Nachimson Advisors, LLC
Making Health IT Useful

The Impact of Implementing ICD-10 on Physician Practices and Clinical Laboratories

A Report to the ICD-10 Coalition

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Scope of ICD-10 Implementation for Physician Practices and Clinical Laboratories

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Executive Summary

On August 22, 2008, the Federal Government proposed a new rule that would require all physician practices and clinical laboratories to use a new coding set – the ICD-10-CM code set – as the standard code set for coding diagnoses on *all* HIPAA standard transactions. An update of the ICD-9 code set, the proposed rule expands diagnosis codes by a factor of 5, enabling greater specificity in the coding of diagnoses, allows for expansion in future years, and improves the description of current technologies. The proposed implementation of the code set would have a profound impact on the operations of physician practices and clinical laboratories.

A broad range of organizations (The American Academy of Dermatology, American Academy of Professional Coders, American Association of Neurological Surgeons, American Association of Orthopaedic Surgeons, American Clinical Laboratory Association, American College of Physicians, American Medical Association, American Optometric Association, American Physical Therapy Association, American Society of Anesthesiologists, and the Medical Group Management Association) retained Nachimson Advisors to assess the cost impact of the Administration's proposed ICD-10 rule on the provider community. Nachimson Advisors would like to acknowledge those organizations for supporting this project.

 Nachimson Advisors estimated the cost-impact of an ICD-10 mandate on three different provider practices:

- A "typical" small practice, comprised of three physicians and two administrative staff.

- A "typical" medium practice, comprised of 10 providers, one full-time coder, and six administrative staff.

- A "typical" large practice, comprised of 100 providers, with 64 coding staff comprised of 10-full time coders and 54 medical records staff.

Total Cost Impact of ICD-10 Mandate on Individual Provider Practices

- **For a typical small practice, Nachimson Advisors estimates the total cost impact of the ICD-10 mandate as $83,290 per small practice.**

- **For a typical medium practice, Nachimson Advisors estimates the total cost impact of the ICD-10 mandate as $285,195 per medium practice.**

- **For a typical large practice, Nachimson Advisors estimates the total cost impact of the ICD-10 mandate as $2.7 million per large practice.**

Cost Impact of ICD-10 Mandate in Six Key Areas

Requiring five times as many codes as the previous code set, the Administration's proposed rule would impact every aspect of business operations for physician practices and clinical laboratories and produce significant added costs in six key areas:

1. *Staff Education & Training.* Clinical and administrative staff will require significant time simply to learn about the new codes. As the new rule is *not* a simple substitution of one code set for another, the learning curve is expected to be quite steep for both clinicians and administrative staff, particularly for small- and medium-sized organizations that do not employ professional coders. Detailed training will be required across-the-board for clinical and administrative staff involved in documenting patient activities, coding of medical and administrative records, information technology, health plan relations, and contracts. In addition, learned patterns and relationships among codes would have to be re-learned because of the changed structure and organization of the code set.

   - **Nachimson Advisors estimates the staff education and training costs associated with an ICD-10 mandate would range from $2,405 for a small practice to $46,280 for a large practice.**

2. *Business-Process Analysis of Health Plan Contracts, Coverage Determinations, & Documentation.* Once the new ICD-10 rule is understood by clinical and administrative staff, physician practices and clinical laboratories would need to undertake an assessment of the ICD-10 mandate's impact on business processes, including provider-health plan contracting, coverage determinations, and contracting. Health plans may modify provider contracts to comply with the greater specificity required in the ICD-10 mandate and adjust payment terms accordingly. Coverage determinations may also be revised in accordance with new diagnostic codes and additional documentation required to a health plan to support a patient's treatment plan.

Understanding and implementing all of these changes will require significant time and expense by both clinical and administrative staff.

- **Nachimson Advisors estimates the business-process analysis costs associated with an ICD-10 mandate would range from $6,905 for a small practice to $48,000 for a large practice.**

3. *Changes to Superbills.* Most physician practices use "superbills" – documents provided to health plans and other payers that specify medical services provided, why they were necessary, and the accompanying CPT and ICD codes – as the basis for billing and reimbursement. With five times as many codes as the previous ICD coding iteration, an ICD-10 mandate would require significant changes to existing superbills and/or spur some practices to move to an electronic medical record (and absorb corresponding software costs).

- **Nachimson Advisors estimates the changes-to-superbills costs associated with an ICD-10 mandate would range from $2,985 for a small practice to $99,500 for a large practice.**

4. *IT System Changes.* Once physician practices have completed their business-process analyses, it will be necessary to incorporate the ICD-10 changes into any IT products that would intersect with it, including a practice management system vendor, an electronic health record vendor, a billing service vendor, and others.   For example, physicians' practice management systems, software modifications will be necessary in both the insurance coverage system and in the billing system. Another potential area for concern is that practices will have to assure that their billing services and clearinghouse vendors are compliant with ICD-10 coding as well.   These and many other changes will all have to be tested, operationalized, and integrated into the day-to-day operations of physician practices.
    - **Nachimson Advisors estimates the IT costs associated with an ICD-10 mandate would range from $7,500 for a small practice to $100,000 for a large practice.**

5. *Increased Documentation Costs.*   With the increased granularity of the ICD-10 –CM codes, additional documentation must be provided to support the patient's diagnoses.
    - **Nachimson Advisors estimates the increased documentation costs associated with an ICD-10 mandate would range from $44,000 for a small practice to $1.76 million for a large practice.**

6. *Cash Flow Disruption.* With a change to ICD-10-CM, it is expected that health plan payment amounts will be changing based on severity of diagnosis and changes in coverage. Significant changes in reimbursement patterns, will disrupt provider cash flow for a considerable period of time.

- **Nachimson Advisors estimates the cash-flow disruption costs associated with an ICD-10 mandate would range from $19,500 for a typical small practice to $650,000 for a typical large practice.**

Total Cost Summary

	Typical Small Practice	Typical Medium Practice	Typical Large Practice
Education	$2,405	$4,745	$46,280
Process Analysis	$6,900	$12,000	$48,000
Changes to Superbills	$2,985	$9,950	$99,500
IT Costs	$7,500	$15,000	$100,000
Increased Documentation Costs	$44,000	$178,500	$1,785,000
Cash Flow Disruption	$19,500	$65,000	$650,000
TOTAL	$83,290	$285,195	$2,728,780

Introduction

ICD-10-CM is the updated version of the ICD-9-CM code set currently used for coding diagnoses on all health care standard administrative transactions, and for coding procedures on standard inpatient hospital transactions. The ICD-9 code set was developed by the World Health Organization (WHO) and modified for US use in 1977. It has been in widespread use since 1988, and required for use under HIPAA since 2002.

WHO produced an updated version, ICD-10, in 1992. Modifications of the code set for US use have been developed by the National Center for Health Statistics (NCHS) for diagnoses (ICD- 10-CM) and by the Centers for Medicare and Medicaid Services (CMS) for inpatient hospital procedures (ICD-10-PCS). In recent years, momentum has been building for requiring the replacement of ICD-9 codes with ICD-10 as the standard code set for administrative transactions. The arguments for and against this move are generally known and will not be repeated here, nor will this paper take a position for or against this change. Instead, the paper will focus on what the impact will be on physician practices and clinical laboratories should this move be undertaken. For these providers, ICD-9-CM would be replaced by ICD-10-CM for the coding of diagnoses.

For purposes of this paper, there are a few important differences between the current US version of ICD-9-CM and proposed US version of the ICD-10-CM code set that are critical for providers to understand. They are:

- There are significantly more codes in ICD-10-CM than ICD-9-CM; about 5 times as many ICD-10-CM codes.

- The ICD-10-CM codes are significantly more detailed and granular, requiring more documentation to support.

    For example, diabetes mellitus codes are expanded to include the classification of the diabetes and the manifestation. The category for diabetes mellitus has been updated to reflect the current clinical classification of diabetes and is no longer classified as controlled/uncontrolled:

    - E08.22, Diabetes mellitus due to an underlying condition with diabetic chronic kidney disease

    - E09.52, Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy with gangrene

    - E10.11, Type 1 diabetes mellitus with ketoacidosis with coma

    - E11.41, Type 2 diabetes mellitus with diabetic mononeuropathy[1]

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[1] ICD-10-CM Primer, www.ahima.org

- The ICD-10-CM codes are alphanumeric, as opposed to the primarily numeric ICD-9-CM codes.
- The ICD-10-CM codes contain up to 7 characters, as opposed to the 5 characters in ICD-9-CM
- The ICD-10-CM codes are organized differently than the ICD-9-CM codes.   For example:

  - Sense organs have been separated from nervous system disorders.
  - Injuries are grouped by anatomical site rather than injury category.
  - Postoperative complications have been moved to procedure-specific body system chapter. [2]

NCHS has created "general equivalence mappings" between ICD-9-CM codes and ICD-10-CM codes. These "attempt to find corresponding diagnosis codes between the two code sets, insofar as this is possible."[3] However, there is not a consistent relationship between ICD-9-CM codes and ICD-10-CM codes. In some situations, a 1-1 correspondence can be found between codes, while in others one ICD-9-CM code corresponds to several ICD-10-CM codes. In other situations, several ICD-9-CM codes correspond to one ICD-10-CM code. Further, with certain diagnoses codes there is no clear correspondence between ICD-9-CM and ICD-10-CM. Much of this is due to the differences in terminology and specificity between the code sets. The differences in the code sets will pose a challenge for providers should they transition from using ICD-9-CM to ICD-10-CM. A more complete discussion of the difference in the code sets and some of the correspondences between them can be found in the NCHS document "**Diagnosis Code Set General Equivalence Mappings",** available at the NCHS web site.

Diagnosis codes, currently represented by the ICD-9-CM code set, are used in virtually every aspect of a provider's and health plan's operations, both clinical and administrative. The impact of this change will therefore reach into the business processes and systems supporting these operations as well as the relationship relationships between and among providers and health plans.

It has been speculated that the extent of the impact of this change will be far greater than that of the implementation of HIPAA standard transactions or the National Provider Identifier (NPI). It will be up to each entity to determine the impact of this coding change, evaluating all of their clinical and business operations. It should be noted that coding changes impact far more of the business processes of health care organizations than did the HIPAA transactions or the NPI. For providers, coding changes will impact their documentation procedures, their record keeping procedures, their fee schedules, the medical review edits that health plans will apply, and the quality measures which will be used in assessing performance.   The impact of the HIPAA transactions and NPI were generally limited to the transactions

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[2] **ibid**

[3] "**Diagnosis Code Set General Equivalence Mappings" p 2. NCHS, 2007.**

with external partners, and did not necessitate as significant a change in many clinical and business workflow processes as ICD-10 will require.

It is not difficult to determine where the impact of the coding process actually begins for providers. While the codes may not be documented until the claim for payment is filed, the documentation for determining the appropriate code starts as soon as the patient visit starts.

Physician/Clinic Practices

Virtually all practices would be impacted (though not necessarily equally) by the changing of diagnosis codes. Even those few clinicians who do not participate in any insurance transactions would need to understand how to document and assign ICD-10-CM codes, as public health reporting or exchanging information with other practices may require the use of this newer code set. For practices, a transition to ICD-10-CM would necessitate the following steps:

 ICD-10-CM Education

The first step for clinical and administrative staff would be learning enough about the new coding system to understand what the differences in the code sets are, and what specific impacts it would have on their practice. As this is not a simple substitution of one code for another, the learning curve is expected to be quite steep for both clinicians and their administrative staff. This issue will be especially acute in those small and medium organizations that do not employ professional coders. The ICD-10-CM codes are more specific than those in ICD-9-CM, so all of those using the codes would need to understand that and get used to the more specific codes. Detailed training would have to be provided to specific staff involved in documentation of patient activities, coding of medical records and administrative records, information technology, health plan relations, and contracts. In addition, learned patterns and relationships among codes would have to be relearned because of the changed structure and organization of the code set.

Training would therefore involve clinical staff (doctors, nurses, physician assistants, nurse practitioners) that do the treatment and documentation, as well as nearly every person/department. Training estimates from several sources[4] indicate that to understand the coding differences, approximately 8 hours of training would be needed for coding staff and for clinical staff. Organizations would need to determine the number of people to send to such training sessions. Both in-person and web-based training is expected to be available.

This training appears to be focused mainly on how to code ICD-10-CM, which is a necessary first step. While coders and administrative staff may be satisfied with this level, providers who do documentation would need additional training to determine how to document care to support ICD-10 codes.

Should there be an ICD-10-CM mandate, providers should expect to have coding staff spend 16 hours in training, other administrative staff 8 hours, and providers 12 hours in training on both the code set and documentation procedures. Costs will vary based on the provider of the training, whether it is in person

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[4] AHIMA, Rand, Nolan, AHIP

or via the web, etc. Entities should look very carefully at the content of the training, the materials used, and the experience of the training company.

While large organizations may have the resources to purchase training materials or send staff to training sessions, smaller organizations may have to depend on special societies or local medical associations to provide the needed training locally.

Business Process Analysis

Once there is a general understanding of the new code set and how it operates, an analysis would be made of how ICD-10-CM will impact a practice's business processes. The wide scope of this impact will probably surprise most provider organizations. A major university physician system indicated that they expected the analysis process to take 3-4 months using several teams of experts.

Provider-Health Plan Contracting

One of the initial changes for a practice may come when health plans would modify contracts because of the move to ICD-10-CM codes. Should contracts change to include more specific diagnosis code requirements, rather than in the medical review guidelines, substantial adjustments would be necessary. This could be a significant problem for practices. , As the codes provide greater specificity, it is anticipated that health plans will alter their payment schedules to take into account the specificity of individual codes. Practice cash flow may be significantly affected.

Because of the greater specificity and the opportunity to better recognize the severity of a patient's condition, health plans could adjust their payment schedules to pay more for "sicker" patients and less for patients who are not as sick. While this could be expected to "even out" across all patients in a health plan, the impact on individual practices would vary. Practices who tend to treat those less complicated patients, or who may not document the severity of a condition to support the more severe diagnosis, would tend to be paid less. Those practices that treat the sicker patients may end up being paid more for their services. It would be difficult to make any specific projections for a practice until the revised payment schedules would be published. While procedure coding will not change for ambulatory practices, it is still not clear what impact the change in the diagnosis code sets will have on payment rates. Practices would need to do some projections to determine the scope of this.

Practice administrators and planners would have to spend time on this. While most payment is based on procedures (and the coding for procedures would not change) diagnoses codes may be used for medical review, auditing, and coverage.   The time spent on this will depend entirely on how many insurance companies a practice deals with, and what the changes in the contract may be.

Coverage Determinations

For each patient, insurance coverage determination will need to be reviewed based on the ICD-10 diagnosis code set. It is assumed that health plans will revise their coverage determinations and issue

them in the form of ICD-10-CM codes. Practice offices will need to review their patient rosters and treatment plans to determine if coverage is still applicable.

<u>Documentation</u>

Once the changes in coverage are confirmed, with the increased granularity of ICD-10-CM codes additional information must be included in the documentation to support a patient's treatment plan. This could lead to considerable changes in the business process of a practice, as the extent and amount of clinical documentation would significantly change based on the greater specificity of coding.

For example, the ICD-9-CM code for hematuria is 599.7. However, there are 4 corresponding ICD-10-CM codes – R31.0, gross hematuria, R31.1 benign essential microscopic hematuria, R31.2 other microscopic hematuria, and R31.9 hematuria unspecified.   While it might be tempting to just use R31.9 and not change documentation, it is expected the more specific codes will be required so more specific documentation is necessary. Documentation as to the microscopic testing or the "color" of the urine would be more important as the codes get more specific.

The importance of documentation cannot be overstated. "About half of all allegations of inaccurate billing arise from insufficient documentation in the medical record, resulting in denials based upon lack of medical necessity or due to alleged upcoding. Two particular problems frequently cited include the review of patients' medical and personal histories, and failures to provide adequate supporting documentation for diagnoses and procedures."[5]

A 2004 at 3M Health Information Systems study emphasized the critical role of documentation in the conversion.

"Documentation was deemed critically important because of its direct bearing on payment and its role in ensuring accurate performance reporting in support of quality initiatives. "Since documentation is a major issue within the ICD-9 world and will be intensified with the detail required to code in the ICD-10 world, we commissioned an enterprise-wide documentation improvement task force," reported one HIM director. Study participants who were previously involved in the 2003 AHIMA-AHA ICD-10-CM field test study concur with this kind of proactive approach and felt "it was not as hard as we thought it would be" but strongly noted that "specificity associated with ICD-10 will be a challenging component of physician documentation."[6]

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[5] "Procedures to improve your claims", *Jeffrey B. Miller, Esq. & Alice Anne Andress, <u>Physicians News Digest,</u>* Oct 2002

[6] Piselli, Carolyn. "What's Your ICD-10 Plan? Findings and Recommenda-tions from Research on ICD-10 Implementation", AHIMA

Here are several other examples that show the need for increased documentation to support the greater specificity of ICD-10-CM codes.

A patient was diagnosed with Hydrarthrosis of the hip.

Codes in ICD-10-CM are based on what type and laterality.

M12.4 Intermittent hydrarthrosis

  M12.45 Intermittent hydrarthrosis, hip

   M12.451 Intermittent hydrarthrosis, right hip

   M12.452 Intermittent hydrarthrosis, left hip

   M12.459 Intermittent hydrarthrosis, unspecified hip

In this example, we normally just have the statement, hydrathrosis with the anatomy specified or if it is right or left in many cases.

In this example, documentation of laterality is important. Code M12.45 has a sixth character extension for right, left, and unspecified hip. Since the scenario does not include identity of the hip, code M12.459 would be the appropriate code selection

Another Example

A patient is treated with medication for postmenopausal osteoporosis.   The patient had a pathologic fracture one year ago and the physician is following her condition every three months.

In this example it is important to know the patient had a pathological fracture 1 year ago. We normally do not have this information. Without this information for ICD-10-CM it will be difficult to code.

M81 Osteoporosis without current pathological fracture

    Use additional code to identify:

      major osseous defect, if applicable (M89.7-)

      personal history of osteoporosis fracture (Z87.31)

Excludes1: osteoporosis with current pathological fracture (M80.-)

      Sudeck's atrophy (M89.0)

 M81.0 Age-related osteoporosis without current pathological fracture

      Involutional osteoporosis without current pathological fracture

      Osteoporosis NOS

      Postmenopausal osteoporosis without current pathological fracture

      Senile osteoporosis without current pathological fracture

 M81.6 Localized osteoporosis [Lequesne]

Excludes1: Sudeck's atrophy (M89.0)

Here is another example:

In ICD-9-CM, the correct code for coma is 780.01, with no additional specificity. ICD-10-CM has expanded the codes for coma. Documentation currently does not always give us this detail in the medical record. In ICD-10-CM coma must be coded based on a coma scale.

In a physician practice coding for a neurosurgeon for example, the coder may know the patient is in a come with a skull fracture. However, the documentation won't indicate how the patient arrived to meet the 7th character requirement. Also we currently don't code based on the coma scale, so documentation will be challenging with ICD-10-CM

R40.2   Coma

          Coma NOS

          Unconsciousness NOS

          Code first any associated:

               coma in fracture of skull (S02.–)

               coma in intracranial injury (S06.–)

The following 7th character extensions are to be added to codes R40.21, R40.22, R40.23

          1   in the field [EMT or ambulance]

          2   at arrival to emergency department

          3   at hospital admission

          4   24 hours after hospital admission

          9   unspecified time

A code from each subcategory is required to complete the coma scale

R40.2   Coma (continued)

R40.20   Unspecified coma

R40.21   Coma scale, eyes open

R40.211   Coma scale, eyes open, never

R40.212   Coma scale, eyes open, to pain

R40.213   Coma scale, eyes open, to sound

R40.214   Coma scale, eyes open, spontaneous

Note: These codes are intended primarily for trauma registry and research but may be utilized by all users of the classification who wish to collect this information.

R40.22   Coma scale, best verbal response

R40.221   Coma scale, best verbal response, none

R40.222   Coma scale, best verbal response, incomprehensible words

R40.223   Coma scale, best verbal response, inappropriate words

R40.224   Coma scale, best verbal response, confused conversation

R40.225   Coma scale, best verbal response, oriented

R40.23   Coma scale, best motor response

R40.231   Coma scale, best motor response, none

R40.232   Coma scale, best motor response, extension

R40.233   Coma scale, best motor response, abnormal

R40.234   Coma scale, best motor response, flexion withdrawal

R40.235   Coma scale, best motor response, localizes pain

R40.236   Coma scale, best motor response, obeys commands

Other documentation changes will be necessary to support changes in the coding structure. For example, obstetric codes change significantly from ICD-9-CM to ICD-10-CM. The ICD-9-CM codes are organized by episode of care; the ICD-10-CM codes by stage of pregnancy. It would be necessary to completely rewrite documentation or at least change prospectively how documentation is organized.

Practices should consider very carefully this impact on documentation. This is expected to be a major change in the way many practices do work and keep their medical records. Even those with Electronic Medical Records may need to significantly revise their business processes to accommodate different documentation requirements.

"For documentations supporting diagnoses or procedures, physicians first must ensure that the services provided are consistent with the symptoms of the patient and that they satisfy generally accepted medical standards. Thereafter, physicians must ensure that their documentation is adequate for coding and quality assurance purposes. Part of this effort requires that physicians understand and remain current on the relevant documentation standards. Physicians should strongly consider attend coding and documentation workshops on an annual basis to establish and to refresh their skills in documentation, and to master changing requirements." [7]

The change in code sets would necessitate a major change in documentation requirements. Significant training and changes in procedures would be necessary to support this change.

Physicians may consider continuing to code the "unspecified" version of a diagnosis. However, this would probably result in a health plan either (1) rejecting the claim outright or (2) pending the claim and asking for more information. Both of these outcomes result in extra work for the practice, and will at best delay reimbursement. Therefore, there will be costs to the practice of continuing to use the more general codes.

The increased documentation requirements would increase the amount of time and effort that practices spend on each patient encounter. This is not simply the temporary decrease in productivity due to learning a new code set. This increase would be permanent, and could either require additional staff to provide the documentation, or decrease the number of patients a practice could treat. These would increase costs and decrease revenues.

It is difficult to determine the amount of change involved in documentation, but it is a certainty that additional time will be spent documenting care. The changes would be based on how health plans revise their requirements to support codes, the types of care that a practice deals in, the current

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[7] Procedures to improve your claims", *Jeffrey B. Miller, Esq. & Alice Anne Andress, Physicians News Digest,* Oct 2002

methods for documentation, and other factors.   Even a 5% increase in this effort would have an impact on the time of providers.

To determine some idea of the amount of time spent on documentation, note the information in Table 2[8] below. This is from a study conducted in 1998 to measure the amount of time physician's spend on activities other than the actual patient encounter.

TABLE 2. PERCENTAGE OF PHYSICIAN'S TOTAL VISIT TIME SPENT BEFORE AND AFTER THE ENCOUNTER ACCORDING TO TYPE OF VISIT AND ENCOUNTER TIME.*

TYPE OF VISIT	ENCOUNTER TIME	
	≤10 MIN	≥40 MIN
	% of total time	
Established patient in office	18	12
New patient in office	21	16
Follow-up visit in hospital	16	12
Initial visit in hospital	22	11
Follow-up consultation	22	17
Initial consultation	26	19

*Values show the percentage of a physician's total time during a visit that was spent on services performed before and after the face-to-face encounter with the patient or the patient's family (such as review of records and entry of information in the chart).

From this table, we can assume that about 15 – 20% of a physician's time would be spent on documentation activities. The study only considered evaluation and management services, perhaps the bulk of most physicians' work.

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[8] **Lasker and Marquis 341 (5): 337, Table 2   July 29, 1999**

Deborah Grider, President of the National Advisory Board of the American Association of Professional Coders, has estimated that ICD-10-CM will increase documentation activities about 15-20%[9]. This means that overall, we can expect about a 3-4% increase in physician time spent on documentation for ICD-10-CM. **Note that this is a permanent increase**, not just an implementation or learning curve increase. It is a physician workload increase with no expected increase in payment, due to the increase requirements for providing specific information for coding.

EHR systems will not be able to eliminate the extra time requirement. The templates involved in these systems will need to change to capture the additional notes and documentation, again requiring the extra work.

Treatment Decisions

This is a very critical and very sensitive area for physician practices. This process may be driven by changes in national and local coverage policies, as they are revised by health plans to reflect the greater specificity in ICD-10-CM coding A change to ICD-10-CM could trigger changes in coverage for insurance and documentation requirements. While patients are in the office, there may need to be a change in treatment protocols required by a health plan, or at least an explanation to patients as to why their course of treatment may change. Again, this impact would not be known until health plans review their ICD-10-CM implementation activities and determine what changes they would make in their policies.

The area of genetic diagnoses is expected to show some changes here. The codes for Down's syndrome will require genetic testing to reach the necessary specificity levels.

Changes in Superbills and Coding Documentation

Should the industry move to ICD-10-CM, the superbill – the basis for much of the billing for physician offices- will need to undergo significant changes. Typically, physicians order large numbers of superbills with their most common diagnosis codes already printed on the form to expedite to code selection process. As the ICD-10-CM code set contains at least 5 times as many diagnosis codes, much more specific codes, and in some sections a new way of coding, these superbills will need to be revised. The one page superbill will become a thing of the past and a 5 page superbill will be impractical for most practices. The solution may be the development of a electronic code selection tool, important for both paper-based practices and those with EHRs. The cost of this software is yet to be determined. Those practices with EHRs that allow for the selection of an ICD-10-CM code will have to work with their vendors to determine how best to capture the ICD-10-CM codes most likely to be used by the practice.

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[9] Email from Deborah Grider to Stanley Nachimson, June 28, 2008.

Given the large increase in codes, paper documentation may no longer be useful for any practice, and more automated tools will be necessary. It will be difficult to predict whether the automation in tools will balance out the increased complexity of coding for those administrative staff needing to look up codes.

Because of this major change in the coding, some practices may consider moving to an EHR. This may further complicate the transition to ICD-10-CM depending on the timing of this decision.

IT System Changes

Once physician practices have completed their business process analysis discussed earlier, it will be necessary to discuss with the practice management system vendor, the EHR vendor, billing service vendor, clearinghouse, and any other IT vendor whose product intersects with ICD-10-CM to determine what needs to be changed and how it will be changed, when it will be changed, and how much those changes will cost the practice.

For the practice management system, software modifications will be necessary in both the insurance coverage section, and in the billing system. If the practice management system generates electronic transactions for eligibility inquiries and for prior authorizations, modifications will be required. There will be significant changes needed in the EHR system to accommodate the ICD-10-CM code set, especially in the documentation section and any software features that allow for matching a diagnosis code to documentation (in addition to a diagnosis code selection module). It will also be necessary to set up the appropriate matching between diagnosis codes and procedures, to take into account the changes that plans may make in their coverage of procedures. It is highly likely that these software changes would impact the business flow of the office, necessitating modifications and subsequent training for clinicians and administrative staff..

Under a move to ICD-10-CM, practices would also have to assure that their billing service and clearinghouse vendors are prepared to process ICD-10-CM codes. As we have seen with the protracted implementation of the HIPAA electronic transactions and national provider identifier (NPI), this is a critical compliance area. For billing services and clearinghouses, a move to ICD-10-CM is not a simple crosswalking issue. Different, and in many cases, augmented information will have to be provided to billing services and clearinghouses to allow them to process claims with the appropriate diagnosis code. With far more stringent documentation requirements for ICD-10-CM, billing services and clearinghouses will be forced to send claims back to the practices for resubmission should the original claim not contain sufficient supporting documentation. The result of this process could be massive delays in claims payment and cash flow problems for practices. In order to minimize this, Practices would require significant education regarding documentation requirements under ICD-10-CM and trading partners would require sufficient time to fully test their claims submission process.

The development, testing, and implementation of any change to ICD-10-CM must be timed and planned very carefully. There will be vendor development and testing, then customer (practice) internal

implementation and testing, and then testing with trading partners. (NOTE—we may be able to use the Blues-developed testing timeline to flesh this out more) These pieces will cause disruption in ongoing operations, and must be integrated into the day to day operations of the practice.

A reasonable set of estimated system implementation costs was developed in "**Examining the Cost of Implementing ICD-10**" a white paper prepared for AHIP by the Hay Group. This paper looked at previous estimates from Rand, Nolan, and PWC and attempted to find a "middle ground" while correcting some earlier methodological errors.[10] An excerpt from Table 2 of this report, which estimates physician practice IT implementation costs, follows:[11]

Physician Practices	Per Entity		Number of	Total Cost	Total Cost
	Low	High			
(All $ in Thousands)	Estimate	Estimate	Entities	Low	High
Very Large (21+)	$50	$100	2,586	$129,300	$258,600
Large (11-20)	$20	$40	3,324	$66,480	$132,960
Mid-Sized (6-10)	$10	$20	8,644	$86,440	$172,880
Small (3-5)	$5	$10	22,387	$111,935	$223,870
Independent (1-2)	$2	$8	145,000	$290,000	$1,160,000
			181,941	$684,155	$1,948,310

The range of costs for IT implementation per physician practice is anywhere from $2000 to $100,000.

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[10] Wildsmith,Thomas "**Examining the Cost of Implementing ICD-10**" **The Hay Group, October 2006, pp 5-6**

[11] Ibid, p.9

Patient Education

Practices have direct contact with patients on a daily basis, and it is expected that they will have to explain to patients why, in some cases, additional tests, discussions, and procedures are necessary to justify a particular treatment protocol. Practices may have to develop written material that assists in explaining what changes have been made, why they were made, and also what changes patients may see in their EOBs from health plans. Coverage changes may also need to be explained to patients. However, this is not expected to be a major issue, as most of this should be handled by health plans. Some changes to patient registration or history forms may be needed.

Changes in Insurance Plans Accepted

With expected changes in coverage and payments, practices will need to determine if they will change their participation in health plans. A thorough review of the changes will be necessary, and practices may determine that they will end their association with certain health plans and perhaps start participating in other health plans.   This will complicate the annual review that providers may do regarding their participation in health plans. Administrators should consider that extra time will be needed in this process.

Coordination Issues with Other Providers

Getting a diagnosis code from an ordering or referring physician, and the necessary associated documentation, would be another issue that many practices would need to deal with. NPI implementation experience has shown that not all practices keep up with necessary changes. There will be a critical need for all practices to move to ICD-10 by the implementation date. Any lack of information from ordering or referring physicians will delay payment for the receiving practice.

Changes to adapt to post-treatment processes

Pay for Performance (P4P)

Under ICD-10-CM, P4P measures that are based on ICD-9-CM diagnosis codes will be forced to change, necessitating a review and possible changes in treatment. It will take considerable time for measures to be developed and vetted by the industry. Many are concerned that these measures may not be able to be developed for some time after ICD-10-CM is being used, to permit longer-term clinical usage prior to identification. If prior measures are being used based on ICD-9-CM codes, practices will be forced to ascertain how the ICD-10-CM codes are being tracked back to ICD-9-CM codes.

Adjustments to Reimbursements

With a change to ICD-10-CM, it is expected that health plan payment amounts will be changing based on severity of diagnosis and changes in coverage. Practices will need to analyze these changes to determine how their cash flow will change. Additional adjustments in business processes may be necessary to accommodate rising or falling reimbursements. Without comprehensive national pilots and appropriate trading partner testing, many in the provider community are concerned that the extent of reimbursement changes will not be known until close to or after the ICD-10-CM implementation date. This would not give practices much time to react and could result in significant cash flow interruptions.

Communication with health plans

A change to ICD-10-CM, like the transition to the NPI and HIPAA electronic transactions, would have to be accomplished as a partnership between practices and health plans. Because practices deal with multiple health plans, they must understand the transition schedule, changes to coding, documentation, medical review, and reimbursement modifications as well as the testing strategy for each of the health plans they contract with. As it is highly likely that each health plan will have its own individual schedule, practices must take the time to get the appropriate information from each health plan, understand it, and respond to it. As well, each practice must be able to communicate their intentions for ICD-10-CM transition to each health plan. Even smaller practices will need to spend considerable time on this effort, as they tend to deal with 30-40 companies.

The management of the transition to ICD-10-CM will be a most challenging process. Practices will be faced with coordinating changes in their business processes, changes in their IT systems, changes in communications and relations with their health plans, and changes with their other trading partners (billing services, clearinghouses) each on their own schedules. Practices would have to develop a coordinated project plan to assure continuity in patient care and in payment.   A project plan would include:

1. Training appropriate staff throughout the project
2. Analyzing internal practice business process (e.g. patient flow, documentation, billing) to determine what would need to be changed if ICD-10 was required.
3. Contacting each vendor, heath plan, device manufacturer, and other trading partner to determine what changes they are making and how they will help support the practice through the transition
4. Setting up a rational time schedule to make changes without disrupting the practice.
5. Updating systems and documentation to handle ICD-10-CM

6. Reviewing participation in health plans
7. Assuring that all staff understand and implement the changes
8. Managing relationships with entities mentioned in number 3 to assure that the transition is moving according to plan.
9. Testing changes internally to assure that they work.
10. Testing with all trading partners.
11. Making the final transition.

Clinical Laboratories

Clinical laboratories face unique challenges during this transition in addition to many of the same types of challenges faced by physician practices. While they must, of course, use diagnostic codes in their administrative processes, they are typically not the source of those codes.   When laboratories only perform the tests and do not do any interpretations, they rely on the ordering physician to provide the diagnosis code. In cases where a pathologist will interpret the results and determine a diagnosis, the lab will supply the diagnosis code.

Policies and Coverage

Large national laboratory companies deal with hundreds of managed care plans, payers, and employers. Their coverage policies are all different, and must be closely managed to assure that the laboratory will get paid for the services provided. Should ICD-10-CM be implemented, each health plan/employer combination would have to review and reissue their coverage policies, and, in turn, the lab would then have to modify their operations accordingly.

Billing Issues

Today, the biggest problem in the billing process for clinical laboratories is a missing or invalid diagnosis code on orders from physicians. When this occurs, the issue must often be dealt with through direct contact with the ordering practice. When an ordering provider submits a narrative diagnosis rather than a diagnosis code, the narrative diagnosis may be translated into the appropriate code by trained laboratory staff without direct contact with the ordering practice. Given the expected overhaul in coverage policies, and the increased specificity and complexity of ICD-10-CM codes, it is expected that the rate of missing or invalid diagnosis codes on test orders will increase significantly, while the level of expertise needed for translation of narrative diagnoses will exceed the capabilities of current translators, who typically have multiple responsibilities in addition to narrative diagnosis translation.

Under ICD-10, ordering practices must be trained on using the correct diagnosis; labs that elect to continue to accept narrative diagnoses from ordering providers will likely need to hire dedicated, certified translators to translate narrative diagnoses to the appropriate ICD-10-CM codes; and laboratory systems must also be reprogrammed with appropriate edits. As claims are returned to the laboratory for an invalid diagnosis, they must be individually handled with the ordering practice. This will have a significant impact on both the ordering providers and laboratories. First, additional staff time must be spent on resolving these issues by both the laboratory and the ordering provider. Secondly, cash flow will be interrupted or reduced. Even if the laboratory prepares for ICD-10-CM by upgrading its IT systems and hiring new personnel, its dependence on ordering providers is a significant challenge over which it has little control.

There may also be an increase in the denial rate due to the use of more unspecified codes. It may be expected that health plans will require a more specific diagnosis. If the ordering provider only uses the

unspecified diagnosis code, there will be the need to go back to the ordering provider for the more specific code. This may be a training issue for laboratories.

Documentation/Interpretation

For laboratories that interpret tests and provide diagnoses, a shift to ICD-10-CM will involve significant changes in the interpretation and documentation process. The greater level of specificity in the codes will require pathologists to more thoroughly document their findings to support the diagnoses. This will require education and testing to ensure that the appropriate level of documentation is included. There will be a significant learning process to go through, which is expected to slow down the production of results during the transition to ICD-10-CM. This could result in patient care being impacted.

Training

For laboratories that interpret tests and provide diagnoses, as well as for laboratories that do not, training will be a significant issue. Pathologists who interpret results must be able to understand the nuances of the new code set, and produce the appropriate documentation to support it. This will be a two step training process – first to understand the new code set, then to understand what will be necessary to support the more specific diagnoses. Current translators who review narrative diagnoses from ordering providers and assign the appropriate corresponding diagnosis codes will also have to undergo the same types of training processes, although as mentioned above, training of existing personnel will need to be supplemented with significant new hiring of dedicated, certified translators.

Information Technology

Laboratories have a range of systems that must be upgraded and tested to assure that they work effectively with ICD-10-CM. Vendors must be contacted to determine when their products will be available for installation and testing. Internal systems must be examined and modified. Each provider who sends orders and diagnoses, any provider to whom lab results with diagnoses are sent, as well as each payer to whom claims are sent, must be contacted to determine schedules and arrange for testing. Both internal and external interfaces must be identified and modified.   The initial systems inventory is critical to a successful transition.

Coordination Issues

Coordinating the transition will be especially complex for laboratories. Most lab IT systems are internally developed, so off-the-shelf solutions will not be available and interdependencies and contingencies among multiple internal system modifications must be addressed for the design, development and testing of solutions before external testing can begin. To the extent that labs rely on

third party vendors who serve as clearinghouses for standard transactions with some payers, testing with those clearinghouses must be scheduled after internal system modifications have been completed. The clearinghouses cannot test with health plans until the health plans are ready, and the same is true with respect to health plans that labs deal with directly. Labs must also coordinate their systems with thousands of ordering provider interfaces for electronic test ordering and result delivery, which provide connectivity with the products of hundreds of different electronic health record vendors, each of whom will be on their own ICD-10-CM implementation schedules. Of course, ordering physicians must supply diagnoses before the lab can successfully bill a payer, whether a clearinghouse is used or not. The laboratory will also be dependent on health plans (particularly Medicare) to revise their coverage policies so that the laboratory systems can be revised accordingly. Without a rational transition plan, successful coordination will be impossible.

Due to resource limitations, implementation of ICD-10-CM will also likely hamper the ability of clinical laboratories to engage in other activities during the implementation period, such as implementation of other HIPAA transaction and code set changes (*e.g.,* claim attachments or a national health plan identifier) and the emerging nationwide health information network (NHIN). Therefore, the efficiencies and improvements in quality anticipated from those other activities are likely to be delayed.

Cost and Timing

A large national laboratory has estimated its up-front cost of implementing ICD-10-CM to be about $40 million, including IT and education costs. This is based roughly on estimating that ICD-10-CM will be twice as difficult as NPI, and that the impact will reach across all of their main IT systems – order entry, laboratory, billing, reporting, data warehousing, and client products. They expect the implementation to take 3-4 years *after* HIPAA upgrades (*i.e.,* implementation of the 5010 version of the HIPAA standard transactions) are complete. However, the implementation of ICD-10-CM will result in a permanent increase in operational costs for large clinical laboratories due to the ongoing personnel expense associated with the hiring of hundreds of dedicated, certified translators.

A much smaller regional lab estimated that they spent "tens of thousands" on NPI implementation. They noted the need to hire temporary workers to handle much of the IT modifications and testing, and the need to put off other improvements in their IT infrastructure during this time.

Timeframes and Issues

Regulatory Timeframes and Issues

While there has been much discussion regarding the conversion to ICD-10-CM it must be pointed out that as a code set adopted by the Secretary under the HIPAA regulations, diagnoses and procedure codes are subject to the regulatory process for changing adopted code sets. The process now requires that a Notice of Proposed Rule Making (an NPRM) be published by the Department of Health and Human Services. A public comment period (usually 60 days) is allowed for any comments to be submitted regarding the issues discussed in the proposed rule. Comments may be submitted by any person or organization, agreeing or disagreeing with the proposal and suggesting changes. Any issue in the proposal may be commented on, including whether or not to make the proposed changes, how long a period is necessary to make the changes, costs, process, etc. The Department is obligated to respond to each of the comment submitted. Based on the comments submitted, the Department will then publish the final rule with their responses to the comments and the final decision on each of the issues. The final rule will also set the date for when the new code set must be implemented (the compliance date). Under the law, the Secretary has discretion in setting the compliance date, but it must be at least 180 days after the final rule becomes effective. The time period is one of the key issues in the rule.

The regulatory process introduces significant uncertainty for implementation. The NPRM was published on Aug 22, 2008. While the length of the comment period is set in the NPRM, there is no required time frame for the Department to respond to the public comments and publish the final rule.   What is critical for providers is to make sure that their voice is heard in the public comment period. A review of tasks to be done (as detailed in this paper) and costs would be critical to providing useful comments to HHS as to what the providers want and need in the final regulation.

There has been some experience with the publication of other HIPAA regulations. There is generally a long time frame between the publication of the NPRM and the publication of the Final Rules. The initial transactions and coding NPRM was published in 1998, with a final rule published in 2000. However, only one rule has dealt with modifications to previously adopted standards (as the ICD-10 rule would).   In that situation, a proposed rule was published on May 31, 2002.   The final rule was published February 20, 2003 – 10 months later, with a six month implementation period. This was the fastest time between the proposed and final rules for any of the HIPAA standards. These changes were supported by the industry, and needed to be published in final by the end of February 2003 to correspond with other compliance dates. There was general agreement that the changes needed to be made and that the timing was critical. This is different from the ICD-10 situation, where there is disagreement in the industry about the need for the change in the code set and the implementation timing.

The uncertainty of the regulatory process has led to an inertia in the industry regarding making any changes until a final rule is published and a specific compliance date is set. Experience with the first set of HIPAA transaction standards and the National Provider Identifier confirms that observation.

Under current law, the Department must go through the entire regulatory process before adopting a revised standard. There has been activity in Congress to pass legislation to bypass the regulatory process and set a specific compliance date for the use of ICD-10. If any such legislation is passed, it will remove the uncertainty of the date and allow the process to begin.

A prerequisite for implementing ICD-10 is that the HIPAA standards for administrative transactions must first be upgraded to a version that supports ICD-10. The current standards do not, so the regulatory process must be completed first for that upgrade, with the ensuing implementation period. As discussed previously, neither the beginning date nor the timeframe for implementation of that upgrade will be known until the end of the regulatory process. It is expected that this implementation will cause disruptions for provider organizations which must be resolved before an ICD-10-CM implementation process could begin.

The previous NPI experience is possibly a guide to implementation timing. While NPI implementation was more burdensome on plans than providers, it still involved internal system changes – but to a lesser extent than ICD-10-CM will. The final NPI rule was published on January 3, 2004, with a compliance date of May 23, 2007. Despite over three years of time for implementation, the industry was not ready and needed an additional year. The revised date of May 23, 2008 has recently passed – over four years since the final rule publication, and there are still problems. Four years for implementation of NPI could signal that ICD-10-CM will take even longer.

Vendor Timeframes and Issues

Many providers rely heavily on vendors to provide their practice management and EHR software and/or services. These providers must work with vendors to determine when the vendors will be ready to start the testing and implementation of products and services which are able to use the ICD-10-CM code set.

There has been a classic stalemate between providers and vendors in the introduction of updated software. Vendors have a tendency to wait for customers (providers) to ask for the new versions; providers often wait for vendors to tell them they need to have a new version. This has often delayed the implementation of updated software and put providers behind a reasonable time schedule.

Each vendor will need to determine when they get started, how long the software development within their company might take, how long internal testing might take, and how long the customer testing and rollout will take. It is difficult to predict how long any vendor will take to do this work, but it will certainly be driven both by customer demand and regulatory deadlines.

There have been some estimates of this timeframe for upgrading to the 5010 version of the HIPAA standards, which will be a simpler task. Estimates are that vendors will take about one year for complete development and about 9 months for rollout to customers. Note that this gives customers the software, but does not include testing of the software with trading partners.

The rollout of software to all customers is another difficulty faced by many vendors. With hundreds or thousands of customers all needing to upgrade their software, it is almost impossible to do all of them at once. Some sort of a rolling schedule must be created. Some providers have to be ready to go first, others have to be ready to go last and have a minimum of testing time.

Another impact that needs to be considered is that if vendors are in the massive ICD-10-CM rollout process, they will have a difficult time maintain current software and being able to answer routine questions.

Provider Timeframes and Issues

The uncertainty facing vendors is also facing providers, who will have no clear idea if and when the implementation will begin or how long the implementation period will be. As discussed, it will be a major disruption to their clinical and administrative processes. Provider practices will first have to deal with analyzing their business processes and making necessary changes, then coordinating with vendors for the installation and testing of software, then deal with each of their health plan/clearinghouse trading partners to test the new software and processes.

 Using the upcoming change to HIPAA transactions implementation as a guide, this process was estimated to take a total of three years after final rule publication for all providers. This assumes equal complexity of the two tasks, which is probably not true. NPI implementation has taken over 4 years from final rule publication, which may be a more accurate guide to how long it will take the industry to implement.

A key issue for providers is getting the new coverage and other coding guidelines from health plans in enough time to react and make the necessary changes in their procedures. Provider will be forced to wait for health plans, which could delay their implementation processes.

Disruptions to Payment

Even after implementation, the impacts of this major change to coding would be felt and could be quite burdensome for practices. Claims denials or pends are expensive for practices to deal with, and generally are dealt with through a manual process. Any increase in the number of claims not processed and paid will first decrease provider cash flow, then increase both provider workload and plan workload to process denials. Providers will need to know ahead of time the change in documentation and coverage requirements to be able to adapt in time for implementation.

An estimate from a small practice indicated that because their billing system has the edits from health plans built in, their payment adjustment rate is only 1%, which has a minor impact on the practice. If there is not enough time to build in the changes in coverage from health plans, one could expect a significant rise in this rate with the accompanying strain on both providers and plans.

Cost Estimates

Previous studies on the implementation of ICD-10-CM produced a wide range of costs for industry wide implementation. Of greater interest to individual providers, however, is the specific cost of implementation to their practices.   This paper has attempted to identify the impacts that would occur if ICD-10-CM were to be adopted as a code set.   This section will attempt to estimate the costs involved for practices.

"Typical Practice 1"

Assume a typical practice with 10 providers, 1 full time coder, and 6 administrative staff.

Education

As discussed, education and training on the ICD-10-CM code set is a critical first step in a successful implementation. Each provider is expected to need 1.5 days of training, which can be delivered in several ways.

Some examples of training costs –

Self paced course for coders on ICD-10 - $1625

AHIMA ICD-10- CM overview (self paced) - $195

For this practice, costs would be $195 * 16 for the clinicians and administrative staff, and $1625 for the coder. Total training costs would be **$4745**. Note that this for self paced courses. Other alternatives would include in person training, on-site training, etc. These are expected to be more expensive and time consuming. Professional associations may also offer training at some cost to participants.

Business Process Analysis

Once training has been completed, an analysis of the practice operations must be done to determine the necessary changes to be made to adapt to the new code set. This should be relatively complete and time consuming, including a review of health plan contracts, documentation procedures, billing procedures – including the use of superbills, and patient procedures. A large university hospital system estimated that this would take several teams of professionals 3-4 months. With our "typical" practice, let us keep the 3-4 month time period and assume that this will take one person (the group administrator) about 25% of their time. Assuming a $105,000 (figure from MGMA) salary, this would mean a cost of about $12000.

Changes to Superbills

There would have to be, at the very least, a change to superbills and printing of new ones. Due to the expanded nature of the ICD-10-CM code set, it is likely that an electronic version would be necessary. Costs are unknown at this point, but one software firm currently offers an electronic superbill add on to their practice management system for $995 per user. The change to ICD-10-CM may also provide an impetus for a practice to move to an electronic health record with its expected costs.

IT Costs

From an earlier table, the IT costs for a 10 provider practice are between $10,000 and $20,000. The midpoint of that range is $15000.

Increased Documentation Costs

We have estimated a 4% increase in provider work time for documentation changes. Note that this is a permanent cost increase.

Per MGMA figure, a primary care physician's collections are approximately $370359 per year. Valuing a physician's at that, a 4% increase for a physician is a cost of approximately $14800. For a specialist, the collection figure is an average of $523,635 per year. A 4% increase in their time is worth about $20900.

Note that physicians can choose to not increase their time and simply see fewer patients.   That would result in a loss of income of a little less than 4%.

For our 10 provider practice, assuming a split of 5 primary care physicians and 5 specialists, this would result in a cost increase of $178,500.

From a national perspective, there are approximately 300,000 primary care physicians and 300,000 specialists. Increase in national costs would then be about $10,710,000,000 for increased documentation.

Increases in claim inquiries and reduction in cash flow

While the extent of this may be difficult to predict, it can certainly expected in the first year. Even a 1% disruption in cash flow may be damaging to providers. Each physician, on the average, collects (per MGMA) about $650,000 per year. A one percent disruption equates to $6500; for our ten provider practice this results in a loss of $65000 in the first year.

Total costs through first year

This relatively bare bones estimate a total cost of $ 285,195 through the first year of implementation. Even assuming a two year implementation period, this is a cost of over $140,000 per year for our "typical" practice.

Typical Practice 2 - "Small" Practice

Assume a small practice with three physicians and two administrative staff.

Education

This practice would not have a full time coder, but would need to educate one of the administrative staff more extensively . Training costs would be $1625 for the one administrative staff and $195 * 4 for the other staff and physicians. Total costs are $2405

Business Process Analysis

Once training has been completed, an analysis of the practice operations must be done to determine the necessary changes to be made to adapt to the new code set. This should be relatively complete and time consuming, including a review of health plan contracts, documentation procedures, billing procedures – including the use of superbills, and patient procedures. A large university hospital system estimated that this would take several teams of professionals 3-4 months. With our "typical" practice, let us keep the 3-4 month time period and assume that this will take one of the administrative staff about 25% of their time. Assuming a $60000 salary, this would mean a cost of about $6900

Changes to Superbills

There would have to be, at the very least, a change to superbills and printing of new ones. Due to the expanded nature of the ICD-10-CM code set, it is likely that an electronic version would be necessary. Costs are unknown at this point, but one software firm currently offers an electronic superbill add on to their practice management system for $995 per user. The change to ICD-10 may also provide an impetus for a practice to move to an electronic health record with its expected costs. For the small practice, this would amount to $2985.

IT Costs

From an earlier table, the IT costs for a 3 provider practice are between $5000 and 10000. The midpoint of that range is $7500

Increased Documentation Costs

We have estimated a 4% increase in provider work time for documentation changes. Note that this is a permanent cost increase.

Per MGMA figure, a primary care physician's collections are approximately $370359 per year. Valuing a physician's at that, a 4% increase for a physician is a cost of approximately $14800. For a specialist, the collection figure is an average of $523,635 per year. A 4% increase in their time is worth about $20900.

Note that physicians can choose to not increase their time and simply see fewer patients.   That would result in a loss of income of a little less than 4%.

For our 3 provider practice, assuming 3 primary care physicians, cost increases would be about $44000.

Increases in claim inquiries and reduction in cash flow

While the extent of this may be difficult to predict, it can certainly expected in the first year. Even a 1% disruption in cash flow may be damaging to providers. Each physician, on the average, collects (per MGMA) about $650,000 per year. A one percent disruption equates to $6500; for our 3 provider practice this results in a loss of $19500 in the first year.

Total costs through first year

This relatively bare bones estimate a total cost of $ **83290** through the first year of implementation for our "typical" 3 provider practice.

Typical Practice 3 – "Large" Practice

Our typical large practice has 100 providers, with 64 coding staff, 10 full time coders, 54 medical records staff.

Education

For this practice, costs would be $195 * 154 for the clinicians and administrative staff, and 10 *$1625 for the coder. Total training costs would be **$46280**. Note that this for self paced courses. Other alternatives would include in person training, on-site training, etc. These are expected to be more expensive and time consuming. Professional associations may also offer training at some cost to participants.

Business Process Analysis

Once training has been completed, an analysis of the practice operations must be done to determine the necessary changes to be made to adapt to the new code set. This should be relatively complete and time consuming, including a review of health plan contracts, documentation procedures, billing procedures – including the use of superbills, and patient procedures. A large university hospital system estimated that this would take several teams of professionals 3-4 months. With our "typical" practice, let us keep the 3-4 month time period and assume that this will take 4 persons about 25% of their time. Assuming a $105,000 salary, this would mean a cost of about $48000

Changes to Superbills

There would have to be, at the very least, a change to superbills and printing of new ones. Due to the expanded nature of the ICD-10-CM code set, it is likely that an electronic version would be necessary. Costs are unknown at this point, but one software firm currently offers an electronic superbill add on to their practice management system for $995 per user. The change to ICD-10 may also provide an impetus for a practice to move to an electronic health record with its expected costs. Total cost - $99500.

IT Costs

From an earlier table, the IT costs for a 100 provider practice are can be estimated to be $100000.

Increased Documentation Costs

We have estimated a 4% increase in provider work time for documentation changes. Note that this is a permanent cost increase.

Per MGMA figure, a primary care physician's collections are approximately $370359 per year. Valuing a physician's at that, a 4% increase for a physician is a cost of approximately $14800. For a specialist, the collection figure is an average of $523,635 per year. A 4% increase in their time is worth about $20900.

Note that physicians can choose to not increase their time and simply see fewer patients.   That would result in a loss of income of a little less than 4%.

For our 100 provider practice, assuming a split of 50 primary care physicians and 50 specialists, this would result in a cost increase of $1,785,000.

Increases in claim inquiries and reduction in cash flow

While the extent of this may be difficult to predict, it can certainly expected in the first year. Even a 1% disruption in cash flow may be damaging to providers. Each physician, on the average, collects (per

MGMA) about $650,000 per year. A one percent disruption equates to $6500; for our 100 provider practice this results in a loss of $650,000 in the first year.

Total costs through first year

For our large practice, this totals over $2.7 million.

Summary of Costs

	Typical Small Practice	Typical Medium Practice	Typical Large Practice
Education	$2405	$4745	$46280
Process Analysis	$6900	$12000	$48000
Changes to Superbills	$2985	$9950	$99500
IT Costs	$7500	$15000	$100000
Increased Documentation Costs	$44000	$178500	$1785000
Cash Flow Disruption	$19500	$65000	$650000
Total	**$83,290**	**$285,195**	**$ 2,728,780**

Summary and Conclusions

If ICD-10-CM were to be mandated as the code set to replace ICD-9-CM, it would have a significant effect on both the business and clinical processes of physician practices and clinical laboratories. The impact is expected to be greater than the impact of the NPI changes or the initial HIPAA changes, because virtually every aspect of the business – documentation, quality measures, coverage and payment policies, etc., would be affected by the of changing the coding of diagnoses to a greater specificity.

This change will have some one-time costs, such as training for most staff, changes to superbills to include ten times as many codes, upgrading IT systems for the new code set and changing templates, and reviewing insurance plan contracts for changes to payment and coverage. The size of a practice and vendor costs play a major part in the overall cost of this transition. Total costs can be expected to range anywhere from around $83000 for a small three person practice to the millions for the very largest practices.

In addition to the one-time costs involved, there will also be permanent additional costs. The greater specificity of the ICD-10-CM code set will require more specific documentation in provider records. This will take physicians additional time, adding about 3-4% to their workload. Again, this is a permanent increase.

For clinical laboratories, besides the changes in IT systems and training, they will be faced with additional difficulties of getting the correct code from ordering physicians. While a relatively small problem today, any increase in incorrect or missing coding will have a significant impact on both their workload and cash flow.

Physician practices and laboratories face additional issues which will delay their implementation. Much of their documentation and insurance decisions are driven by the coverage and reimbursement policies of health plans. These policies will change to be based on the more specific ICD-10-CM codes. Practices will have to wait to see these changed policies before making their business process changes. Therefore, much of their work will have to wait for health plan decisions.

Should the change be made, it can be expected that there will be a significant learning curve for providers in the documentation and coding of diagnoses in ICD-10-CM. This will cause payment delays and claim rejections, probably for at least a year. The cash flow of practices will thus be negatively affected.