

Care plans and care planning in long-term conditions: a conceptual model

Jenni Burt¹, Jo Rick², Thomas Blakeman², Joanne Protheroe³, Martin Roland¹ and Pete Bower²

¹Cambridge Centre for Health Services Research, Institute of Public Health, University of Cambridge, Cambridge, UK

²National Institute for Health Research School for Primary Care Research, Manchester Academic Health Science Centre, Centre for Primary Care, Institute of Population Health, University of Manchester, Manchester, UK

³Research Institute for Primary Care and Health Sciences, Arthritis Research UK Primary Care Centre, Keele University, Keele, Staffordshire, UK

The prevalence and impact of long-term conditions continues to rise. Care planning for people with long-term conditions has been a policy priority for chronic disease management in a number of health-care systems. However, patients and providers appear unclear about the formulation and implementation of care planning. Further work in this area is therefore required to inform the development, implementation and evaluation of future care planning initiatives. We distinguish between ‘care planning’ (the process by which health-care professionals and patients discuss, agree and review an action plan to achieve the goals or behaviour change of most relevance and concern to the patient) and a ‘care plan’ (a written document recording the outcome of a care planning process). We propose a typology of care planning and care plans with three core dimensions: *perspective* (patient or professional), *scope* (a focus on goals or on behaviours) and *networks* (confined to the professional–patient dyad or extending to the entire care network). In addition, we draw on psychological models of mediation and moderation to outline potential mechanisms through which care planning and care plans may lead to improved outcomes for both patients and the wider health-care system. The proposed typology of care planning and care plans offered here, along with the model of the process by which care planning may influence outcomes, provide a useful framework for future policy developments and evaluations. Empirical work is required to explore the degree to which current care planning approaches and care plans can be described according to these dimensions, and the factors that determine which types of patients and professionals use which type of care plans.

Key words: care planning; chronic diseases; physician–patient relations; self-management; shared decision making

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Background

With the burden of disease shifting to long-term conditions, health systems are tasked to deliver effective, efficient, accessible and patient-centred

care (Wagner *et al.*, 1996; Department of Health, 2006; Singh and Ham, 2006). The Chronic Care Model was developed in response to concerns about the effectiveness of primary care for people with long-term conditions (Wagner *et al.*, 1996; Wagner, 2001). The model sets out a vision in which informed patients and proactive health-care teams work together within highly organised systems to achieve the highest quality of care. It has been influential in the organization of long-term

Correspondence to: Jenni Burt, Research Associate, Cambridge Centre for Health Services Research, Institute of Public Health, University of Cambridge, Forvie Site, Robinson Way, Cambridge CB2 0SR, UK. Email: jab35@medschl.cam.ac.uk

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condition care internationally (Bodenheimer *et al.*, 2002b). It recognises that all long-term conditions present a 'common set of challenges' to individuals and their families. It aims to support management of the 'physical, psychological and social demands' of conditions through 'productive interactions' between practice teams and patients that consistently provide (a) assessments, (b) support for self-management, (c) optimisation of therapy and (d) proactive follow-up (Wagner *et al.*, 1996).

Key potential outcomes of the Chronic Care Model include reduction in health-care use and costs, and improved clinical outcomes and patient experience. For example, a broad overview of 39 studies in diabetes found that the vast majority (82%) demonstrated that interventions based on Chronic Care Model components impacted on at least one process or outcome measure, such as glycaemic control (Bodenheimer *et al.*, 2002b), while a smaller number of studies (67%) found reductions in health-care utilisation or costs.

There is significant interest in assessment of which aspects of the Chronic Care Model are 'active ingredients' (Bodenheimer *et al.*, 2002a). Effective collaboration between patients and providers may be crucial, involving 'providers and patients working together to define problems, set priorities, establish goals, create treatment plans and solve problems along the way' (Improving Chronic Illness Care, 2012). Such collaboration is the essence of good family practice, but achieving this consistently is a challenge, reflecting professional/patient power disparities (May, 1992), differences in 'models' of disease and illness (Cohen *et al.*, 1994), different priorities (Tuckett *et al.*, 1985) and the varying challenges associated with different long-term conditions and co-morbidities.

A number of methods have been used to improve collaboration (Lorig *et al.*, 1999; Dwamena *et al.*, 2012; Kennedy *et al.*, 2004). One is a formal process of 'care planning' and production of written 'care plans' recording discussions between patients and professionals, a specific element recommended within the Chronic Care Model. Broadly, care planning involves

- anticipatory rather than reactive discussions about patient care;
- defining roles and tasks among team members, including the patient;

- negotiating agreements that facilitate care within and across organisation;
- supporting patients to manage their own health;
- promoting shared decision making;
- promoting care that is consistent with scientific evidence and the patient's preferences.

Care planning and care plans have been implemented in health-care systems including Australia, Canada, the United States and the United Kingdom, and in contexts including respiratory disorders (Gibson and Powell, 2004; Partridge, 2004), mental health (Department of Health, 2008) and palliative care (Epstein *et al.*, 2011). However, despite widespread policy interest, empirical research suggests that patients and providers are uncertain as to the exact nature of care planning and plans (Burt *et al.*, 2012; Newbould *et al.*, 2012). Greater conceptual clarity in this area would benefit both those implementing care planning and care plans, and researchers attempting evaluations in this field (Craig *et al.*, 2008). The aim of this review is to (a) develop a typology of care planning and care plans; (b) present a model of mechanisms by which care planning and care plans may benefit patients and (c) clarify the outcomes that care planning and care plans might be expected to impact on, to inform future service developments and evaluations.

Discussion

Scope and approach of the review

As part of a mixed methods evaluation of care planning for long-term conditions in England, we undertook two different approaches to literature reviews. First, we conducted a systematic search to explore current empirical knowledge in this field. We developed a search strategy including terms related to care plans and planning and long-term conditions. We searched PubMed, Cochrane Library, EMBASE, CINAHL and PsycINFO for studies published up until 2011 of (a) interventions for either patients or health-care providers, which were intended to promote shared decision making or any aspect of shared decision making (eg, patient participation) and (b) interventions that included the provision of a care or action plan (whether stand-alone or as part of a wider self-management intervention). See Appendix 1 for details of our search strategy. We do not

report the results here, but use located studies (both empirical and theoretical) to support the ideas outlined in this paper.

Second, we conducted an additional literature review to explore further how and why care planning might work or fail. Through this, we were seeking key drivers of successful care planning and underlying mechanisms through which care planning may impact on outcomes. To this end, we supplemented the findings of our systematic review by conducting searches to locate relevant additional literature (including grey literature such as policy documents from the United Kingdom, United States, Canada and Australia on the implementation or evaluation of care planning and care plans; and theory and discussion papers relevant to the management of long-term conditions and care planning approaches). Thus, in addition to the databases already mentioned, we searched OpenGrey (<http://www.opengrey.eu>, a European repository including research reports, dissertations and official publications), NTIS (www.ntis.gov/, a repository of US government-funded scientific and other information), PsycEXTRA (www.apa.org/psycextra/, a repository for research reports, conference presentations and policy statements in the fields of psychology, behavioral science and health) and HMIC (a UK database combining data from the Department of Health's Library and Information Services and the King's Fund Information and Library Service) using terms related to 'care planning' and 'long-term conditions', for publications up until 2011.

Our focus was limited to care planning for long-term conditions within primary care. Definitions of long-term conditions vary. For example, the definition used by the English Department of Health focuses on the incurable nature of such conditions: 'the definition of a long-term condition is any condition that cannot be cured but can be managed by medication and/or therapy' (Department of Health, 2011). We defined long-term conditions as those that require ongoing management over a period of years, including non-communicable diseases (eg, cancer and cardiovascular disease), communicable diseases (eg, HIV/AIDS), certain mental disorders (eg, schizophrenia, depression) and ongoing impairments in structure (eg, blindness, joint disorders). This definition acknowledges the work often required for people to manage such conditions.

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In this paper, we present a 'theory map' of care planning, which focuses on the identification of

- a. types of care plans and care planning;
- b. anticipated relationships between mechanisms and outcomes of care planning; and
- c. potential outcomes of care planning.

Types of care planning

'Care planning' and 'care plans'

We make a distinction between 'care planning' (verb: the process by which health-care professionals and patients discuss, agree and review an action plan to achieve the goals or behaviour change of most relevance and concern to the patient), and a 'care plan' (noun: a written document recording the outcome of a care planning process). Data from the English National GP Patient Survey suggest that 84% of patients with a long-term condition report some care planning discussion during the last 12 months, but only 12% report being told they had a care plan (Burt *et al.*, 2012).

Care plans may function as extensions of the medical record, as a guide to action, and/or as a contract between patients, providers and the health-care system. As an extension of conventional medical records, they may be used to record additional relevant details for long-term condition care. For example, the Australian Team Care Arrangement records details of treatment decisions to ensure all those involved in care are aware of their basis, which may improve management and informational continuity (Haggerty *et al.*, 2003). As guides to action, they may stimulate forward thinking and a focus on goals for patients and professionals. As a contract, they may include mechanisms to ensure actions are undertaken, for example, by providing incentives to act. Examples include advance decisions within end of life care, which might be legally binding, and care plans enabling access to resources, for example, personal health budgets in the United Kingdom (Harvey, 2010).

As noted above, the process of care planning may not necessarily result in a written care plan. From a policy perspective, the distinction between 'care plans' and 'care planning' can be represented in a 2 × 2 typology (Figure 1; Burt *et al.*, 2012). Quadrant D represents poor quality care, with no care planning and no care plan.

		CARE PLANNING	
		YES	NO
CARE PLAN	YES	A ‘Gold standard’	B Potential target-driven outcome
	NO	C Current typical care for long term conditions	D Poor care for long term conditions

Figure 1 Care plans and care planning

In Quadrant C, care planning has taken place but there is no formal ‘care plan’. This probably represents the majority of care for long-term conditions in England at present. Quadrant A represents the ‘gold standard’; care planning supports production of a written care plan, which in turn feeds back into care planning. Box B might reflect ‘gaming’ (Doran *et al.*, 2008): a ‘care plan’ is produced, but without a full care planning process. This behaviour may occur if care plans are poorly defined, if they lack clarity of purpose or if their implementation is not supported by suitable training and guidance. Additionally, if care plans are mandated or incentivised (either financially or through access to other resources), but are perceived unfavourably by professionals, care plans may be produced without care planning. A further influence may be the use of standardised care plan templates, which could constrain the recording of a comprehensive and personalised care planning discussion.

The use of care plans

‘Care plans’ or ‘action plans’ have been described in a number of contexts. In respiratory disorders, patient-held care plans are focussed on responses to exacerbations, and provide specific instructions for daily treatment, step-up treatment in the event of deterioration and seeking urgent medical consultation (Gibson and Powell, 2004). In severe mental illness, care plans

combine both instruction and needs assessment, focussing particularly on anticipation of crisis situations (Department of Health, 2007). In diabetes, the use of care plans has a more open-ended aim to encourage partnership building, emphasising the importance of both the professional perspective on ‘disease’ and the ideas and concerns of the patient (Zwar *et al.*, 2007).

Care plans are used in health-care systems including the United Kingdom, United States, Canada and Australia. In Australia, care plans have a needs assessment focus, and were originally defined as ‘a written, comprehensive and longitudinal plan of action that sets out the health service needs of a patient and the types of services and supports needed to meet those needs’ (Zwar *et al.*, 2008). Some types of care plans in Australia (Team Care Arrangements) were modified to focus on co-ordination and team working for patients under multidisciplinary care (Vagholkar *et al.*, 2007; Zwar *et al.*, 2008). In the United States, Medicare and Medicaid certified nursing homes have Minimum Data Set requirements that include the development and modification of care plans describing how to meet each resident’s needs (Unwin *et al.*, 2010). Within the United Kingdom, care plans form part of the patient choice agenda; all patients with long-term conditions are expected to participate in explicit care planning discussions to enhance self-management, including the setting of personal goals and action planning (Department of Health, 2009).

A typology of care planning and care plans

In an effort to develop conceptual clarity in this area, we present a typology which can be used to categorise and describe care planning and care plans (Figure 2). First, it is important to make the distinction between care planning *for conditions* and care planning *for people*. Care planning policy often emphasises the importance of taking account of the entirety of a person’s conditions, circumstances, attitudes and preferences in developing an effective care plan. Multimorbidity among long-term conditions is common (Valderas *et al.*, 2009). Patients with multiple long-term conditions report difficulties in determining priorities among conditions and their management, and managing multiple conditions can lead to a significant treatment burden (Lin *et al.*, 2006; Bayliss *et al.*, 2007b; Fried *et al.*, 2008).

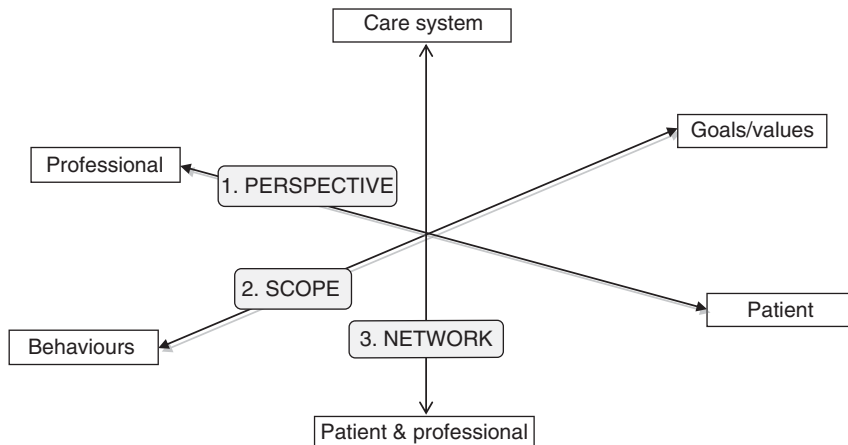


Figure 2 Three-dimensional typology of care plans and care planning. (1) Perspective: Is the focus on the patient's or the professional's perspective? (2) Scope: Is the focus on discrete behaviours or on broader goals and values? (3) Network: Is the focus on patient-professional dyad or the wider care system?

Although such concerns may drive the formulation of care planning policy, in practice, care plans have often been developed and implemented on a condition-specific basis (eg, for diabetes). We propose a typology with three core dimensions that takes into account these differences in emphasis.

The first dimension (*perspective*) represents the degree to which the process of development and the content of the care plan reflects the perspective of the professional (with the patient as the 'target') or the perspective of the patient (with the professional as the 'target'). In Australia, patient accounts suggest care plans were seen as being about the professional, and frequently documented 'clinical goals and activities about which they had no expertise' (Shortus *et al.*, 2007). Self-management policies aimed at empowering patients have been criticised for ignoring the complexities and impact of professional power and the gate-keeping role within the doctor–patient relationship (Tang and Anderson, 1999; Wilson, 2001). Whereas care planning policy sets out a patient-driven process, supported by the professional, the Australian example shows questions that may be asked about who leads the decision making. It cannot be assumed that introduction of care plans or care planning will immediately impact on existing and long-standing power relationships.

The second dimension (*scope*) reflects the degree to which the plan is focussed on discrete

behaviours and items (eg, steps to take in an exacerbation), or on broader goals (such as a reduction in HbA1C at the next diabetes review). The content of care plan templates may be a key driver of their scope. An analysis of primary care consultations in the United Kingdom suggested that the use of standardised computer templates led to self-management dialogue being framed around discrete behaviours (Blakeman *et al.*, 2011).

Combining these two dimensions creates four types of care plans:

1. Professional-centred/behaviour-focussed: for example, written asthma self-management plans.
2. Professional-centred/goal-focussed: for example, depression treatment goals in stepped care.
3. Patient-centred/goal-focussed: for example, advance directives in end of life care, attending a key social event.
4. Patient-centred/behavior-focussed: for example, healthy eating plans, talking to family about the impact of a condition.

A third dimension (*network*) can be added to this typology. This describes whether care plans are focussed on the core professional–patient dyad (eg, patient and GP), or a wider care network (eg, a multidisciplinary team and/or social networks; Rogers *et al.*, 2011).

Mechanisms of care planning

To explore mechanisms, we drew on the mediation–moderation model from psychology. In Baron and Kenny’s influential formulation, a mediator is a ‘transformation process’ by which the effects of stimuli impact on a behaviour or health outcome (Baron and Kenny, 1986). A mediator variable explains, in full or part, the relationship between two other variables. For example, care plans may improve health outcomes if they increase shared decision making. A moderator is ‘a qualitative (eg, sex, race, class) or quantitative (eg, level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable’ (Baron and Kenny, 1986). The definition and investigation of moderators requires understanding the circumstances or groups where an explanatory variable most strongly influences an outcome variable. For example, care planning may be more effective in patients with long-term

conditions with a significant burden of treatment (Department of Health, 2006). Mediators and moderators may interact in various complex ways; identification and understanding of even the basic underlying relationships has the potential to optimise the design of care plans of most utility and relevance to patients and professionals.

Mediators of change in care planning

We suggest three core mediators of relevance to care planning: participation and shared decision making, supporting self-management behaviour change and coordinating treatment (Figure 3).

Participation and shared decision making

Patient-centred care encourages (a) shared control of the consultation, decisions about interventions or management of the health problems with the patients, and/or (b) a focus in the consultation on the patient as a whole person who has individual preferences situated within social

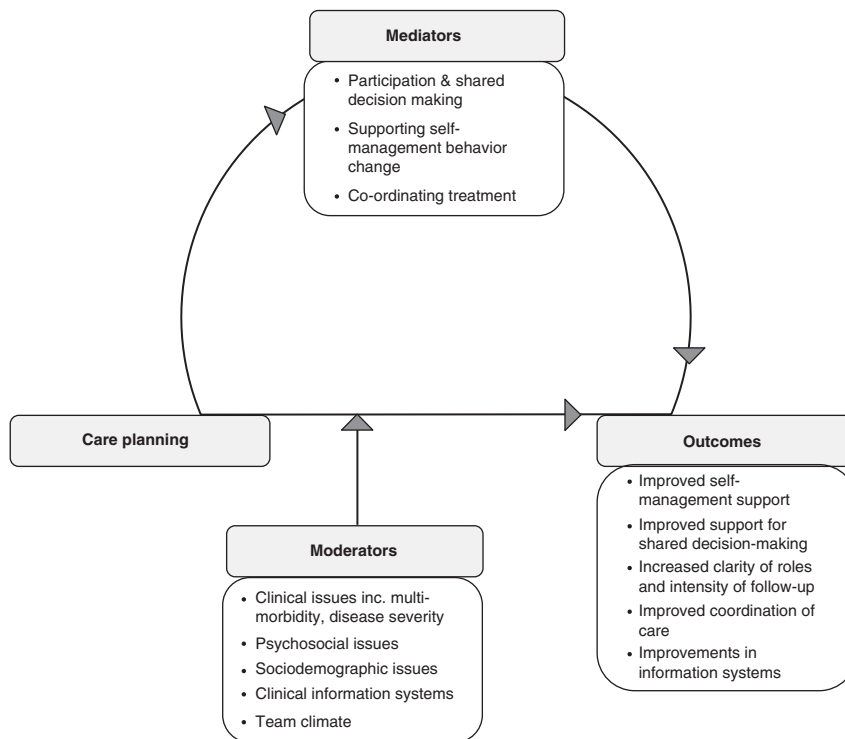


Figure 3 Conceptual model of the process and outcomes of care planning

contexts (Dwamena F *et al.*, 2012). There may be different approaches to patient-centredness, and evidence suggests variable associations with patient outcomes: for example, approaches that seek to ‘activate’ the patient rather than simply take their perspective have been more consistently associated with good health outcomes (Michie *et al.*, 2003). Some innovations to promote patient-centred care have been criticised for superficiality, with insufficient grounding in the key aims of improving patient–doctor relationships and facilitating participation and shared decision making (Epstein and Street, 2011).

Decision making may be seen as a staged sequence of ‘information exchange, deliberation or discussion of treatment preferences, and deciding on the treatment to implement’ (Levinson *et al.*, 2005). Key components of patient participation include: (1) the patient’s contribution to the direction of dialogue, (2) their influence in setting the agenda, (3) their share in the reasoning process, (4) their influence in the decision making and the (5) emotional reciprocity within encounters (Perakyla and Ruusuvoori, 2007). Care planning initiatives such as Year of Care in the United Kingdom have been specifically built on a patient-centred approach, with the aim of fostering patient participation and shared decision making through system re-design and practitioner and patient training (National Diabetes Support Team, 2008). Research suggests, however, that many decisions in health care are still not shared (Levinson *et al.*, 2005; Murray *et al.*, 2007), and there remain a number of questions about peoples’ desire to assume an identity of the active, informed patient (Sinding *et al.*, 2010).

Supporting self-management behaviour change

Care planning should support changes in behavior that result from patients being more involved in management of their conditions. Incorporating theories of behavior change strengthens the design, implementation and evaluation of interventions such as care planning (Abraham *et al.*, 2009; Cane *et al.*, 2012). Care planning involves a number of potential influences on behavior, and may require a variety of techniques of behavior change. For example, the United Kingdom introduced health trainers to improve the delivery of preventive care and health behaviour change in deprived communities. Those focussed on individual behaviour

change often use Personal Health Plans, designed to list core client goals, which can be worked on with the trainer. These plans were explicitly linked with behaviour change techniques developed from a psychological framework, including goal setting, self-monitoring and building social support (British Psychological Society, 2008). There is developing interest in other techniques to support people with long-term conditions to sustain behavior change, such as motivational interviewing (Scott, 2010). However, the efficacy, skills and competencies required to facilitate a meaningful and comprehensive care planning process leading to effective behavior change may be challenging for health professionals to develop without sufficient support and time.

Coordinating treatment

Care coordination is the need to process and integrate information relevant to patient care. It reflects both *variability* and *complexity* (Perrow, 1967). Variability refers to the diversity of patient problems that present complexity in the degree to which decision-making algorithms can be used to determine necessary actions for task performance. Tasks that demand high levels of information processing are best performed by teams in which there is a high level of interdependent working among members (Thompson, 1967). However, co-ordination of care is often poor, and teams may need processes and structures to facilitate sharing of information. Care planning might provide the basis for shared patient information systems that allow each person to access information on the care provided by others.

Moderators of the effects of care planning

Potential moderators of the effect of care planning include patient-level factors (clinical, psychosocial and socio-demographic) as well as system-level issues (clinical information systems, templates and protocols and health-care team climate).

Clinical issues

There are significant commonalities between long-term conditions in decision making, self-management, and treatment co-ordination requirements. However, important differences may moderate the impact of care planning. For example, diabetes can remain asymptomatic for

many years: a lack of explicit symptoms may make care planning appear of low priority for both patients and professionals. In symptomatic disease, the greater 'visibility' of the condition may stimulate interest in methods to improve self-management. Care planning approaches may move in and out of perceived relevance, depending on the current stage and severity of a condition: for example, chronic obstructive pulmonary disease (COPD) management plans are usually invoked only for acute exacerbations (Turnock *et al.*, 2005). Perhaps the most important clinical moderator for care planning is in meeting the needs of patients with multimorbidity, who represent a large proportion of the workload in primary care (Salisbury *et al.*, 2011). Such patients frequently face difficult decisions about priorities among conditions (Bayliss *et al.*, 2007a; Fried *et al.*, 2008), and time restrictions in primary care may make it difficult to meet their needs for support and information (Bower *et al.*, 2011). Care planning approaches implemented to date are frequently disease specific: completing a diabetes care plan template for someone with multimorbidity may not be the most appropriate way of meeting their needs.

Psychosocial issues

There is extensive evidence that preferences for shared-decision making vary by patient demography (Say *et al.*, 2006; Cullati *et al.*, 2011; Protheroe *et al.*, 2012). It remains a key research question whether the effectiveness of care plans will be lower in those groups who routinely prefer professionals to lead, or whether intervention in these groups will lead to enhanced outcomes, as they have greatest capacity to benefit. Variations in patient competency to participate in care planning processes may affect uptake and outcomes.

Much of the consideration of care planning focuses on the individual patient, in consultation with individual or teams of professionals. However, support for long-term conditions does not occur at an individual level alone, and often involves significant 'networks of support' including family, friends, professionals outside health services and community groups (Rogers *et al.*, 2011). Effective care planning may therefore place a greater emphasis on events and support outside of formal health-care services.

Socio-demographic issues

A number of socio-demographic issues may moderate the effect of care planning on outcomes. In an analysis of whether care planning discussions had helped improve management of a health problem, benefits of care planning were reported more by men and older patients, as well as those reporting better access to and continuity of care (Burt *et al.*, 2012). Other relevant factors may include level of deprivation, ethnic background, language and carer responsibilities, although empirical evidence is currently lacking. The capacity of patients to benefit may also be moderated by health literacy (Nutbeam, 2008). Health literacy is the 'degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions' (Institute of Medicine, 2004). Low health literacy is associated with a range of markers of poor health including: higher rates of long-term conditions, poor self-management, poorer understanding of one's medical condition and adherence to medical instructions, reduced responsiveness to health education and higher health-care costs (Berkman *et al.*, 2011). In addition, low health literacy may be associated with higher mortality in older adults. This may have important implications for the delivery and impact of care planning in those with poorer health literacy (Bostock and Steptoe, 2012).

Clinical information systems, templates and protocols

Potential constraints on the process of care planning and the production of care plans arising from the use of templates or particular clinical information systems have already been mentioned. Patient data systems may be organized around service needs and data monitoring requirements rather than patient experience of illness (Procter *et al.*, 2013). An ethnography of computer templates in chronic disease management concluded that their use in consultations contributes to 'how disease is defined; how care is delivered; what it means to be a patient; and what it means to be a clinician' (Swinglehurst *et al.*, 2012). Effective individualized care planning and care plans are likely to be influenced by the nature of the clinical system, including, for example, whether clinicians are prompted to review the implementation of the plan at a later date.

Health-care team climate

Climate has been defined as a team's shared perceptions of organisational policies, practices and procedures (Anderson and West, 1998). There is evidence that strong team orientation and perceptions of supportive team interactions in primary care teams may impact on health status of older patients, with stronger effects in more serious diagnoses (eg, cancer, COPD; Roblin *et al.*, 2011). Studies of primary care teamwork highlight that developing trust and respect is necessary for co-operation, and there are potentially problematic issues within groups of GPs, and between GPs and other health professionals, concerning the distribution of practice workload and conflicts about roles (Belanger and Rodriguez, 2008). The effective uptake and implementation of care planning and care plans may in part be moderated by the quality of teamwork within a provider, especially in patients with multimorbidity and significant multidisciplinary input.

Process and health outcomes of care planning

Quality of health care for individuals has been defined as 'whether individuals can access the health structures and processes of care which they need and whether the care received is effective' (Campbell *et al.*, 2000). This approach clearly differentiates the *structure* of health care (through which care is delivered and received) from the *process* of health care (the care that is given). Outcome of care is a result of the interaction between individuals and the health-care system; a consequence rather than a part of care (Campbell *et al.*, 2000). Through improving the processes of care, it is anticipated that care planning could contribute to improved health outcomes including health status, user experience and costs of care. However, there is currently little evidence on the impact of the care planning process as a whole on health or other outcomes, although the beneficial effects of many of the components of care planning are better understood (Graffy *et al.*, 2009). Mapping aspects of care planning onto the framework of the Chronic Care Model, we highlight five measurable outcomes of interest that may support the development of an evidence base (Improving Chronic Illness Care).

First, supporting self-management is at the core of care planning. The Chronic Care Model

highlights the importance of empowering and preparing patients to manage their health. Measurable outcomes of care planning for self-management may therefore include an assessment of engagement in healthy behaviours, self-efficacy (a perception of confidence to complete activities; Lorig *et al.*, 1989), management of medication regimes and perceived barriers to self-management.

Second, care planning involves the provision of support for decision making. Within the Chronic Care Model, the aspiration is to promote care, which is consistent with scientific evidence and patient preferences, including the sharing of guidelines and information with patients to encourage participation. Measurable outcomes of care planning in this domain could include patient perceptions of the degree to which their health-care professional is 'autonomy supportive' as opposed to 'controlling'. Autonomy support has been defined as providing patients with effective options for treatment, supporting patient initiatives and minimising professional judgment (Williams *et al.*, 1996).

Third, care plans that are focussed on multiple professionals may make explicit the roles and tasks of each (Zwar *et al.*, 2007; Zwar *et al.*, 2008). The planning aspect of care plans may facilitate follow-up, and including values and preferences may make care more responsive to patient's background and preferences. This highlights the Chronic Care Model's call for careful design of the delivery system, including the clear definition of roles and distribution of tasks among team members (including the patient), and regular follow-up by the health-care team. Assessment of the impact of care planning on this domain may include patient experience of care, including in particular perceptions of continuity, coordination and follow-up (see Haggerty *et al.* (2012) for a recent generic measure of continuity of care).

Fourth, care plans that are focussed on multiple professionals may lead to the development of mechanisms to co-ordinate care at an organisational level (Zwar *et al.*, 2007; 2008). The Chronic Care Model suggests that there is a need to foster the right culture, organization and mechanisms to promote safe, high-quality care, which includes the development of agreements to facilitate coordination in and across organisations. Assessment of changes in team effectiveness and cross-organisational working (using, eg, the Team

Climate Inventory; Anderson and West, 1998; 1999) and overall patient experience (such as assessed by the GP Patient Survey; Department of Health, 2012) could be useful here.

Finally, the Chronic Care Model requires high-quality clinical information systems, which are also needed to facilitate care planning, via the effective recording, retrieval and sharing of the content of plans over time. The developing field of electronic health records has clear implications for care planning processes; as already noted, templates may restrict discussions between providers and patients, but electronic data shared across health-care teams and organisations may also streamline the recording and reviewing of care planning discussions and care plans. Measurable outcomes of the impact of care planning on effective use of clinical systems could include patient assessment of information provision and coordination of care, for example, as in the follow-up/coordination scales of the PACIC (Patient Assessment of Chronic Illness Care) instrument (Glasgow *et al.*, 2005; Rick *et al.*, 2012).

Summary

There is significant policy interest in the potential of care plans and care planning. However, empirical evidence suggests that, at ground level, there remains a lack of specificity concerning the nature of care plans and care planning, as well as insufficient consideration of their likely influence on processes; anticipated outcomes; and factors, which might influence benefit. The proposed typology of care planning offered here, along with the model of the process by which care planning may influence outcomes, provide a useful framework for future policy developments and evaluations. Empirical work is required to explore the degree to which current care plans can be described according to these dimensions, and the factors that determine which types of patients and professionals use which type of care plans.

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Conflicts of Interest

None.

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Appendix 1: Search strategy

The following is the specific search strategy used in PubMed. This search strategy was applied to the other databases (Cochrane Library, EMBASE, CINAHL and PsycINFO).

#1 patient care planning[mh:noexp] or advance care planning[mh:noexp] or patient participation [mh:noexp] or care plan*[tiab] or care-plan*[tiab] or action plan*[tiab] or action-plan*[tiab] or management plan*[tiab] or management-plan*[tiab] or management program*[tiab] or personal health plan*[tiab] or personal-health-plan*[tiab] or self manag*[tiab] or self-manag*[tiab] or self car*[tiab] or self-car*[tiab]

#2 chronic disease [mh] or chronic disease[tiab] or chronic-disease[tiab] or (ongoing[tiab] adj (illness*[tiab] or disease[tiab] or condition*[tiab])) or (ongoing[tiab] adj health adj (illness*[tiab] or disease[tiab] or condition*[tiab])) or (persistent[tiab] adj (illness*[tiab] or disease[tiab] or condition*[tiab])) or (long[tiab] adj term adj (illness*[tiab] or disease[tiab] or condition*[tiab]))