

## **BRENT JAMES - Intermountain Healthcare Background - 6/25/08**

Intermountain has had some real success in managing chronic diseases. Several of the earlier comments mentioned some of what we have come to believe are critical points: specifically, successful management appears to require (1) good data systems (2) embedded in an organizational structure.

The data systems rely on both chronic disease registries and decision support systems. For example, Intermountain manages about 30,000 patients with diabetes. They are all tracked in a longitudinal registry system. Every quarter or “on demand” (most physicians use this feature about monthly), the system runs an evidence-based practice guideline against each patient on the registry. It produces an “action list” of all diabetic patients in any particular physician’s practice, arranged by risk categories. Any patient that is off protocol in terms of testing frequency, or in terms of levels of control, is flagged. Our associated physicians use these lists to identify patients for immediate intervention. Action lists have the effect of managing a chronic disease as a continuum across time, rather than separate episodes of care.

The data system can also prepare a “patient worksheet” any time a diabetic patient comes in for a visit (we typically embed generation of the worksheet into the work of the chart preparation nurse). It lists the patient’s chronic disease, a complete medication list, all lab results, imaging and other tests relative to the chronic diseases, and a preventive care summary. It also runs the evidence-based practice guideline, and produces a list of “passive reminders” (physician orders, worded to avoid possible decision quandaries).

Our organizational structure has 2 main parts. The first are quarter-time physician medical directors paired with full-time nurse administrators, located regionally and functioning within tightly related classes of care (we call these related classes of care processes “Clinical Programs”). These dyads meet monthly with all care delivery teams in their local area. They review current performance on a full set of intermediate and final medical outcomes, cost outcomes, and service outcomes, for each chronic disease under management. In addition, we use this structure to set clinical improvement goals. Much of the dyad’s management time has to do with facilitating progress on goals, by building infrastructure, aligning resources, and driving change.

The second part of our management structure is Clinical Development Teams. We have a single system-wide Development Team for each of the clinical work processes we are managing. For example, in the Primary Care Clinical Program we currently have such teams for adult asthma, pediatric asthma, community-acquired pneumonia, bronchitis, congestive heart failure, diabetes, chronic anticoagulation, hypertension, acute low back pain, obesity, and depression (technically, “mental health integration”).

Each Development Team is made up of front line clinical workers – physicians, nurses, and other support staff – selected to represent our geographic regions. At the heart of each Development Team, though, is a group of clinical specialists (for example, for diabetes, these individuals are endocrinologists specialized in diabetes). We typically have 1 or 2 specialists from each region.

A Development Team is first tasked to build the evidence-based best practice guideline. Over time, we found that we could not implement our guidelines unless they had 5 critical elements. Together, we call them a Care Process Model:

1. The evidence-based best practice guideline itself. We use these in a form we call “shared baselines.” It is fairly easy to demonstrate that it is effectively impossible to write a guideline that perfectly fits any patient, except in very rare and limited circumstances. We therefore ask our clinicians to adapt each chronic disease shared baseline to each individual patient’s unique needs. Across the ~40 shared baselines we have under measurement (they go beyond just chronic diseases), we typically (95% confidence interval) change about 5-15% of the guideline instructions to meet an individual patient’s personal circumstances.
2. We next blend the guideline into clinical workflow (e.g., format the diabetes guideline as action lists and patient worksheets; blend it into daily work so that it always happens, without special actions). This step is usually substantially more difficult than building the initial guideline.
3. From the guideline, we build an outcomes tracking data system. It includes the intermediate and final medical, cost, and service outcomes mentioned above. We blend these, too, into clinical workflow. (Technically, we follow the method originally developed by the NQF Strategic Framework Board to accomplish this step; it is a methodology that NQF technically adopted, but has never really followed.)
4. We next blend the clinical workflow and outcomes tracking elements into our electronic medical records tools, where possible.
5. Finally, we prepare a full set of fully integrated educational materials for both patients (and their families), and for our professional staff.

This complete packet – all five elements – is what our clinical management dyads take out to the front line care delivery teams.

Once a Care Process Model is up and running, the role of the Development Team changes:

1. The team continues to meet monthly. They consider variations from the protocol, as actually practiced by the care delivery teams (the data system tracks these – the “shared baseline” variations mentioned above). The team is also expected to be up-to-date on new developments scheduled to be published around their chronic disease (the specialists have protected time for this purpose). They review our actual outcomes. Finally, they pull together good ideas generated by our front-line care delivery groups. These reviews almost always result in changes to the practice guideline. In other words, our Care

Process Models tend to change monthly, as they track to new research findings and our own internal (measured) experience.

2. The specialists on the Development Team regularly re-train our care delivery teams, with full CME credit. This training – we call them Clinical Learning Days – happens in the context of the full CPM. In other words, they review not just the latest science, but also how it blends into workflow; how it fits into our outcomes tracking; how the electronic medical record supports it; and how it ties to training materials.

We have come to think of this effort as a “life-long residency training program.” In other words, instead of expecting our individual physicians to retrain themselves regularly through journals and professional meetings (which they still do anyway), we build knowledge management into our organizational structure and routinely push the information out to our clinical teams, through an integrated care delivery environment.

3. The specialists also run specialty clinics within their respective regions:

At the core of our chronic disease CPMs lies something we call a “treatment cascade.” Treatment cascades always start with thorough training for the patient as the primary caregiver in managing their own disease. This step often involves web-based support and daily data entry, tied back to their clinical group. The cascade then works down through levels of increasingly intense treatment. Local clinicians step down the cascade, stopping and maintaining when adequate control is achieved.

The last step in the treatment cascade is pretty much always referral to a specialist – the same specialists who form the core of our Development Teams, and who provide the academic detailing to our front-line clinical teams (in other words, this is an embedded method for managing a referral network). For example, within Intermountain 6 diabetologists support ~1,000 primary care physicians who care for 30,000+ diabetics. About 85-90% of all care is delivered in primary care clinics – a medical home, to use the latest jargon. Interestingly, our specialists usually have worse outcomes statistics than our primary care offices. That make sense – we direct the toughest patients to specialty care.

About one-third of the physicians who deliver care through this system are employed in our Intermountain Medical Group. They account for about one-half of all of our outpatient care delivery. The other two-thirds, who together supply the other half of our care delivery, are community-based independent physicians. Through our data systems and clinical management structure, we try to make them part of an “intellectual group practice” even though they are not financially integrated.

This appears to work. For example, across our 30,000+ diabetics, at the moment (I just looked it up on our EDW), 89.5% of all patients are current on their HgA1c testing (testing rates based on risk categories) with results reported, while 8.8% were tested but through labs that still don't feed electronic data to us; 54.7% of all patients had A1cs < 7 (low risk range); and only 9.1% had A1cs > 9 (high risk range).

We have also shown that (and published):

- chronic care management based in primary care clinics produces better results than disease management based in insurance companies;
- chronic care management may be even more important in complex patients (with several comorbid chronic diseases), than in simple patients (with only a single chronic condition)
- that better management reduces total health care costs substantially, even though those savings usually flow back to purchasers as windfalls (our costs drop, but our revenues drop as much or more) (side comment: This might be a topic for a discussion in its own right – the financial analyses are really interesting); and that
- better management reduces mortality rates (yes, with better management patients live longer; to some degree, this delays rather than eliminates total costs of care, unless the unit of analysis is something like “cost per year of life).

I suspect that the chronic disease management model I have just described goes a couple of steps beyond those that have been described in the past. Rather obviously, this kind of care requires (1) a group; that (2) focuses on the long-term, across a continuum of care; (3) actively managing care processes.

The Dartmouth Atlas analyses identified Intermountain as one of the (relatively) most efficient care delivery systems in the country (along with Mayo Clinic). They estimated that, if other care delivery regions showed similar performance, the cost of Medicare around chronic disease would fall by more than 30% - I recall that that's around \$150 billion per year – while quality measures would improve. We think that our chronic disease management contributes to that.

Finally (as implied above), we're not the only group showing these kinds of improvement results. Depending upon the particular clinical topic, many other practices are matching or exceeding Intermountain's performance.