ORYX: Opportunity Gained or Lost?

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You've heard a lot about ORYX. But have you considered these questions?

How many HIM professionals feel comfortable with or understand the meaning and application of statistical equations? Probably not many of us.

How many may feel intimidated, frustrated, and confused when asked to perform statistical analysis? Most of us.

Will these types of equations influence the future of how your healthcare organization will operate? Yes.

Who will be most responsible for providing information/data for these statistical models? HIM professionals.

Where will most of the information to be used in these equations come from? The medical record.

Who will be primarily responsible for assuming the timeliness and accuracy of the data used in this model? HIM professionals. Who has the most to gain from using data in this model for career advancement and growth? HIM professionals. Who in the healthcare organization is the most logical choice, therefore, to lead the healthcare organization into the 21st century's utilization review and performance improvement efforts? HIM professionals.

In most healthcare organizations, who is responsible for the application and who will receive the credit for the benefits of using information from the medical record as a core part of the accreditation process? Someone other than HIM professionals.

As a profession, we must begin to ask ourselves:

1. Why have other health professionals, such as nurses, become the bridge between clinical treatment, clinical documentation, and organizational administration?
2. Why has the role of the HIM professional been limited to one of collecting, cleaning, and providing data in a timely fashion to the performance improvement director?

For HIM professionals to become more involved in decision-making processes, they must become more involved in data analysis, interpretation, and application. This article will address ways to become more involved in the decision-making process through the ORYX initiative.

What Is the ORYX Initiative?

Recent articles in the *Journal of AHIMA* strongly suggest the need for HIM professionals to become involved in outcome analysis[1,2] and in the ORYX initiative.[3-5] These articles recognize the need for HIM professionals to expand their role in the healthcare organization. The ORYX initiative provides HIM professionals with an opportunity to expand their influence in the healthcare organization by becoming involved in providing data analysis of clinical treatment processes.

The Joint Commission, recognizing the need to use quantitative performance measures within the accreditation process, announced the ORYX initiative in early 1997. Generally, ORYX is intended to integrate quantitative performance measures into the accreditation process.

With ORYX, the Joint Commission attempts to document clinical treatment practices in order to reduce variation in clinical protocols, improve patient care, reduce barriers that restrict access to healthcare facilities, improve patient satisfaction within the healthcare organization, and reduce the cost of healthcare. To accomplish these goals, the initiative will provide organizations with quantitative outcome data that they can use to measure their performance.

This data will, in most cases, be risk or severity adjusted to allow external comparisons (benchmarking) and to structure internal drill-down processes to identify areas of concern within an organization. ORYX's primary goal is to provide consistency in excellence of treatment to all patients and to streamline practice guidelines.[6-11]

To participate in the ORYX initiative, organizations will need to develop both internal and external benchmark standards to assess performance. Individual outcome indicators may range from clinical practices, such as number of cesarean section deliveries, to post-operative complications on surgical infections, utilization-relevant issues related to LOS or frequency of specific clinical procedures, or overall patient satisfaction with services. Currently, it is estimated that the Joint Commission has approved approximately 4000 to 5000 outcome measures.

Outcome indicators used to benchmark performance must include statements focusing on economic, social, and clinical relevance to the community and individual as well as the healthcare organization. For example, one indicator may be a risk-adjusted rate of cesarean sections (C-sections) to normal vaginal deliveries. The economic and social importance of these rates might focus on costs and complications of performing C-section deliveries. Where C-section rates exceed expected norms, these rates (in terms of clinical importance) may be seen to represent premature intervention, putting both the mother and baby at unnecessary risk. Moreover, the outcome indicators must be an integrated part of an overall performance measurement system.[6-7]

Organizations need to partner with individual vendors approved by the Joint Commission that collect and analyze data using specific performance measurement systems. Currently, approximately 200 vendors are approved by the Joint Commission.

How Can the Measures Be Used?

Outcome measurement provides healthcare organizations with valuable information upon which to base current and future decisions. At a basic level, outcome analysis allows us to assess the effectiveness of patient care by providing comparisons between providers at both an individual and organizational level.

Risk and severity adjustment methodologies allow for a direct comparison, controlling for patient complications and comorbidities.[12] Specifically, use of outcome analysis allows an organization to more effectively and efficiently identify treatment outliers, ineffective medical practices, patient concerns about your organization, and controlled benchmark standards for external comparisons.

Getting Involved

What role will HIM play in ORYX implementation? To play a part in the ORYX initiative at an administrative level, your involvement must be immediate and decisive. We suggest a four-step process:

Step 1—Change the way you perceive yourself within the organization. Within your organization, HIM professionals are the experts on the integrated relationship between coding, reimbursement, DRGs, fraud and abuse, documentation, and the flow of clinical and financial data through the organization. Do not underestimate your value and your contributions to the organization.

HIM professionals also understand the big picture of data flow, how various information systems interact, and the types of information contained within each information system. In fact, HIM professionals are at the center of the "information superhighway" in every organization. Instead of viewing information contained in the medical record as a private domain to be hoarded, begin to think of yourself as an important source of information for the entire organization. We must begin to promote ourselves as managers and controllers of health information (both clinical and financial).

Step 2—Work closely with your ORYX vendor. For your organization to benefit from ORYX, you must develop an open and trusting working relationship with your vendor. It is important to note that ORYX is an evolving initiative that will become more rigorous in its quality standards over time. It is expected that the number of vendors certified by the Joint Commission will be cut in half and that the number of indicators will be significantly reduced in the near future.[13] Becoming involved and maintaining a close working relationship with a credible vendor who offers up-to-date, rigorous methods of analyzing and reporting outcome data is extremely important.

To ensure excellence in both service and obtaining useful information, keep these tips in mind:

- Make sure you have access to your data at all times. For ORYX to work for your organization, you must have unlimited access to data. You should also have access to external benchmark data on a quarterly basis
- Make sure your vendor provides risk and severity-adjusted measures. Risk adjustments should be made using ICD-9 codes for complications and comorbidities, demographic data on patients, and community factors that influence your population base. This will provide you with the assurance of quality data and allow you to benchmark accurately
- Assess the quality of individuals working for your vendor. Those in charge of developing and maintaining data measures should have credentials in both healthcare and statistics. You are facing real-world problems for which you need real-world solutions. Vendors who do not provide you with this type of service will ultimately fail to provide you with information that will help your organization

Step 3—Overcome your fear of numbers. This is perhaps the most important and difficult step. As a director of the ORYX process within the healthcare organization, your role will be primarily related to collecting and submitting data in a timely and accurate manner and implementing results. Your vendor will run the appropriate algorithms to risk adjust data and will provide you with simple real world interpretations. This does not mean, however, that you do not have to understand statistics and data analysis. Instead, you should be able to take the your vendor's work and apply the results to make your organization better.

Interpreting risk-adjusted rates may seem confusing and somewhat counterintuitive. Before discussing interpreting risk-adjusted rates, however, we need to address two caveats:

- A risk adjustment model must be developed for each outcome measure. Risk factors will vary depending upon the indicator use as the outcome measure
- Risk factors for a specific indicator model may vary over time. Whether a risk factor is significant will depend on the impact of that risk factor each time a new predictor model is tested. Over time, you are likely to have some stability in a risk factor associated with a specific outcome

Table 1 (below) presents risk-adjusted data comparing a specific hospital rate of C-sections to standardized risk-adjusted measures of C-section for all responding hospitals in a specific IM systems database. In this section, we will examine C-section rates for October through December 1996.

table 1—risk-adjusted patients delivered by c-section

	Jul-Sept '96	Oct-Dec '96	Jan-Mar '97	April-June '97	July '96-June '97
Section A Your hospital's:					
Number of numerator cases	48	38	54	55	195
Number of denominator cases	202	188	216	193	799
Indicator rates	0.238	0.202	0.25	0.285	0.244
Section B Your hospital's:					
Risk-adjusted rate	0.261	0.267	0.289	0.281	0.275
Risk-adjusted rate percentile	81	70	84	67	78
Section C IM system (all reported hospitals):					
Number of reporting hospitals	54	50	50	42	59
Number of denominator cases	22193	19692	18766	16560	77211
Indicator rate	0.21	0.221	0.223	0.229	0.22

Data derived from the Joint Commission IM-Systems Quarterly Comparative Report, *April-June 1997.*

Section A of Table 1 reports the raw rate of C-section for member hospitals. Here, data shows that 20.2 percent of the live births in this period were C-section. If we compare that number to the overall C-section rate (the indicator rate) in Section C, it would appear that C-section rate for this hospital is less than the risk-adjusted indicator rates for all hospitals (20.2 percent vs. 22.1 percent).

Using only the raw indicator rate, however, would lead to an incorrect interpretation of the data. The risk-adjusted rate, Section B, for this particular hospital is 26.7 percent. Comparing this with the 22.1 percent rate found in Section C demonstrates that the C-section rate is nearly 5 percent higher at this hospital than member hospitals within the database when controlled for C-section risk factors.

In this particular case, a risk-adjusted rate that exceeds the raw rates suggests that more C-sections are being performed than may be necessary. This is further supported by examining the percentile risk score that shows that this specific hospital's C-section rate is higher than 70 percent of the member hospitals when controlling for relevant risk factors. In other words, your patients are at a higher risk for C-sections.

Data from Table 2 provides information from the logistic regression equation[14]; information from Table 3 provides the ICD-9 codes used to risk adjust. Here, information can be used to assess the probability of having a C-section, given a specific risk factor, as indicated from the ICD-9 codes. To read and interpret data from Table 2, use a four-step process:

- identify relevant patient risk factors (column 1). For example, a patient over the age of 40 has been identified as a potential risk factor for having a C-section
- determine whether that risk factor is significant (column 2). For a risk factor to be significant, the p-value (probability of a finding occurring by chance) for that factor must be less than .05. In this model all risk factors listed have a p-value less than .05
- note whether the effect is positive or negative (column 3). For those over 40 the effect is positive, therefore the likelihood of having a C-section increases
- examine the odds ratio (column 5). This gives the reader the probability of having a C-section if this risk factor is present. If a patient is older than 40, the probability increases 1.7 times

table 2—risk-adjusted logistic regression model for patients delivered by C-section

Patient risk factor	Standard error of the coefficient	Regression coefficient	Significant of the coefficient	Odds ratio value
Age 39 and up	0.0479	0.5514	0.0001	1.736
RF05M	0.0348	0.6761	0.0001	1.966
RF100M	0.0217	1.2194	0.0001	3.385
RF101M	0.0246	2.8298	0.0001	16.941
RF102M	0.0444	0.7147	0.0001	2.044

Data derived from the Joint Commission IM-Systems Quarterly Comparative Report, *April-June 1997.*

table 3—some ICD-9-CM codes used for risk adjustment of the C-section indicator

Name	Risk Factor	ICD-9-CM Diagnosis Codes
RF05M	Diabetes in pregnancy	648.01, 648.81
RF100M	Fetal distress	656.31
RF101M	Abnormal presentation	652.01, 652.11, 652.31, 652.41, 652.51, 652.61, 652.71, 652.81
RF102M	Multiple gestation	651.01, 651.11, 651.21, 651.41, 651.51, 651.61, 651.81, 651.91, 659.41, v27.2, v27.9

Data derived from the Joint Commission IM-Systems Quarterly Comparative Report, *April-June 1997.*

To understand how ICD-9 codes are an integral part of the risk adjustment process, we will examine the effects of RF101. RF101M represents the risk factor of abnormal presentation (as indicated by groups of various ICD-9 codes in Table 3). RF101M is significant ($p<.05$) and the effect is positive. If you have an abnormal presentation, the odds of having a C-section increase approximately 17-fold (Table 2).

As an HIM professional, your role is to use this kind of data to help your organization's clinical treatment processes become more efficient and effective. Developing ongoing workshops within your organization in the area of statistics and data application can help you ask the right questions and make the appropriate inferences about the data.

Step 4—Become proactively involved. ORYX will not work without the involvement of HIM professionals. Do not wait for others to ask for your involvement. Take the initiative and offer your services, skills, and knowledge. This includes becoming knowledgeable about how statistics and data can be interpreted and applied. Depending on your background and experience, you may need to either attend in-house workshops and seminars or take classes outside the workplace. While this may seem inconvenient, the professional/career and personal growth will be well worth the effort.

Summary

For HIM practitioners willing to extend their knowledge and scope of responsibility, the Joint Commission's ORYX initiative will provide new and exciting opportunities. Your level of involvement will depend on your willingness to expand your knowledge base and accept a leadership role within your organization. For those willing to change the way they think about data analysis/outcomes, ORYX will provide some of the most important and unlimited career opportunities that will be, or have ever been, offered to HIM professionals.

Notes

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14. Logistic regression is an equation in which the dependent variable is a dummy variable used when attempting to predict the odds ratio of an event actually occurring.

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