ICD-10 Savings: Who Will Be the Winners?

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There is no doubt that the implementation of ICD-10 will come with both costs and benefits. The final rule from the U.S. Department of Health and Human Services (HHS) presented an economic impact analysis where healthcare industry costs estimated at $2.2 billion over 15 years (present value 7% discount) exceeded estimated benefits by a small margin of $80 million. It's impossible for everyone in the healthcare industry—insurers, the government, providers, and the consumer—to gain financial benefits from ICD-10 implementation. So the question is: Who will be the winners?

HHS based its ICD-10 final rule estimates on "extensive analysis of publicly available data by an HHS intra-agency workgroup representing many areas of expertise."[1] The final rule presents the same categories of savings as the RAND Corporation study commissioned by the National Committee on Vital and Health Statistics (NCVHS) and cited in the final rule (see Figure 1). The NCVHS serves as the public advisory body for HHS on health data, statistics, and national health information policy.

FIGURE 1: ESTIMATED SAVINGS (WITH HHS APPLIED 7% DISCOUNT)

	$ MILLIONS	CATEGORY DISTRIBUTION
MORE ACCURATE PAYMENT FOR NEW PROCEDURES	564	25%
FEWER REJECTED CLAIMS	578	26%
FEWER IMPROPER CLAIMS	289	13%
BETTER UNDERSTANDING OF NEW PROCEDURES	497	22%
IMPROVED DISEASE MANAGEMENT	300	13%
TOTAL	2,228	100%

In the following, we present some of the general assumptions that have been discussed as contributing to the potential savings related to ICD-10 and some scenarios of what could happen in an attempt to *balance* the discussion.

MORE ACCURATE PAYMENT FOR NEW PROCEDURES

Assumption: There will be more new procedures coded under unique ICD-10 codes, whereas under ICD-9 they would remain *combined* under an existing code. As a result it is assumed that savings will result from:

- New procedures that are less invasive and, in the long run, less expensive in total
- New procedures that will be more likely undertaken in ambulatory surgery centers
- A percentage of procedures that will not be done because hospitals will choose not to bear the financial disincentives related to the narrow difference between the cost and the reimbursement

If these assumptions are accurate, providers would lose revenue, and government and insurer healthcare costs would go down.

Below are several key considerations that may offset the above assumption.

Volume Offset

It is possible that as a result of ICD-10, service volume and aggregate healthcare costs for insurers and the government may actually go up.

Some of the cost reduction related to the introduction of less invasive procedures may be offset by increased utilization. An example is what occurred with the introduction of laparoscopic cholecystectomy. For most patients, cholecystectomy is an elective procedure. With the introduction of laparoscopic procedures, some people who were apprehensive about the pain and recovery time related to major open elective procedures chose to move ahead with the new less invasive laparoscopic procedure. Also, as safety improved, physicians were more apt to perform this less invasive procedure on higher-risk patients or patients previously managed conservatively. One study found an increase in cholecystectomies from 1988 to 1992 of almost 1 (0.8) per 1,000 health plan enrollees, and an 11.4% increase in total annual gallbladder disease expenditures, despite a 25% decline in physician and hospital cost for cholecystectomy procedures.[2] The

1 Libicki, M. & Brahmakulaum, I. (2004). "The Costs and Benefits of Moving to the ICD–10 Code Sets." The RAND Corporation/HHS.
2 Legorreta, A.P., Silber, J.H., et al. (Sept. 22-29, 1993). "Increased cholecystectomy rate after the introduction of laparoscopic cholecystectomy." JAMA 270(12):1429-32.

authors concluded that laparoscopic cholecystectomy may result in increased healthcare resource use that is due to changes in the indications for gallbladder surgery.

It is also likely that, in response to lower reimbursement, providers will react with a behavioral offset or volume response.[3,4] One study found that for every one dollar fee reduction, physicians would recoup 37 cents by increasing volume.[5] In 1998, the Centers for Medicare & Medicaid Services (CMS) Office of the Actuary (then HCFA) recommended a 30% behavioral offset to price reductions for future cost estimates involving physician payments.[6]

Cost Shifting

Government may experience lower healthcare costs due to their ability to make changes in reimbursement schemes based on ICD-10 data, but insurers may experience increased healthcare costs because of an effort made by providers to preserve revenue through cost shifting.

If Medicare or Medicaid reimbursement is too low, it is a common practice for hospitals to make up for government losses with commercial insurer rate increases rather than prohibit the procedure from being performed.[7,8] Likewise, as procedures move to the outpatient setting, hospitals protect themselves from revenue loss by raising outpatient charges to commercial insurers. According to a 2008 Milliman study, 15% of the current amount spent by commercial payers (an estimated $88.8 billion) is shifted from public to private payers.[9]

High Technology Services

The new ICD-10 codes for new technology may actually add to insurer and government healthcare costs.

There is general agreement that advanced medical technology has contributed to increased U.S. healthcare costs.[10] The initial implementation of ICD-10 will allow recognition of the technology currently used to treat patients and it will be expanded to address new technology as it evolves.

CMS has stated that the process for adding new codes will be the same. Currently, suggestions for coding modifications may come from both public and private sectors and go to a federal advisory committee. Final decisions are made by the director of the CDC's National Center for Health Statistics (NCHS) and the administrator of CMS.[11] Requests for additional codes are typically raised when providers wish to differentiate procedures to receive higher reimbursement.

The costs of the new technology for a particular condition may be offset by reducing other healthcare services, or perhaps not. Rather than immediately replacing more costly treatment, other scenarios may apply:

- Some new procedures may be less invasive but also more complex, which may raise the cost of the procedure itself (e.g., more operating room time, higher equipment costs).
- Any addition of new technology, as contrasted to replacement of old technology, will add costs to existing procedures.
- Hospitals and physicians may choose to do the procedures in an inpatient setting for several years until techniques are improved and safety is established.
- As mentioned above, new technology may result in more patients meeting the clinical criteria for surgery.

FEWER REJECTED CLAIMS

Assumption: Increased specificity of the ICD-10 codes will increase the initial claims adjudication rate and reduce the number of claims being researched or rejected due to insufficient information because ICD-10 will reduce the:

- Lack of detailed information contained in code assignments
- Potential for non-covered and covered services to be contained in the same code

If these assumptions are accurate, everyone wins. Fewer rejected claims will reduce the amount of work for commercial and public payers, and for providers. In order for the decrease in work to become a win for everyone, the lower administrative costs would have to translate to lower insurer premiums, lower government and insurer costs to administer healthcare programs, and lower provider administrative costs resulting in more efficient reimbursement.

3 Yip, W.C. (December 1998). "Physician response to Medicare fee reductions: Changes in the volume of coronary artery bypass graft (CABG) surgeries in the Medicare and private sectors." *Journal of Health Economics*. Volume 17, Issue 6, pp. 675-699.

4 Wasiak, R., McNeely, E., & Magnetti, S. (2004). "Utilization and Outcomes of Chiropractic Care for Work-Related LBP: Impact of Workers' Compensation Reimbursement Policies," Abstr Academy Health Meet. 21: abstract no. 1310.

5 Nguyen, X.N. (February 1996). "Physician Volume Response to Price Controls". *Health Policy*, Volume 35, Issue 2, pp. 189-204.

6 Volume-and-Intensity Response Team, Office of the Actuary (August 13, 1998). "Estimated Volume-and-Intensity Response to a Price Change for Physicians' Services," HCFA.

7 Cross, M. (December 2006). "Confronting the Medicare Cost Shift." *Managed Care*.

8 Fox, W. & Pickering, J. (May 2006). "Payment Level Comparison Between Public Programs and Commercial Health Plans for Washington State Hospitals." Retrieved August 24, 2009, from https://www.premera.com/stellent/groups/public/documents/xcpproject/pdfs/wa_prov_pmt_levels_05_06.pdf.

9 Fox, W. & Pickering, J. (December 2008). "Hospital and Physician Cost Shift: Payment Level Comparison of Medicare, Medicaid and Commercial Payers." Retrieved August 24, 2009, from http://www.milliman.com/expertise/healthcare/publications/rr/pdfs/hospital-physician-cost-shift-RR12-01-08.pdf.

10 Kaiser Family Foundation (March 2007). "Snapshots: Health Care Costs. How Changes in Medical Technology Affect Health Care Costs." Retrieved August 24, 2009, from http://www.kff.org/insurance/snapshot/chcm030807oth.cfm.

11 HHS (April 8, 2009). Process for Requesting New/Revised ICD-9-CM Procedure Codes. Retrieved August 24, 2009, from http://www.cms.hhs.gov/ICD9ProviderDiagnosticCodes/02_newrevisedcodes.asp.

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Below is a key consideration that may impact the above assumption.

Administrative Cost Shift

Due to administrative cost shift, the benefit to a reduced claims cycle will be determined by where the excess resources are allocated and the value of those tasks.

In reality, reduced billing/claims administrative cost may not necessarily translate to reduced healthcare costs. In a 2007 study commissioned by the PNC Financial Services Group, Inc. (PNC), when asked where the cost savings that were due to administrative efficiency would be applied, 89% of hospital executives and 91% of insurance executives indicated that the savings would be reinvested in improving patient care.[12] So it is likely that the government, insurers, and providers would shift any *excess* resources to other areas. Because of this shift of resources, there would be no reduction in hospital costs reflected in hospital Medicare cost reports. Therefore, there would be no associated reduction in Medicare hospital reimbursement rates. Similarly, the lower administrative costs related to a few claims processors would likely not translate to slower growth in health insurance premium rates.

FEWER IMPROPER REIMBURSEMENT CLAIMS

Assumption: ICD-10 will produce *benefits* related to preventing providers from abusing the system because ICD-10 is more specific and there are fewer *gray* areas in coding.

If these assumptions are accurate, everyone wins except the fraudulent providers that have been abusing the system under ICD-9. Commercial and public payers would benefit from fewer or lower-cost healthcare services. Ideally those medical cost savings would translate to lower-cost or more comprehensive healthcare coverage for the consumer.

Below are several considerations that may impact the above assumption:

Coding Related Fraud and Abuse

Based on the wide range of reasons for coding errors, and considering that ICD-10 will be more reliant than ICD-9 on accurate information, communication, documentation, coder training, and experience because of the greater specificity of the codes, it is entirely possible that ICD-10 coding could introduce more coding errors than ICD-9, even in the long term.

The first consideration in evaluating the assumptions is how much ICD-10 actually has the opportunity to decrease abuse. Two questions come to mind:

1. How much abuse is related to the ambiguity in coding?

2. How much will actually be eliminated by the introduction of a more specific coding scheme?

There is no doubt that there is fraud and abuse in healthcare. There is also no doubt that there are considerable coding errors.[13,14] How those facts relate to coding and the changes that will occur with ICD-10 is unknown.

One survey found that 18% of provider-related fraud and abuse cases were related to a fraudulent diagnosis or dates of service, to accommodate insurance benefits.[15] We believe it is safe to assume introduction of ICD-10 will not eliminate intentional miscoding.

Because, at least initially, ICD-10 will only be used for billing outpatient diagnoses and all inpatient facility services, it is logical to hypothesize that changes in abuse related to ICD-10 will be related to inpatient coding at the coder level, and specifically to elimination of intentional coding errors currently aimed at increasing reimbursement. Because physician reimbursement is almost exclusively based on Current Procedural Terminology (CPT) code, there is little incentive for physicians to purposefully bias inpatient coding performed by hospital coders based on the medical record. O'Malley et al. describe many reasons for erroneous inpatient coding: quality of admission information, communication, the clinician's knowledge and experience with the illness and attention to detail, variance in the electronic and written records, coder training and experience, and facility quality control, along with unintentional and intentional coder errors.[16] Therefore, it is reasonable to believe that the actual volume of coder errors that may be corrected by ICD-10 may be a very small portion of fraud and abuse cost.

BETTER UNDERSTANDING OF NEW PROCEDURES

Assumption: A large number of procedures with sufficiently different outcomes will be separately identified under ICD-10. Using the more specific data, there will be ICD-10-PCS–based outcomes research. This research will result in a change in the number of procedures done and a positive financial benefit of either doing the procedure when it otherwise would not have been done or vice versa.

If these assumptions are accurate, the government and insurers would benefit from fewer or lower-cost healthcare services. Ideally those medical cost savings would translate to lower-cost or more comprehensive healthcare coverage for the consumer. Providers would have lower revenue because of fewer or lower-cost services.

12 PNC (November 2007). "White Paper: Automated Billing/Payment Process Can Reduce U.S. Health Care Costs without Sacrificing Patient Care." Retrieved August 24, 2009, from https://www.pnc.com/webapp/unsec/Requester?resource=/wps/wcm/connect/1b85c3004e5c6392808687fc6d630ad7/Healthcare_WhitePaper_1107.pdf?MOD=AJPERES&CACHEID=1b85c3004e5c6392808687fc6d630ad7

13 Musco, T.D. & Fyffe, K. (1999). "Health Insurers' Anti-Fraud Programs Research Findings 1999." Retrieved August 24, 2009, from http://www.ahipresearch.org/PDFs/22_FRAUDREPORT.pdf.

14 Office of Inspector General, HHS. (2003) "Improper Fiscal Year 2002 Medicare Fee-for-Service Payments." Retrieved August 24, 2009, from http://www.oig.hhs.gov/oas/reports/cms/170202202.pdf

15 Musco, T.D. & Fyffe. K., ibid.

16 O'Malley, K.J. et al. (October 2005). "Measuring Diagnoses: ICD Code Accuracy". HSR: Health Services Research 40:5, Part II.

Following are several considerations that may offset the above assumption:

Using Data to Improve Healthcare Effectiveness

It is possible that more medical evidence may not dramatically change procedure frequency in the 15 years after ICD-10 implementation.

There are several things that need to happen if practice patterns are to change as a result of ICD-10-based research. Data must accurately reflect the diagnosis and the services rendered. Timely research on procedure effectiveness must differentiate treatment options. Providers must change practices based on that research, such as adopting more effective treatment approaches and discarding those proven less effective.

Accurate data: Administrative data will always be subject to inaccuracies that result in inaccurate reported results (commonly referred to as GIGO: garbage in, garbage out). A number of studies have shown that for reasons other than code specificity, ICD-9 codes in administrative data do not consistently reflect a patient's clinical condition.[17,18,19] It is entirely possible that, because of the number of codes, ICD-10 data may actually have a higher frequency of inaccurate findings.

Timely research: The speed and complexity of the development of new medical interventions and scientific knowledge often make medical evidence outdated. An Institute of Medicine (IOM) roundtable on evidence-based medicine noted that many are looking to new data sources with the instantly accessible information such as electronic health records (EHRs) and clinical data registries.[20] Although this is certainly a promising direction, and ICD-10 may be able to make some contribution to more timely research, it may be a long time before we see great strides in the development of the evidence basis for a broad range of procedures.

Changing practices: According to the IOM, most providers believe their practice is evidence-based; yet there is marked variability in practices. They propose that the challenge is in achieving consistent performance while accommodating the wide variety of biology, values, and clinical problems handled as well as the rate of change in biomedical knowledge. They also suggest that that the answer involves standardization around a systems approach to practice, not around specific practices.[21] Again, it may be quite a while before we see great strides in practices changing to become more consistent with the evidence as a result of a systems-based approach to practice.

IMPROVED DISEASE MANAGEMENT

Assumption: The introduction of ICD-10-CM will result in better disease management in two ways:

1. ICD-10 will identify people with a disease state that were not identified with ICD-9 codes.

2. ICD-10-based outcomes data will lead to better management of people with the disease state.

If these assumptions are correct, the government and insurers would benefit from lower healthcare costs, and providers would have reduced revenue.

The following key considerations may impact the above assumption.

IMPROVING DISEASE MANAGEMENT

ICD-10 may decrease disease management program administrative costs, but it is unlikely to increase the number of persons identified with a particular disease state or improve disease management. If disease management improves, it may not lower healthcare costs.

Although ICD-9 codes lack the specificity of ICD-10, the scheme does include codes specific to every diagnosis commonly managed under disease management programs (e.g., asthma, diabetes, heart disease). It is likely that the improved specificity may help disease management programs better identify persons who have the opportunity to benefit more from disease management programs, thereby eliminating the need for some amount of the costly screening currently carried out in patient interviews. Likewise, ICD-10 may improve the capability to stratify persons by severity of their conditions, to improve ability to deliver appropriate services.

If we assume ICD-10 will improve outcomes data, the resulting information may facilitate easier identification of certain healthcare processes that lead to better outcomes. The very basis of disease management is to reduce acute healthcare needs by providing medical care consistent with recommended standards and helping patients comply with diet, medication, exercise, and self-care regimens.

Despite current knowledge on appropriate care, it still remains that although disease management can improve healthcare processes, there are no large-scale studies providing evidence of the effectiveness of disease management programs to improve health outcomes. As found in the Medicare Coordinated Care Demonstration, "it is exceedingly difficult to change people's behavior."[22] So simply having more and better data will not help improve health outcomes unless it can get patients to change their behaviors.

Additionally, extending the life of persons with chronic diseases can increase aggregate healthcare costs. Because of the compressed timeframe from disease start to today's successful treatment, the history of HIV/AIDS offers a unique perspective. In the early days,

17 Benesch, C., Witter, Jr., D.M., et al. (1997). "Inaccuracy of the International Classification of Diseases (ICD-9-CM) in Identifying the Diagnosis of Ischemic Cerebrovascular Disease." *Neurology,* 49: 660–4.
18 Green, J. & Wintfeld, N. (1993). "How Accurate Are Hospital Discharge Data for Evaluating Effectiveness of Care?" *Medical Care,* 31: 719–31.
19 Leibson, C.L., Naessens, J.M., et al. (1994). "Accuracy of Hospital Discharge Abstracts for Identifying Stroke." *Stroke,* 25: 2348–55.
20 IOM (2008). "Evidence-based medicine and the changing nature of health care: 2007 IOM annual meeting summary." Washington, DC: The National Academies Press.
21 Ibid.
22 Piekes, D. et al. (January 2008). "Third Report on The Evaluation of the Medicare Coordinated Care Demonstration." Mathematica Policy Research Inc.

typically there were only a few years between HIV diagnosis and a fatal AIDS associated illness. Today, in the developed world, the life expectancy for people with HIV is approaching normal.[23,24] From 1995 to 2004, federal funding for HIV/AIDS care nearly tripled. The sharpest increases occurred with the introduction of newer, more expensive therapies, drops in death rates, and increasing numbers of people living with HIV/AIDS.[25] In another example, a 2002 study found that, for type-2 diabetics, although all interventions improved health outcomes, only intensified hypertension control reduced costs relative to moderate hypertension control. Intensive glycemic and serum cholesterol level control and reduction actually increase costs when taking into account an extended life span.[26] Therefore, even if ICD-10 does lead to better disease management, and better disease management does improve the health outcomes, aggregate healthcare costs may actually be higher.

CONCLUSION

It's impossible for everyone in the healthcare industry—insurers, the government, providers, and the consumer—to gain financial *benefits* from ICD-10 implementation. As we have shown, there is no simple answer to the question of *who will be the winners?* To some degree, the answer will depend on the actions of the stakeholders themselves. While working through the details of ICD-10 implementation and planning for the strategic advantages ICD-10 may offer, we encourage ICD-10 stakeholders to consider the assumptions discussed in this paper along with key considerations that may impact those assumptions.

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23 Schackman, B.R. et al. (2006). "The lifetime cost of current human immunodeficiency virus care in the United States." Med Care 44: 990-997.
24 Hogg, R. et al. (2007). "Life expectancy of persons at the time of initiating cART in high-income countries" 14th Conference on Retroviruses and Opportunistic Infections Abstract 972.
25 The Kaiser Family Foundation (March 2004). "Trends in U.S. Government Funding for HIV/AIDS Fiscal Years 1981 to 2004."
26 CDC Diabetes Cost-effectiveness Group (2002). " Cost-effectiveness of Intensive Glycemic Control, Intensified Hypertension Control, and Serum Cholesterol Level Reduction for Type 2 Diabetes." *Journal of the American Medical Association*, 287(19):2542-2551 (doi:10.1001/jama.287.19.2542).