



Rx Data Analysis Provides Critical Insight for Effective Healthcare Performance Management

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**Rx Data Analysis Provides Critical Insight
for Effective Healthcare Performance Management**

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Executive Summary:

Escalating medical costs continue to burden employers and employees alike as health benefit plan prices rise at dramatic rates year over year. The ability of health plan managers to mitigate risk, reduce cost and improve healthcare outcomes for those covered by plans is dependent on access to accurate and timely information about key trends in targeted populations. In this report we examine the role played by the effective analysis of aggregate prescription drug (Rx) claims data.

It is the opinion of this report that access to and proactive management of Rx information is a superior data source for healthcare performance management (HPM) initiatives, even though medical claims data are more commonly used today. Rx data provide healthcare plan managers with a near real-time view of trends and developments within the population covered by the health plan. Access to accurate, timely data enables plan managers to gain insight into the risk levels to which employer-sponsored health plans are exposed, and facilitates prompt mitigation of risk that not only will reduce costs, but also improve the quality of healthcare delivered to those covered in the plan.

Specifically, effective Rx analysis provides an opportunity for employers to work with ancillary health and wellness service provider organizations to identify “at-risk” plan members and intervene before the risks manifest themselves as detrimental – and expensive – health events. It is important to note that the HPM business processes of analyzing and managing Rx data are possible to implement in full compliance with HIPAA and other applicable employment and privacy laws.

Rx Data Opens Key Window for HPM

Today, increases in health plan costs from one year to the next must be covered by asking employees to pay a larger share of co-payments and premiums or asking employers to take a larger hit on their bottom lines – or both.

With immediate relief from skyrocketing costs unlikely to come from legislative efforts to reform America's healthcare system, employers and other health plan sponsors – such as labor unions – are exploring new ways to contain medical costs while preserving healthcare quality and accessibility that every employee deserves.

One option that a growing number of employers and health plan sponsors are examining to rein in rising healthcare costs is to apply the same types of performance analysis used in other critical business processes – such as customer relationship management (CRM) – to the provision of healthcare benefits. An enterprise strategy based on the capture and analysis of critical data related to the performance of healthcare services for the purposes of reducing costs and improving delivery efficiency is called healthcare performance management (HPM).

The key to a successful HPM strategy – as it is to any enterprise management initiative – is access to the most pertinent, accurate and timely information about the ongoing care of employee health.

Today, medical claims data – records of clinical treatment – are commonly used by healthcare benefits industry analysts and actuaries to predict risk and cost for insurance underwriting. However, upon further analysis, it is clear that medical claims are not a practical source of data for real-time management of an enterprise healthcare benefits plan because of the significant lag times between when healthcare services are rendered, when claims are initially filed and then when they are finally approved to be a formal part of the healthcare record.

Rx claims data, by contrast, is accessible almost immediately after a prescription is filled. Its efficacy as a diagnostic tool is equal to – if

not superior to – that of medical claims data for assessing the risk level of the community covered by a healthcare plan.

The use of real-time, high-quality Rx data by health plan service providers makes supplemental healthcare programs, such as medical interventions and compliance management, even more effective. Rx data also enables employers and plan sponsors to engage in HPM, by leveraging predictive modeling and risk segmentation tools based upon Rx data to control overall health plan risk.

Breaking with Tradition

Analysis of individual and group health history, along with historical medical records, have long been recognized by the insurance underwriting industry as excellent predictors of the risk and cost associated with insuring an individual's or group's future health risk. Actuaries in the insurance and healthcare benefits industry commonly use such data within the limits prescribed by privacy laws and industry regulations. Such long-term data sets provide valuable indicators of future health outcomes and enable underwriters to effectively price insurance according to risk.

However, family health histories and historical medical records data fall short when risk profiles are generated for the purpose of risk intervention and mitigation. Provider and hospital claims, for example, typically have a 10 to 30-day submission window and may then be subject to further processing delays, depending on whether the claims are subject to internal challenges and/or adjudication. In short, stale medical records data do not lend themselves to time-sensitive activities.

Rx claims, however, provide data that can effectively support real-time analytic supplication and risk alerts. In turn, real-time risk alerts and prediction of potentially adverse outcomes can help active healthcare plan managers – and enterprise leaders – control healthcare plan costs. Additionally, accurate analytical models can quantify the health issues that expose plans to high financial risk, enabling managers to optimally allocate resources to address the unique morbidities of a population.

There are also several practical reasons why Rx data is better for real-time applications:

- Rx data is relevant and validated for use with predictive models.
- Rx data is clinically precise and reflects a medical professional's expert assessment of a patient/plan member.
- Rx data confirms a medical diagnosis because it is inherently a treatment protocol.
- Rx data is accessible for retrieval and analysis, thanks to automation employed almost universally across the retail, mail order, and specialty pharmacy and healthcare benefits industries.

Proof Points

The predictive power of Rx-based data is on par with models based upon medical claims. The Society of Actuaries reported in 2007¹ that medical claim-based models provide comparable predictive power. For the study, the Society of Actuaries created predictive models for a commercially insured population using:

- Medical claim-based models;
- Rx-based models; and
- A combination of medical and Rx models.

The results showed no appreciable difference in the various models' predictive powers. All of the actuarial analyses were shown to be four times more effective than simplistic demographic analysis model based only on the tracking of age and sex.²

However, from a practical standpoint, Rx data was shown to be superior in providing insight into both diagnosis trends and specific clinical

therapies being used by the population covered by a healthcare plan. These two hard data points – on diagnosis and clinical therapy – are often more precise than the relatively soft information gleaned from diagnostic databases, which may not fully capture exact diagnoses because of data truncation or quirks in data entry.

Diagnoses listed on medical claims can include “rule-out” diagnoses – hypotheses that require further testing confirmation – or may simply represent symptom descriptors. This compares with Rx claim data, which indicates that a medical professional has suggested that a powerful chemical treatment is necessary to address the health issues of a patient.

Similarly, Rx data provides the basis for identifying the presence of stable but chronic health conditions – these are patients who consistently treat their diseases with Rx medications but are not generating associated medical claims.³

Rx data has the added advantage of being readily accessible. Data can be obtained quickly and in compliance with legal and ethical requirements.

Use Cases for Rx to Drive

The validity, accuracy and accessibility of Rx data enables plan service providers to use applications that rely on near real-time predictive risk modeling. Executives interested in reducing healthcare costs and improving healthcare outcomes for plan members can turn to the following strategies.

Prompt Intervention: When plan members are diagnosed with life-changing medical conditions – such as hypertension, diabetes or heart disease – they are invariably prescribed Rx for long-term treatment. Patients often leave the

¹ A Comparative Analysis of Claims-based Tools of Health Risk Assessment. Ross Winkelman, FSA, Principal & Consulting Actuary, Milliman, Syed Mehmud, Actuarial Assistant, Milliman. Peer reviewed by Leigh Wachenheim, FSA, Principal & Consulting Actuary, Milliman. April 20, 2007.

² The Johns Hopkins ACG System Reference Manual, Version 8.1. Health Services Research & Development Center at The Johns Hopkins University, Bloomberg School of Public Health. September 2007.

³ Going beyond diagnosis-based case-mix systems: How adding pharmacy information to your decision support systems can improve the efficient delivery of healthcare. Karen Kinder Siemens. Health Services Research & Development Center at The Johns Hopkins University, Bloomberg School of Public Health. September 2008.

doctor's office or emergency room stunned, anxious and full of unaddressed questions.

Rx Data Application Solution: Plan service providers can use Rx data-driven predictive models to direct supplemental intervention during the critical early stages of diagnosis and treatment. Working with ancillary healthcare service providers, employers and plan sponsors can use HIPAA-compliant HPM analytical dashboard applications to recommend proven early intervention resources for at-risk plan members.

Instead of leaving newly diagnosed at-risk patients to cope with their conditions alone, plan sponsor-funded intervention efforts can occur almost immediately, offering assistance and advice to patients and their physicians within days of diagnosis. Potentially hazardous drug interactions can be flagged and treatment can be measured against current clinical standards of care, etc.

Compliance Management and Support: A patient with an ongoing, regularly prescribed prescription medication frequently neglects to refill prescriptions. Clinical experience shows that serious and expensive health consequences may result from such lack of compliance; it's a problem that can be easily monitored via automated and interactive systems that quantitatively manage patient interventions based upon varying levels of risk.

Behavior and Lifestyle Modification: Behavior and lifestyle changes that would benefit a patient's health condition – such as weight loss, quitting smoking, etc. – are coached and encouraged.

Conclusion

Employee health benefits costs rank among the top-three line-item expenses of U.S. organizations, with these costs rising every year.

Seeking a better deal on pharmacy and medical benefits is likely to yield marginal savings at best. Most benefit plans are not optimized for their groups because current, detailed data rarely exists in an easy-to-access, real-time, actionable format.

Actionable intervention strategies that are based on specific patient circumstances are more effective than strategies that are exclusively based on broader population trends and which rely on less credible or less timely data sources.

The cornerstone of HPM is a reliance on real-time, actionable data that managers can review and use to measure, manage and optimize the performance of their health plans and the health of their memberships. Effective management of Rx data can provide this real-time insight into specific patient trends and provide opportunities for effective intervention.

About the HPM Institute

The Healthcare Performance Management Institute (HPM Institute) is a research and education organization dedicated to promoting the use of business technology and management principles that deliver better and more cost-effective healthcare benefits for employers that cover their employees. The institute's mission is to introduce and develop a new corporate discipline called healthcare performance management (HPM) — a technology-enabled business strategy that tackles the challenge of controlling healthcare cost and quality in much the same way that enterprises have optimized customer relations, supply chain management and enterprise resource management. HPM provides C-level executives with visibility and control over company healthcare benefits spending trends and risk management postures, while protecting individual employee privacy. For more information, visit www.hpminstitute.org.

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