

Critical Care Online Monograph: From Discussant's
Comments for Specific Chronic Condition Studies
and Models Session (089) at Society of Actuaries
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Context: Measuring Economic Outcomes for Chronic Care

Most health care delivered in the United States is based on the *acute care model*: it is episodic (has a beginning, middle and end); usually the patient recovers; and interventions are designed to target a specific pathophysiologic abnormality. Chronic disease care, in contrast, often has no clear beginning and no end; the focus is on managing over the long term with prevention of progression and complications. Further, many chronic diseases “travel together” (comorbidities): for example, diabetes, hypertension, coronary artery disease (CAD), heart failure, cerebrovascular disease, peripheral arterial disease and renal dysfunction are often found together.

According to a study published in *Health Affairs* (Thorpe, Florence and Joski, 2004), 15 chronic conditions accounted for 56 percent of the rise in health care expenditures between 1987 and 2000; most of this increase arose from five conditions—heart disease, mental disorders, pulmonary disorders, cancer and trauma. For several conditions much of the **cost** increase was found to be due to increased disease prevalence, though in cardiac disease and hypertension the rise was mainly due to increased costs per treated case.

Because of the expected dramatic rise in chronic disease prevalence due to aging and obesity, and increased cost per case due to new technology and drugs, there has been intense focus on managing the cost of treating chronic diseases.

Disease Management (DM) Approach

DM strives to bring “evidence-based” knowledge into the chronic care process in a systematic way (via alerts, reminders, patient and physician education and point-of-care technology), and to move to a chronic care, multi-provider and across-encounters model. The concept is that following best clinical practices, empowering patients to manage their condition, coordinating care and avoiding redundant care will reduce the probability of clinical adverse events and thus reduce costs. There is suggestive, but not conclusive, evidence that this process will have these results.

However, the notion of “bringing evidence-based medicine to life” is not a simple one. Simply educating physicians (with medical education courses and literature) and patients (by exhortation and literature) to “do the right thing” usually results in 5 to 10 percent (absolute) improvements in adherence to clinical practice guidelines. There is too much to remember (especially with

patients with multiple comorbidities and taking several medications), and too much depends on patients' adherence to treatment and lifestyle changes. There are many steps (and barriers) from new knowledge to patient action:

- The process starts with the generation of new knowledge (discovery or guideline).
- This knowledge must become known to the doctor.
- The doctor must generally agree with the new knowledge or guideline.
- Even if agreed with, the knowledge must be recalled when needed.
- The doctor must determine that the knowledge applies to a specific patient's situation.
- The doctor must take action to apply the knowledge.
- The patient must take action (fill the prescription, take the drug, have a test done, stop smoking, make dietary changes, etc.).

Notes on Speaker's Presentations

Robert Lieberthal: Treating Diabetes Type 2 as a Chronic Condition

- Takes up challenge of addressing the issues of the “acute care focus”
- Contrast:
 - Predicting future costs and selecting individuals predicted to have high costs (predictive modeling)
 - Decreasing future costs by identifying and treating impactible clinical issues (health economic modeling)
 - Speaker's emphasis on
 - Early (primary) prevention: payer does not always encourage; long-term benefit; may not always be “cost-effective”
 - Secondary prevention: may be cost-effective or even cost-saving (large study on HbA1c monitoring (Wagner, et al., 2001)), but needing systems approach to ensure it's done.
 - Lack of adherence by patients—the final link in evidence-based medicine (EBM) value chain
 - Need a chronic care model that incorporates long-term lifestyle changes
 - Saving to payer depends on how long the enrollee stays with the plan or employer
 - Consumer-directed health care (CDHC) as possible enabler of chronic care cost and quality management.... *Discussant comments*:
 - But...is it too blunt an instrument?
 - Will people with chronic disease really benefit (will they really spend on monitoring and secondary prevention)?
 - What study could be set up to demonstrate whether CDHC was effective for primary and secondary prevention of chronic disease? Do we need incentives to use the money for these services?
 - Diabetes needs a chronic care model that is multidisciplinary, long-term in outlook and systemic in nature with aligned information systems and incentives

Steven Melek: Coordinated Care for Depression

- Trend: increasing recognition of unipolar depression and bipolar depression (BD)
 - Possible over-diagnosis of depression
- Increased medical costs of mental health conditions (Kupfer, 2005)
(*Discussant comment*)
 - Patients with BD have 250 percent the total health services costs of demographically adjusted controls, with “purely” medical costs (costs for medical conditions (such as heart attacks, diabetes, etc.)) being 40 percent higher.
 - Increased prevalence in BD of: obesity, diabetes and cardiovascular disease
 - Similar findings in schizophrenia
 - Also higher incidence of risky lifestyle behaviors with unipolar or bipolar depression, schizophrenia (smoking, excess alcohol, sedentary lifestyle)
 - Some of the increased costs are related to treatment (e.g., obesity and diabetes with atypical antipsychotics)
 - Some of the increased costs are related to reduced treatment adherence
- Increasing recognition of lost productivity
- Increasing recognition that mental health conditions are best discovered and managed in a coordinated systemic model—as with other chronic conditions.
 - But this is not necessarily what is happening (managed behavioral health organizations (MBHOs))
 - Challenging to add up true cost of care when there is an MHBO carve-out
 - Mental and physical symptoms, care and costs not easily separated
 - BD, depression, schizophrenia: increased rate of chronic physical conditions
 - Effects of drug treatment on medical conditions (e.g., extrapyramidal effects of antipsychotics; obesity and hyperglycemia for atypicals)
 - Issues of treatment adherence in patients with mental health conditions
- While MH spending as a percentage of total healthcare spending has remained fairly constant in past decade, the RX share has increased dramatically and may soon exceed 50 percent.

- DM programs focusing on mental health (including early recognition and treatment adherence) may push this higher.
- Determining cost effect of mental health DM: It is unknown whether trend of members without mental health conditions can be used as an estimator of trend for those *with* mental health conditions in same way as in “physical” chronic conditions; in other words, using trend to estimate savings due to disease management for mental health disease management is an unexplored area.

Marjorie Rosenberg and Phillip Farrell: Analysis of Cost for a Chronic Disease with Acute High Cost Episodes (using Cystic Fibrosis (CF))

- Shows that utilization and cost patterns can be modeled at the individual level
- Because chronic diseases at the individual level express as background chronic care costs plus acute episodes, I look forward to seeing how this model plays out for common diseases that are the subject of usual DM programs (CAD, asthma, chronic obstructive pulmonary disease (COPD)), and whether this model may help with return on investment (ROI) determinations.
 - Want to understand how effect of intervention (e.g., DM) impacts utilization and costs projected by this model
 - Model includes declining expected utilization with ageing for those with CF; this mitigates effect of regression to the mean. But what about modeling the usual adult chronic diseases, where utilization would be expected to increase with age?
 - Look forward to seeing modelers' development of severity markers for other chronic diseases as they did for CF.

References

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