

# The role of patient care teams in chronic disease management

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“In the gradual division of labor, by which civilization has emerged from barbarism, the doctor and nurse have been evolved”

Sir William Osler (1891)

The delivery of health care by a coordinated team of individuals has always been assumed to be a good thing. Patients reap the benefits of more eyes and ears, the insights of different bodies of knowledge, and a wider range of skills. Thus team care has generally been embraced by most as a criterion for high quality care. Despite its appeal, team care, especially in the primary care setting, remains a source of confusion and some scepticism.<sup>1</sup> Which disciplines are essential on the team? What do the team members other than the doctor do to support patient care?

With the ageing of the population and the advances in the treatment of chronic diseases, teamwork in the context of chronic diseases needs to be re-examined. Successful chronic disease interventions usually involve a coordinated multidisciplinary care team.<sup>2-5</sup>

In this article I consider the implications of these observations for the structure and functioning of patient care teams in primary care. My work is rooted in US health care, and the references and roles described largely reflect that perspective. I performed a Medline search for randomised controlled trials of team care using the MeSH heading “patient care team.”

## What is a patient care team?

A patient care team is a group of diverse clinicians who communicate with each other regularly about the care of a defined group of patients and participate in that care.<sup>6</sup> Do the typical staff members in a surgery—nurse, medical assistant, and receptionist—constitute a care team? The answer depends on how they function as a group—whether they meet, whether they explicitly define clinical roles, and what kinds of clinical roles they have. Starfield identified three categories of functions performed by non-medical staff: supplementary functions (functions that could be done, albeit inefficiently, by the doctor—such as giving injections); complementary functions (those that doctors often have neither the skills nor the time to do well, such as counselling on behavioural change); and substitute functions (those that are traditionally performed by the doctor, such as diagnosis and treatment of illness).<sup>6</sup> I will focus on the complementary functions. The real potential of team care to improve health outcomes and reduce healthcare costs is the ability to increase the number and quality of services available.

Effective team care for chronic illness often involves professionals outside the group of individuals working in a single practice; it may involve multiple practices—for example, primary and specialist care—or it may involve multiple organisations, such as a general

## Summary points

Effective chronic illness interventions generally rely on multidisciplinary care teams

Successful teams often include nurses and pharmacists with clinical and behavioural skills

Such teams ensure that critical elements of care that doctors may not have the training or time to do well are competently performed

These elements include population management, protocol based regulation of medication, self management support, and intensive follow up

The participation of medical specialists in consultative and educational roles outside conventional referrals may contribute to better outcomes

practice and a community agency. Teams that cross practice or organisational boundaries may create communication and administrative nightmares but are essential for optimising care for many patients.<sup>7</sup>

## Effectiveness of team care

Most successful interventions in chronic disease management entail the delegation of responsibility by the primary care doctor to team members for ensuring that patients receive proved clinical and self management support services.<sup>2-4 8</sup> Often the team is more effective with the addition of new disciplines, such as clinical pharmacy<sup>9</sup> or nursing case management.<sup>8</sup> Effective chronic illness programmes tend to exploit the varied skills of the team by using the following strategies.

*Population based care*—Population based care is an approach to planning and delivering care to defined patient populations that tries to ensure that effective interventions reach all patients who need them.<sup>10</sup> It begins with a protocol or guideline that defines the components (assessments and treatments) of high quality care. The steps required to deliver the interventions are specified and delegated to members of the team. Taplin and colleagues have described the planning and task delegation of population based care in a single primary care practice.<sup>11 12</sup>

*Treatment planning*—Treatment plans for each patient seem to be essential features of effective chronic illness programmes, and more formal, written plans help to organise the work of teams and help patients to navigate the complexities of multidisciplinary care. Plans that include patients' treatment preferences are more likely to result in satisfied, compliant patients.<sup>13 14</sup>

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Team care may benefit patients with chronic disease; here, a diabetic patient receives advice from his home health nurse via telemedicine

*Evidence based clinical management*—Advances in medicine have increased the number of chronic conditions that can be successfully treated but have also increased the complexity of regimens. The identification or addition of team members to achieve greater concordance with complex treatment protocols by providers and patients has significantly improved outcomes in several chronic conditions.<sup>15–20</sup> One major advantage of non-medical staff may be that the legal constraints placed on their decision making increase the rigour with which they follow protocols. Becker and colleagues, for example, compared the effects of lipid management by nurses with the effects of primary care on the lipid concentrations of high risk patients.<sup>21</sup> Even though both groups of professionals had access to guidelines and educational materials, patients randomised to the nurse intervention were 2.5 times more likely to reach their goal cholesterol concentration.

*Self management support*—Growing evidence exists that educational and supportive interventions directed at helping patients to change risky behaviours or become better self managers improve outcomes across a range of chronic illnesses.<sup>14</sup> Effective interventions tend to emphasise the acquisition of skills rather than just knowledge and systematically try to bolster patients' motivation and their confidence in managing their condition rather than encourage dependency. Most doctors have neither the training nor the time to engage in counselling on behaviour change or to give self management support.<sup>22</sup> The advantages of the team having a nurse trained in behavioural counselling, or other professionals, are illustrated by several studies.<sup>15 17 18</sup>

*More effective consultations*—The limitations of a brief consultation with a chronically ill patient, who will have multiple needs, are obvious. Clinics run for patients with similar needs—for example, asthma or diabetic clinics—are a part of medical practice in the United Kingdom.<sup>23 24</sup> Beck and colleagues studied “group consultations” (consultations with several patients at once) for older patients in a randomised trial and found that such patients were more satisfied, more up to date in their preventive care, and used health services less

often than comparison patients.<sup>25</sup> Group consultations may provide a particularly efficient vehicle for the complementary functions of team care.

*Sustained follow up*—Close follow up ensures early detection of adverse effects, problems in compliance, failure to respond to treatment, and recrudescence of symptoms. It affords opportunities to solve problems and demonstrate the concern of the care team. Many of the successful interventions described above rely on a practice initiating follow up of patients. Randomised trials have shown the effectiveness of telephone follow up by nurses or other staff in chronic illness care.<sup>14 26–28</sup>

## Team composition for effective chronic disease management

### Nurse case managers

Most successful chronic disease interventions in the literature involve a nurse with additional experience or training in the clinical and behavioural treatment of a chronic disease. The nurses may be nurse practitioners, advanced practice nurses with additional degrees in medical areas, or nurses with additional experience and credentials in a particular chronic disease. The nurses personally “manage” patients by protocol, adding clinical and self management skills as well as greater intensity of care. Most such innovations described in the literature involve a centralised nurse case manager working with several practices or a somewhat independent provider of services based in a related institution, such as a “senior centre” (day centre for elderly people)<sup>29</sup> or hospital.<sup>17</sup> In many settings, however, the intent of case management is discharge planning or reduction in health services use, not clinical improvement.<sup>30</sup> Arranging transfers without managing the condition may not benefit patients.<sup>28 31 32</sup>

A critical question facing those seeking to replicate such programmes is whether a practice nurse or pharmacist can or will manage a patient's glycaemic control or heart failure regimen, as did the more specialised nurses in these studies. Clearly the answer depends largely on the training of the case managers and their support from the team doctor(s). In effective case management interventions a well trained nurse communicated regularly with both the primary care doctors and a supporting medical specialist—for example, an endocrinologist or cardiologist.<sup>8</sup>

### Medical specialists

An interesting feature of many effective US chronic disease management programmes in primary care is the involvement of relevant medical specialists beyond their usual roles as consultants by referral. The involvement may be direct, as in the work of Katon and colleagues with depressed patients where psychiatrists alternated visits with the primary care doctor.<sup>16</sup> Alternatively, specialist input may be mediated through nurse case managers who discuss patients regularly with a defined specialist member of the management programme.<sup>15 17 18 33</sup> Still another model is the population based expert team developed at Group Health Cooperative, where a diabetologist and nurse educator visit primary care practices by invitation to see patients with the primary care team and establish a model for good diabetes care.<sup>34 35</sup> Whether the involvement of specialists is critical to success or merely a characteristic of

programmes that tend to be evaluated and published is unclear.

### Clinical pharmacists

There have been many studies of attempts to integrate pharmacists into the primary care team. These efforts have been recently reviewed by the Cochrane Collaboration, which concludes that, although the studies are generally of poor quality, they suggest positive effects on prescribing behaviour, a reduction in use of health services, and improved patient outcomes.<sup>9</sup> Pharmacist team members may especially contribute to the care of chronic illness by optimising drug regimens to reduce adverse effects<sup>36,37</sup> and increase efficacy.<sup>19</sup>

### Social workers

Relatively few empirical data exist on the utility of social workers' involvement in patient care teams. A Medline search found fewer than five randomised trials of such involvement in medical care published in English since 1966. The three trials most relevant to primary care investigated the efficacy of social work in the care of chronically ill children,<sup>38</sup> stroke survivors,<sup>39</sup> and the carers of patients with Alzheimer's disease.<sup>40</sup> None of these trials showed improvements in key outcomes over usual care. None the less, social workers are considered essential members of evaluation and management teams for elderly people, where the acquisition of community resources and the integration of patients back into the community are central features of the management plan. Clearly more research is needed to clarify the potential contributions of social work to chronic disease management.

### Lay health workers

Lay health workers have long played a crucial part in health care in developing countries. They have also been widely used in the US community health centre and hospice movements, and evidence is growing attesting to their value in patient care teams that work in low income communities.<sup>41,42,43</sup> Community health workers, or health aides, have important roles in bridging the language and cultural gaps between middle class health professionals and ethnically and culturally different patient populations. Lay volunteers who have experienced certain illnesses have also been used to support and coach patients facing similar challenges.<sup>44</sup> Lorig and colleagues have shown the effectiveness of self management programmes led by lay workers for patients with arthritis<sup>44</sup> and for chronic illness in general.<sup>45</sup>

### Conclusion

Over the past two decades, intervention studies have begun to clarify the advantages to chronically ill patients of care by a team, and the particular team roles and functions associated with better outcomes. The involvement of, or even leadership by, appropriately trained nurses or other staff who complement the doctor in critical care functions (such as assessment, treatment management, self management support, and follow up) has been shown repeatedly to improve professionals' adherence to guidelines and patients' satisfaction, clinical and health status, and use of health services. Chronically ill patients will benefit from a care

team that includes skilled clinicians and educators who have both clinical skills and self management support skills and population managers who understand team function and public health principles and approaches. Practice nurses and pharmacists can perform these roles if they have the requisite training, but many do not. Some patients with greater needs may benefit from the involvement of medical specialists, and lay health workers may ease the difficulties of caring for vulnerable populations.

Patient care teams in primary care have the potential to improve the quality of care for patients with chronic illness if the roles of team members are clearly defined and explicitly delegated and if team members are trained for their roles. But the presence of a trained team may be of little help if doctors cannot share care effectively<sup>1</sup> or if a practice's lack of organisation limits the availability of staff to work in these complementary roles. With appropriate training and effective teamwork, primary care teams make it possible to manage complex chronic illnesses intensively without losing the benefits of comprehensive, continuous primary care.<sup>6,46-48</sup>

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## Management of chronic disease by practitioners and patients: are we teaching the wrong things?

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The patient should be the primary manager of chronic disease, guided and coached by a doctor or other practitioner to devise the best therapeutic regimen.<sup>1</sup> The practitioner and patient should work as partners,<sup>2</sup> developing strategies that give the patient the best chance to control his or her own disease and reduce the physical, psychological, social, and economic consequences of chronic illness.

In this article we consider the quality of education for patients and practitioners who are trying to manage chronic disease. We argue that neither patients nor practitioners are taught the skills that will most enable each to carry out his or her role and responsibility for disease management. We use asthma, a chronic lung disease, to show how patients and practitioners are being taught the wrong things.

### Methods

We searched Medline and used previously published reviews to find articles on managing asthma. We did not formally assess the methodological quality of individual studies.

### Asthma: the knowledge gap

In recent decades there have been striking advances in the clinical treatment of asthma,<sup>2</sup> yet morbidity and

### Summary points

Disease control, especially asthma, depends on the quality of partnership between patient and physician

Most current patient education activities are not adequately based on evaluated models of effective disease management

One such model, self regulation, has been shown to change patients' behaviour and improve their health status

Specific techniques can help doctors to develop partnerships with patients

Including these techniques in doctors' education can lead to reduced use of and higher satisfaction with health care by patients with asthma

mortality for the disease are at an all time high.<sup>3</sup> This gap between the scientific evidence and the continuing negative effect of asthma on society depends to a considerable extent on patients' behaviour and practition-

website  
extra

Two tables listing studies of asthma patient education appear on the BMJ's website

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