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Population Health Management: Achieving Results in a Challenging Environment, Part II

By Bruce Hochstadt, M.D. and Patricia Curran, R.N.

Population Health Management — Most Employers Can No Longer Afford to Ignore This Option

In the June 26, 2003 issue of *The New England Journal of Medicine*, an article by investigators of the Rand Corporation states that patients fail to receive recommended care almost half (46 percent) of the time. This finding is disturbing, but the reality is that through a combination of patient noncompliance, limited physician follow-through and a circuitous health delivery system, countless members "slip through the cracks." The end results are poorer outcomes and higher costs.

How can this situation be corrected? As a rule, people respond to coaching — especially from a trusted health professional who is trained to identify the best set of services available and explain the choices clearly so that patients can choose the right treatment. A strong health management program can foster patient advocacy, information sharing, and general follow-up for those receiving care in a busy medical practice where these services may not always be available otherwise.

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Diagnostic Approach and Tools

Population Risk Analysis

The Health Management practice at Buck Consultants uses a tool known as Population Risk Analysis (PRA) to analyze standard payer-based claim files to identify population-specific risk in terms of diagnostic categories or illness burdens by prevalence (number and percentage of members) and by cost (on an individual and aggregate basis). This program and the reports it produces rely on proprietary software with algorithms that link:

- Diagnoses (ICD-9 codes)
- Procedures (CPT codes)
- Patterns of care
- Dates of service
- Demographics

The rule algorithms embedded in the software stratify the population into four "severity-tiered" risk categories that enable care managers to assign priorities to those members of the population who have been identified as being the most at-risk.

Besides ranking illness burdens on the basis of cost and prevalence (something that health plan administrators commonly do for plan sponsors on a quarterly basis), the PRA can pinpoint possible gaps in care, as suggested by inappropriate patterns of care and complications or poor compliance. This analysis typically requires three to four weeks for most populations, assuming that the paid medical claims

file is in an acceptable form (populations with more than 100,000 lives may require more time).

The information produced in the PRA report is highly relevant to HR and benefit executives who want to understand what's happening clinically in their population on an aggregate or macro level. The data, although specific to a given group or population, must be "de-identified" to protect the privacy of individuals within the group and to comply with HIPAA regulations. Invariably, this PRA report will validate a benefit manager's suspicions about areas of heavy claims concentration and will also reveal unsuspected truths. The PRA report not only describes what is going on but also identifies opportunities for improvement.

Health Risk Appraisal (HRA)

Just as the PRA relies on retrospective medical claim data to identify group-specific risk, a Health Risk Appraisal (HRA) uses plan participants' self-reported data about their health and lifestyle to project health risks of individuals or populations. HRAs are assessment tools that typically have the following components:

- A formal questionnaire to gather current health information, medical history, family history, and health-related behavior information;
- A risk calculator (models based on clinical algorithms) that calculates respondents' relative risks based on information provided; and
- A report, usually in writing, that informs respondents of their current risk and suggests behavior changes that could mitigate those risks.

The goals for an HRA are to identify risk factors, provide individualized feedback, and link respondents to interventions designed to promote health, sustain function, and/or prevent disease. When offering an HRA, employers should consider collecting some or all of the following information. How much of it they collect will depend on the breadth of their health management strategy and how proactive an approach they want to take:

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- *Respondents' readiness-to-change:* This assessment identifies whom is/is not ready to significantly modify health habits and lifestyle (this can be incorporated into an HRA or addressed in follow-up steps).
- *Biometric screening:* This screening — which collects physical health data on such clinical measures as blood pressure, cholesterol/lipids, glucose, height/weight — can be performed on-site by a team of health professionals or off-site at contract facilities. The respondents can also be asked to provide the data themselves. Collecting and incorporating biophysical measures into an HRA can add to the cost, but it will provide meaningful incremental data (e.g., vital signs or blood serum levels) and, with respect to most midsize and large groups, it will likely identify undiagnosed hypertensives, diabetics, and hyperlipidemics.
- *Linkage of HRA findings to mined paid claims data (medical and/or pharmacy – Rx)*: This produces a more complete assessment of risk — especially with respect to risk factors, health behaviors, lifestyle, and family history, which ordinarily do not manifest as paid claims but do contribute to future risk and increase the likelihood of substandard morbidity and mortality.

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Regardless of how much information is collected, the question of physicians' involvement in the HRA exercise has to be addressed. Should they receive a copy of their patient's report and findings? In light of privacy and trust concerns, the better course of action is to give respondents the option of notifying their physician. If they opt to do so, a succinct one-page HRA summary can be forwarded to the physician — or better yet, delivered directly by the member (to give the physician the opportunity to endorse the HRA recommendations or provide an alternative action plan).

Also, when an HRA process is integrated with other health management programs such as wellness/health promotion or disease, case and disability management, it's easier to refer those HRA respondents to the programs, which would benefit them.

Achieving a satisfactory HRA response rate is often a challenge. Most people are uneasy about reporting personal health information. They generally won't do so without assurance that it will be held in the utmost confidence and not be shared in a way that could violate their privacy or jeopardize their employment status. Employers should be aware that incentives could be a powerful motivator to encourage desired behavior. (See *Incentives — Why Not Try This?* to the right.) This certainly applies to participating in health management programs although one would like to think that improved health outcomes and quality of life would be enough motivation.

Incentives — Why Not Try This?

Using the following incentives can help program sponsors improve the response rates to an HRA or the participation rate in a care management program.

- Cash
- Gift certificates
- Tickets to participate in a special drawing or raffle
- Reduced medical plan premium contributions
- Higher medical benefit reimbursements
- Additional flex credits
- Reduced or waived co-pays and deductibles
- Wellness programs
  - Subsidy of fitness clubs
  - Weight management
  - Smoking cessation

Increasingly, we have seen organizations "tier" incentives. For instance, they give them not only to members enrolling in health management initiatives, but also to those completing such programs and perhaps even to those achieving interim results. We see some plan sponsors willing to replace an incentive (the "carrot") with a penalty for not participating (the "stick"). We also see plan design changes that effectively blur the distinction between the carrot and the stick. One example is increasing the monthly employee premium contribution across the board by $10 or $20, and then offering a comparable reduction to those members who complete an HRA. We advise clients to use incentives that they believe are significant enough to motivate their health plan members, but will not present an unacceptable organizational or administrative cost.

Description	Number of Claimants	Percent of Total	Total Paid Claims	Percent of Total	Dollar Per Capita
Screened Population	8,770		$29,924,247	100.0%	$3,412
Acute Risk (Level 1)	336	3.8%	$7,305,547	24.4%	$21,743
Chronic Risk (Level 2)	756	8.6%	$4,534,497	15.2%	$5,998
Moderate Risk (Level 3)	757	8.6%	$4,250,425	14.2%	$5,615
TOTAL	**1,849**	**21.1%**	**$16,090,469**	**53.8%**	**$8,702**

Figure One

Sample Findings and Implications

Figures One and Two, containing real data from recently completed employer analyses using the PRA, can be used to stratify risks. Although most findings are representative of the majority of populations examined, each study typically identifies unexpected phenomena that are unique to that group.

The group studied in Figure One showed a common pattern: the sickest members (336 or 3.8 percent of the 8,770 claimants) generate a disproportionately large share of claims (24.4 percent). The 21.1 percent who pose acute, chronic, and moderate risk (Levels 1 through 3) account for 53.8 percent of claims. Although this 53.8 percent is disproportionate, it does not quite follow the "80/20" rule that is commonly ascribed to this phenomenon (i.e., that the sickest 20 percent of the members will account for 80 percent of the claim cost for a given population). Our experience is that 80/20 is far more often 50-55/20; however, we know that certain demographically skewed groups can indeed reflect a true 80/20 mix.

Risk Stratification

As Figure One also shows, the per capita health-spend tends to increase with each risk tier (one would expect this to be so, but it is not always borne out by actual claims). Of note, Level 1 claimants incurred more than $21,700 in annual claims, which is almost five times the spend of Level 3 members ($4,300).

The argument could be made that by improving the health status of a Level 2 chronic risk member to a Level 3 moderate-risk member, a care manager effectively saves the plan sponsor more than $17,000. This figure is derived from the difference between the per capita Level 1 claims of an average of $21,700 and the Level 3 average of $5,300 and from the "reversal [prevention]" of the expected progression of chronic disease members from Level 2 to Level 1.

This health cost savings does not happen overnight. It is the result of positive engagement with a health coach and the behavior change occurring over time. As individuals become more compliant with treatment, they are more likely to control and stabilize their chronic diseases. Nevertheless, in a population the size of the one reflected in Figure One, achieving this result with just 5 percent (40 members) of the 756 Level 2 members per year could translate into annual savings of $680,000.

Disease Category	Number of Claimants	Percent of Claimants	Dollars Spent	Percent of Dollars Spent
Circulatory	767	41.5%	$4,700,414	29.2%
Mental Disorders	229	12.4%	$1,393,550	8.7%
Diabetes, Nutritional, and Metabolic Diseases	194	10.5%	$1,138,160	7.1%
Pregnancy and Childbirth	138	7.5%	$884,618	5.5%
Nervous System and Sense Organs	125	6.8%	$566,100	3.5%
Neoplasms	99	5.4%	$1,982,681	12.3%
Musculoskeletal	86	4.7%	$1,084,274	6.7%
Respiratory	73	3.9%	$370,390	2.3%
Digestive	55	3.0%	$893,538	5.6%
Genitourinary System	28	1.5%	$406,622	2.5%
Diseases of Skin	14	0.8%	$106,928	0.7%
Infectious Diseases	13	0.7%	$177,559	1.1%
Ill-Defined Conditions / Trauma	10	0.5%	$759,803	4.7%
Blood and Blood Forming Organs	7	0.4%	$212,669	1.3%
Newborn	6	0.3%	$1,251,804	7.8%
Injury and Poisoning	3	0.2%	$92,668	0.6%
Factors Influencing Health Status	2	0.1%	$68,692	0.4%
TOTAL	**1,849**	**100.0%**	**$16,090,469**	**100.0%**

Figure Two

Figure Two shows the breakdown by broad diagnostic category and by number of claimants or prevalence. These data also can be sorted by costs or dollars spent, as well as by per capita and per member per month (PMPM) spend.

In this population as in almost all populations that Buck Consultants analyzed, Circulatory is by far the most prevalent and costly category, accounting for 41.5 percent of claimants and 29.2 percent of overall spend. Broadly, this category includes all forms of heart disease from coronary artery disease to congestive heart failure to all cardiac arrhythmias. In addition, Circulatory includes peripheral vascular disease, cerebrovascular accidents (i.e., strokes), and even precursor cardiovascular conditions such as hypertension and hyperlipidemia (elevated cholesterol).

After Circulatory, the most prevalent conditions in this population are Mental Disorders and Diabetes. The next most costly conditions following Circulatory are Neoplasms (Cancer) and Mental Disorders (primarily depression). Although Cancer typically follows Circulatory as the most costly for the total population, it is usually the most expensive disease to manage on a *per capita* basis, as it was in the population analyzed in Figure Two. Mental Disorders are usually further down the prevalence list, but in this population were second.

Most employers now accept the need to invest in these programs in order to generate a return (not unlike what they would do for capital equipment or information systems).

Health Management In Context

Health Management — Where Does It Fit?

Ideally, Health Management should be a comprehensive (and integrated) plan that includes a range of applications and programs such as: Wellness Initiatives, Health Risk Appraisals (HRA), Predictive Modeling, Disease Management and Outreach, Utilization Management and Case Management. Since implementing all six initiatives at once may not be feasible, plan sponsors should consider starting with a program or two. They could base their choice(s) on their population's specific needs or identify the area in which they could most comfortably introduce a Health Management strategy.

When it comes to implementing that strategy, plan sponsors should follow bank robber Willy Sutton's rationale of going "where the money is." That is, they should initiate programs in areas where the most money can be saved. They should also abandon their past reluctance to spend additional money. Most employers now accept the need to invest in these programs in order to generate a return (not unlike what they would do for capital equipment or information systems).

For those looking to pick "low hanging fruit" with a program that will quickly generate savings (with a measurable ROI), chronic disease management is usually a good place to start. Most well-orchestrated disease management programs should pay for themselves in their inaugural year (documented savings will cover program costs — a return on investment of 1:1) and begin to generate a positive return shortly thereafter.

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Structuring a Disease Management Program

In designing an effective Disease Management Program, it is imperative that a plan sponsor and its advisors first identify high cost, high prevalence chronic diseases within the population that are modifiable with behavior change and where interventions can improve outcome.

Conditions generally considered to be favorably impacted with patient education and coaching include Diabetes, Cardiac (CAD/CHF), Lower Back Pain, Depression, High Risk Maternity, and Respiratory (Asthma/COPD). They also benefit from stand-alone, commercially available, effective programs with a track record of proven results (as measured by improved clinical outcomes and savings). In contrast, two other chronic diseases, Alzheimer and Parkinson's, have fewer treatment options that have appreciably altered their highly progressive and usually terminal course.

Why Do Some Programs Fail?

No one implements a health management program expecting it to fail. Yet many programs ultimately do fail. Why? In general, programs fail when participants' receptivity is lacking. But beyond that, there can be more specific reasons.

For one thing, there may be low participation in what is almost always a voluntary program. For another, employees need to come to see the effort as more than a short-term initiative, but as an attempt to change their lifestyles and health decisions in ways that will be a win-win for the employer and employee.

At lease five measures can help increase participation. The first is frequent and targeted communications about the program's launch, its direction and goals. Education and awareness building can help participants understand that health management is not just about saving the company money; it is more about better managing health — preventing illness or disease, and after diagnoses, more effectively managing the symptoms. In short, participants can enjoy better quality of life.

Second, participants must be given complete assurance in these communications that their privacy and confidentiality will be strictly honored. For example, understanding the mechanics of HRA data collection and management can reduce employees' fears that their employer or others may have access to their personal health data and potentially use it in employment decisions or otherwise.

Third, program customization can address another cause of program failure — a perceived lack of individualization. Prospective participants may feel that their condition has unique qualities, which no "off the shelf" program could address. Programs that have some degree of flexibility and that can address the individual circumstances and needs of candidates are more likely to experience higher participation rates.

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Fourth, logistical issues leading to sub-optimal and non-sustainable results not necessarily tied to participation can also contribute to program failure. These include:

- Lack of integration of risk identification and intervention
- Narrow, short-term focus
- Passive interventions, lacking coordination with other interventions
- Lack of measurable outcomes

Well-designed programs will leverage both the expertise of health management vendors and the employer's knowledge of the employee population and how to best educate, motivate and drive new behaviors.

And fifth, incentives can help secure participants' attention — whether rewards such as flex credits or HSA contributions for participating in HRAs and/or care management programs, or incentives such as cessation program discounts for employees who smoke.

Summary

A convergence of demographic, epidemiologic, technologic and medico-economic trends has fueled runaway health costs. Population health management requires proper risk classification and appropriate interventions to address the needs of each risk tier.

Tools that incorporate both mined and self-reported data lead to more accurate identification of group-specific longitudinal risk, illness burdens, and opportunities for improvement. Meaningful incentives and effective communications are essential to drive participation and ensure program success. Programs must be monitored to objectively track performance metrics, such as participation, financial, clinical, and satisfaction.

About The Authors

Bruce Hochstadt, is a Principal and National Health Management Practice Leader in the Health & Welfare Practice of Buck Consultants. Dr. Hochstadt has focused on developing and implementing health management strategies for clients ranging from analytics that identify group-specific illness burdens to solutions that correct gaps in care. He has developed methodologies to evaluate program impact and care management, vendor performance using metrics that measure improved clinical outcomes, health-benefit cost savings and program ROI.

Patricia Curran is a Director in Buck Consultants' National Health Management Practice with expertise in a wide range of health care issues that affect employers and their employee populations. Patricia is a registered nurse with a strong clinical background and extensive experience in account management, obstetrical nursing, high-risk obstetrical home care and case management. Prior to joining Buck Consultants, Patricia worked for two of the leading disease management firms as a Vice President of Marketing and as a Regional Nurse Manager.

For More Information Contact:

National Health Management Practice

Bruce A. Hochstadt, M.D., Principal
National Health Management Practice Leader
Buck Consultants
One North Dearborn, Suite 1400
Chicago, Illinois 60602
Tel: 312.846.3613
Fax: 312.846.3352
E-mail: bruce.hochstadt@buckconsultants.com

Patricia Curran, R.N., Director
National Health Management Practice
Buck Consultants
1801 K Street, NW, Suite 205L
Washington, DC 20006-1301
Tel: 410.337.8208
Fax: 410.821.5716
Email: patricia.curran@buckconsultants.com

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