Disease Management in 2020 and beyond by Dr. Hobson of Orion Health

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Introduction

It is no secret that health care in the United States is the subject of intense interest at the highest levels and that changes to the current status quo are inevitable. The fundamental problem is ever increasing costs of health care and the realization that health care quality is not being delivered commensurate with the financial investment. According to President Barak Obama, "the biggest threat to our nation's balance sheet is the skyrocketing cost of health care."

Furthermore, since care is delivered in a wide range of disconnected settings, fragmentation of care delivery is extremely common, especially for patients with long term conditions. As a result, the care delivered tends to be provider- or departmental-centric, and not patient-centric. Care coordination is a relatively rare event. Patients are likely to agree with the statement that they have experienced high levels of wasted time due to poorly organized care delivery. U.S. patients are significantly less likely than patients in other countries to have a personal physician or a long-term relationship with a care provider. There is good evidence that the quality of care delivered frequently does not meet up to the standard of best practice guidelines.

At the same time there is an epidemic of largely preventable chronic diseases including obesity, CVD, diabetes, cancer and stroke that challenges a health system designed to manage more short-term, acute conditions. Most patients with chronic disease have two or more chronic conditions and truly curative options are rare. Consequently patients and their providers increasingly must adapt to a new reality where the aim of medical care has to be to manage chronic conditions over time with better outcomes than the system delivers today.

While much of the care of chronic patients takes place in primary care, being managed by a secondary level specialist does not guarantee immunity from the practical difficulty of following guidelines. For example, a recent study of HIV management by specialist physicians revealed the following: In spite of having clear evidence of definitive resistance to an HIV medication by genotype testing, a substantial fraction of anti-retro-viral prescriptions were continued in error. There is talk of a complete system-wide crisis hitting by the year 2015.

Managing chronic disease can quickly seem like an impossible challenge given the changes required to clinical habits, the extra work potentially involved and so on. A wise approach is to keep the level and complexity of the move to a new system as simple as possible, incrementally applying changes in a manageable way. This essay considers some key aspects to the care of chronically ill populations from the perspective of necessary clinical process changes and their interaction with new information technologies.

Defining the Barriers to Engaging Challenging Populations in Disease Management Programs

One of the major concepts in disease management is care for an entire population, not just those who are happy to visit a physician and closely follow medical advice. From that perspective, challenging populations are important to engage because of their relatively high frequency of chronic disease and the fact that without tracking, close monitoring and management, they are likely to present for acute care in a crisis. Acute care is not well suited to the needs of such patients.

There are many barriers to engaging challenging populations including lack of health insurance or under-insurance, lack of access to translation and interpretation services, difficulty with community outreach because of frequent changes of address, problems with affording medications and a disruptive home environment making it difficult to follow advice such as "eat regular meals."

Technology can help providers involved in the care of hard to reach groups by tracking their need for care and providing reminders when care is due, even if the patient does not remember. Providers need to make regular contact with hard to reach populations, or work with outreach providers who can maintain regular contact.

An ideal situation is that wherever and whenever the patient is seen the health care provider who sees the patient knows the patient has several chronic conditions, knows relevant patient specific information such as 'they are hard to reach', and knows they have outstanding work. In other words, a shared electronic record that includes a shared care plan enables providers to opportunistically treat the patient based on their current needs and their longer term plan

Evidence-based guidelines in managing Disease Management Programs

Making evidence-based guidelines that relate to the current clinical problem available at the point of care is an important component of disease management programs. A significant proportion of care delivered today in the U.S. is not based on good evidence. On the other hand, many providers are resistant to the idea of using standard clinical guidelines on the ground that they lead to "cook book" medicine, and may be a first step on a slippery slope that leads to government control of the doctor patient relationship.

However, a balanced approach would allow clinicians to make clinical decisions based on their judgment of the case, but supported by ready access to evidence based guidelines that are contextually appropriate. The software should guide clinicians to "do the right thing" while allowing room for individual patient needs and clinician preferences. Until clinicians are 100 percent confident in the computer provided guidance, they should not be forced to follow it.

Clinical care guidelines used in disease management should address big picture items such as ensuing that all patients with heart failure have the chance to be on an ACE inhibitor rather than attempting to micro-manage every aspect of clinical care.

How does technology support Disease Management Programs?

Information Technology can best help disease management programs by providing efficient, secure sharing of information across the care team, and especially by delivering valuable alerts and reminders at the point of care. Patients should have access to a customized comprehensive view of their clinical data. Patient self management and education is encouraged and facilitated by a personal health record that enables interaction, setting of realistic goals and tracking progress against those goals.

Alerts and reminders need to be targeted at clinically meaningful events, must fit into the clinician's workflow, and must be customizable to deal with the fact that some clinicians are comfortable with high numbers of computer – generated alerts and others only want to see the most critical. The data must be meaningful and actionable for the current patient. Clinicians need ready access to locally agreed best practice guidelines that are relevant to the clinical needs of the current patient.

Other key technologies include use of devices in the home sending real-time data to the electronic record and genomic testing providing deeper insights into the individual patient's susceptibility to disease and ability to benefit from medications.

Will it work for me? How can I be sure?

Disease management programs for whole populations are potentially complex and require an initial investment of time and money by providers and a range of other stakeholders. Furthermore, some of the benefits, especially cost savings, tend to accrue to the payers while the providers may see limited financial rewards though an improvement in their patient's clinical status is highly likely. Providers have the option of working to improve the quality of care they deliver within their own organizations using disease management techniques, as well as being more deeply involved in their local communities, forming integrated networks that can support a whole population approach. The technology needs to be implemented in a way that balances workflow redesign and change management as well as the technology implementation. There are good examples of successful disease management implementations that can show the way.

Measuring Quality – "One size fits all" or does it?

Quality of care is surprisingly hard to define in such a way that all stakeholders can fully agree with. However given the realities of constrained budgets and the current intense focus on health reform, no one should argue that clinicians can simply ignore the issue of demonstrating improvements in clinical quality and delivering measurable value. A simple approach is to report on the basic metrics of care quality derived from widely accepted clinical guidelines. Widespread agreement exists that indicators such as the percentage of diabetics without an A1C test or foot check, the population average BP and the number of patients screened for important conditions such as cardiovascular risk are important to demonstrating care quality.

Ideally clinicians should be able to access a range of detailed reports relating to their practice that they can customize to meet their unique needs. At the same time, it's important to be able to access accurate lists of patients requiring key interventions at a more basic level. e.g. show me my patients with an A1C > 9%, so I can work through the list and decide whether I need to bring them in for a consultation and arrange for more detailed management.

A simple approach successfully used in the United Kingdom to allow for wide variability in practice populations is to allow clinicians to remove "exception" patients from the denominator when looking at, say, the percentage of well managed diabetics.

We are talking here about health care quality as achieved at the whole population level. Recent analysis by the Robert Wood Johnson foundation indicates that U.S. health care lags that of many other countries when viewed from the perspective of the health status of the population as a whole, especially populations with one or more chronic diseases. Undoubtedly the U.S. leads the world in high profile areas such as highly complex and technical care required for patients having multiple organ transplants and complex forms of cancer, or separation of Siamese twins. However, the success of such high profile surgical cases does not translate to high quality care for the more mundane though much more common clinical cases of cardiovascular disease, diabetes and COPD for example.

What will Disease Management Programs look like in 2020 and 2050?

Looking into the future, by 2020 it is likely that already existing technologies such as the personal health record will become very much more common place. The trend towards increasing patient involvement in their care seems an absolute certainty. This will translate into the wide use of patient held records linked to the patient's shared electronic health record. Already a reality, the ability for patients to correspond electronically with their provider will become very widespread. Further, improved information technologies will enable patients to access and use clinical guidelines appropriate for their condition.

Patient driven demand for appropriate care will be common, probably facilitated by widespread use of social networking and Web 2.0 technologies. Social networking will continue to grow in importance and provide many ways for patients to interact with peers having the same conditions. Social networking plus patient – friendly clinical guidelines will drive further demands for providers to conform to the new reality of patient – centric care in all its forms.

Clinical indicator devices will be much more widespread in their use in the home. These include BP monitors, weigh scales and glucometers, which will be connected directly to the patient's electronic record, monitored by nurses and possibly computer software sending alarms when patient data moves outside pre- agreed range.

By 2050, improvements in technology – especially artificial intelligence as applied to medicine plus advances in genomics will enable patients to routinely navigate their way around the health system, choosing the best options for every stage of care, personalized to their personal profile based on genetic tests for resistance to medications and individual care needs.

Home monitoring and embedded devices will report on BP, glucose and other key parameters in a steady data stream that is monitored by the patient, by their health care provider and by the intelligent clinical software. The quality and amount of data will be much greater than currently, and patients will have much more rapid feedback, so that as soon as a critical indicator, or combination of indicators goes awry, alarms are raised and advice is given to the patient as to the best corrective measures that need to be implemented.

Advances in genomics and proteomics and metabolomics leading to advances in personalized medicine, already evident in 2020, will lead to much improved targeting of patients according to their susceptibility to disease and to treatments as well as providing a range of new treatments.

Conclusion

Disease management is a complex concept with many different "flavors." However, the system wide forces such as spiraling costs and evidence that quality of care that is not meeting best practice standards are very significant and providers should not adopt a head in the sand attitude toward necessary reforms. Disease management programs are important to the future of medical care delivery and we know enough now to be confident that disease management practices can be successfully adopted by a wide range of providers.

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