computer programme. The results showed a significant improvement in treatment adherence.</p>	

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>A systematic review⁴² (30 studies) found that drug reminder packaging had a significant effect on at least one adherence parameter in 17 studies (57%). The methodological quality was strong in five studies. Overall, the studies showed a positive effect of drug reminder packaging on adherence and clinical outcomes. However, poor reporting and important gaps like missing humanistic and economic outcomes and neglected safety issues limit the strength of the results.</p> <p>A systematic review⁴³ (13 studies, n=3276) found that SMS and telephone reminders could both significantly improve the follow up rate among patients with chronic diseases. Telephone reminders were more effective but had a higher risk of bias than SMS.</p>		
76-34 Patient identification of medicine			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
Does changing the name of medicines affect the way people take medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-35 Effect of self-monitoring of effect of medication Does being involved in self-monitoring (e.g. of own blood pressure) help adherence? Does case-management affect adherence (i.e. by one specific person)?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-36 Does effect of intervention differ according to which HCP delivers the intervention?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-37 What elements of the clinician-patient relationship influence adherence?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-38 What information regarding medicines should be provided for patients and practitioners on medicines when patients are discharged from secondary care?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-39 What is the role of the pharmacist or HCP in overcoming barriers to adherence?			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-40 What would impact adherence after the prescription is issued?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
Reviewing medicines			
76-41 What is medication review?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-42 What should be the content of medication reviews?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-43 When/how often and by whom should medication reviews be done?			
No new evidence identified.	A systematic review ⁴⁶ (53 studies) examined the impact of fee-for-service pharmacist-led medication review on patient outcomes and quantified this according to the type of review undertaken, e.g. adherence support	No GDG feedback was provided by the GDG questionnaire	The new evidence identified is inconclusive and is therefore unlikely to impact on CG76 recommendations 1.3.1-1.3.4 for medication review. Further research on effectiveness and

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>and clinical medication review. The majority of the studies (57.9%) showed improvement in medication adherence. Subgroup analysis showed that clinical medication review but not adherence support review reduced hospitalisation.</p> <p>A systematic review⁴⁷ examined whether the delivery of a medication review by a physician, pharmacist or other healthcare professional improves the health outcomes of hospitalised adult patients compared to standard care. The findings showed no evidence of effect on all-cause mortality and hospital readmissions, but a 36% relative reduction in emergency department contacts. However, the cost-effectiveness of this intervention is not known and due to the uncertainty of the estimates of mortality and readmissions and the short follow-up, important treatment effects may have been overlooked.</p>		<p>cost-effectiveness is required on when/how often and by whom medication reviews should be done, before a change to the recommendations is warranted.</p>

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
76-44 Does the use of dosette boxes affect adherence to prescribed medication?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
76-45 How can practitioners assess adherence?			
<p><u>2-year review (2011)</u></p> <p>A study⁴⁸ assessed agreement among patient self-reporting, pharmacy refill, and electronic adherence measures and compared the sensitivity and specificity of different cut-off points for defining non-adherence. Median adherence was 84% for self-report, 86% for electronic, and 91% for prescription refill adherence measurement. Refill and electronic adherence demonstrated the best agreement among measures. The authors concluded that all measures provided similar estimates of overall adherence,</p>	<p>A systematic review⁴⁹ identified self-report adherence measures currently available which are suitable for primary care and evaluated the extent to which they met various criteria. Fifty eight measures were identified. While validation data were presented in support of the vast majority of self-reported measures, only a minority of measures reported data on reliability and time to complete. Few were designed to have the ability to be completed by or in conjunction with carers and few were able to distinguish between different types of non-adherence, which limited their ability to be used effectively in the continuous improvement of targeted adherence enhancing interventions. The data available suggested that</p>	<p>No GDG feedback was provided by the GDG questionnaire</p>	<p>The evidence from the 2 year surveillance review and the new evidence relating to self-report measures of adherence was inconclusive and is consistent with CG76 recommendations 1.2.1-1.2.3 on assessing adherence.</p>

<p>Conclusions of 2 year surveillance review (2011)</p>	<p>Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?</p>	<p>Clinical feedback from the GDG</p>	<p>Conclusion of this 6-year surveillance review (2015)</p>
<p>although refill and electronic measures were in highest agreement. In selection of a measure, practitioners should consider population and disease characteristics, since measurement agreement could be influenced by these and other factors.</p> <p>It was considered that the identified evidence was consistent with the existing guideline recommendations.</p>	<p>patients find it easier to estimate general adherence than to report a specific number of doses missed. Visual analogue scales can be easier for patients than other types of scale but are not suitable for telephone administration.</p> <p>A systematic review⁵⁰ (60 studies) aimed to (i) identify self-report medication adherence scales, assess how these scales measure adherence and explore how they have been validated. Adherence scales were found to include items that either elicit information regarding the patient's medication-taking behaviour and/or attempts to identify barriers to good medication-taking behaviour or beliefs associated with adherence. The validation strategies employed depended on whether the focus of the scale was to measure medication-taking behaviour or identify barriers or</p>		

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	beliefs.		
76-46 What are the advantages and disadvantages of self-report in assessing patient's adherence?			
<p><u>2-year review (2011)</u></p> <p>A study⁴⁸ assessed agreement among patient self-reporting, pharmacy refill, and electronic adherence measures and compared the sensitivity and specificity of different cut-off points for defining non-adherence. Median adherence was 84% for self-report, 86% for electronic, and 91% for prescription refill adherence measurement. Refill and electronic adherence demonstrated the best agreement among measures. The authors concluded that all measures provided similar estimates of overall adherence, although refill and electronic measures were in highest agreement. In selection of a</p>	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	The evidence from the 2 year review was considered to be consistent with CG76 recommendations. No new evidence was identified in the 6 year review.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
<p>measure, practitioners should consider population and disease characteristics, since measurement agreement could be influenced by these and other factors.</p> <p>It was considered that the identified evidence was consistent with the existing guideline recommendations.</p>			
Communication between healthcare professionals			
76-47 What information regarding medicines should be provided for patients and practitioners when patients are discharged from secondary care?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR1 What are the most clinically effective and cost-effective methods for identifying and addressing the perceptual barriers (such as beliefs and concerns about medicines) which influence motivation to start and continue with treatment and the practical barriers (such as limitations in personal capacity and resources), which limit an individuals' ability to implement intentions to adhere to medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
What are the most clinically effective and cost-effective ways of communicating the potential benefits and risks of medicines to promote informed choice?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR2 What are the strengths, weaknesses and consequences of different approaches to joint decision-making, seen from the vantage point of various stakeholders (e.g. prescribers, patients, funders)?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR3 How can we enable new and existing prescribers to identify individuals at risk of nonadherence or those who are a priority for medicines review and adherence support. How can we best provide it?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR4 How can practitioners and patients be supported to improve the quality of prescribing-related consultations and medicine use reviews so that they facilitate informed choice and optimal adherence to medicine?			
No new evidence identified.	A systematic review ⁵¹ (8 studies) found no effect of interventions to optimise prescribing for older people living in care homes on any of the primary outcomes of the review (adverse drug events, hospital admissions and mortality). There was	No GDG feedback was provided by the GDG questionnaire	The new evidence on optimising prescribing and polypharmacy for older people was inconclusive and the research recommendation remains ongoing.

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
	<p>some evidence that the interventions led to the identification and resolution of medication-related problems. There was evidence from two studies that medication appropriateness was improved. The evidence for an effect on medicine costs was equivocal.</p> <p>An updated systematic review⁵² (12 studies, 2 new) found conflicting evidence of whether interventions to improve appropriate polypharmacy for older people, such as pharmaceutical care, resulted in clinically significant improvement. However, the findings indicated benefit in terms of reducing inappropriate prescribing.</p>		<p>The new evidence is also relevant to NG5 Medicines optimisation which includes a more detailed section on medicines review with specific reference to polypharmacy and older people (recommendation 1.4.1).</p>
<p>RR5 How can we facilitate the open disclosure of medicine-taking behaviours within consultations relating to medicines prescribing and review? How can we equip health practitioners to respond appropriately and effectively?</p>			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
<p>RR6 What are the effects of non-prescriber medicine reviews (e.g. by pharmacists) on patients, prescribers and outcomes? How can the process of medicine review be enhanced or improved to address issues of informed choice and adherence?</p>			

Conclusions of 2 year surveillance review (2011)	Is there any new evidence/intelligence identified during this 6-year surveillance review (2015) that may change this conclusion?	Clinical feedback from the GDG	Conclusion of this 6-year surveillance review (2015)
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR7 What are the effects of social disadvantage and ethnicity on informed choice, shared decision making and adherence to prescribed medicines?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR8 How do the perceptions and life circumstances of different age groups (children, young adults, elderly people) influence informed choice, shared decision making and adherence. What are the implications for interventions to support these?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.
RR9 What are the particular barriers to medicines use for people with multiple pathologies (and their informal carers) and what interventions are required?			
No new evidence identified.	No new evidence identified.	No GDG feedback was provided by the GDG questionnaire	No relevant evidence identified.

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