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Wilmington, DE 19850

(302) 324-2500
(800) 235-9100

AFFIDAVIT OF PUBLICATION

State of Delaware

Personally appeared before me this 7th day of December, 2010.

I, Kristin Segner, of The News Journal Company, a daily newspaper printed and published in the County of New Castle County, State of Delaware, who, being duly sworn states that the advertisement of MORRIS, NICHOLS, ARSHT & TUNNELL - PUBLIC HEARING - IDENTIFICATION OF PARTIES IN INTEREST

was published in The News Journal on December 3, 4, 5, 6, 7, 2010

Kristin Segner
Name

Legal Coordinator
Title

Sworn to before me this 7th day of December, 2010

Wanda James
Notary Public

Wanda James
Notary Public
State of Delaware
Commission expires 11/02/2012

Fax Numbers:
Accounting: 324-2554
Circulation: 324-2945
Classified: 324-5511
Human Resources: 324-2578
Info Systems: 324-2969
Marketing: 324-2557
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**IN RE: THE PROPOSED
AFFILIATION OF
BCBSD, INC.,
DOING BUSINESS AS
BLUE CROSS
BLUE SHIELD
OF DELAWARE WITH
HIGHMARK INC.**

**PUBLIC HEARING
IDENTIFICATION OF
PARTIES IN INTEREST**

Highmark Inc., a Pennsylvania nonprofit corporation, has filed with Insurance Commissioner Karen Weldin Stewart, pursuant to the Commissioner's general regulatory authority under 18 Del. C. § 301 et seq., a proposed plan to affiliate with BCBSD, Inc., a Delaware nonprofit health service corporation. The Hearing Officer, appointed by the Commissioner's Order, dated November 4, 2010, will hold a hearing open to the public to consider the merits of the affiliation proposal, although no hearing date has been established relating to the merits of the proposal.

Any person who seeks to be determined a party in interest to this proceeding must submit to the Delaware Department of Insurance a statement, in writing, providing his or her name; the name of his or her organization, if any; and the name of his or her counsel, if any. The statement must further provide a brief statement explaining why he, she, or the organization which he or she represents, has a significant pecuniary interest in the proceeding, which interest is not adequately represented by an existing party, and the protection of which otherwise will be impaired or impeded unless such person is admitted as a party, and that therefore, pursuant to the Pre-Hearing Order, dated October 20, 2010, such person should be declared a party to this proceeding. The foregoing written statement must be submitted to Linda Sizemore, Director of Company Regulation, at the Delaware Department of Insurance, 841 Silver Lake Boulevard, Dover, DE 19904-2465, no later than 4:00 p.m. Tuesday, December 28, 2010, by mail, hand, parcel service, fax delivery (302-739-2709), or electronic mail (Linda.Sizemore@state.de.us). If delivered by fax or electronic mail to the Delaware Department of Insurance, the original signed document must be received by the Delaware Insurance Department within two (2) days of the transmission. A duplicate submission shall be simultaneously served on counsel for each of the original parties to the proceeding by any one of the following methods: mail, hand, parcel service, fax delivery, or electronic mail, as follows:

David S. Swayze, Esquire, attorney for BCBSD, Inc., at Parkowski, Guerke & Swayze, P.A., 800 King Street, Suite 203, Wilmington, DE 19801 (fax: 302-654-3033; email: dswayze@pgslegal.com); Michael Houghton, Esquire, attorney for the Delaware Department of Insurance at Morris, Nichols, Arsh & Tunnell, LLP, 1201 North Market Street, P.O. Box 1347, Wilmington, DE 19899 (fax: 302-658-3989; email: mhoughton@mnat.com); Frederick K. Campbell, Esquire, attorney for Highmark Inc., at Mitchell & Williams, 425 West Capitol Avenue, Suite 1800, Little Rock, AR 72201-3525 (fax: 501-688-8807; email: FCampbell@mwlaw.com); and Timothy P. Mullaney, Sr., Esquire, attorney for the Delaware Department of Justice, at P.O. Box 1227, Dover, DE 19901 (fax: 302-677-6499; email: Tim.Mullaney@state.de.us)

The Hearing Officer will hold a public hearing at the Delaware Department of Insurance Hearing Room, 841 Silver Lake Boulevard, Dover, DE 19904 at 9:30 a.m. on Tuesday, January 18, 2011 to hear argument in support of or in opposition to such requests for party status by the applicant or parties to the proceeding. If necessary, the Hearing Officer may continue such hearing to a date and time to be set by the Hearing Officer. Public Comment at this hearing shall be limited to the party status issue. There will be no opportunity for Public Comment at this hearing on the merits of the affiliation proposal. Public Comment on the merits of the affiliation proposal from any person not afforded party status may be provided in writing or orally at a subsequent public hearing to be scheduled.

Additional information about this matter is available at <http://www.delawareinsurance.gov/departments/bcbbs/bcbbs.shtml>. 12/3,4,5,6,7-NJ

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Independent Newspapers, Inc.

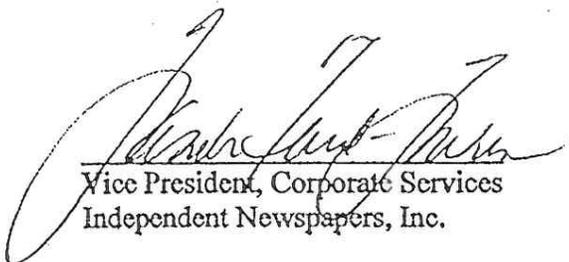
P.O. Box 7001 • Dover, Delaware • 19903 • 1-800-282-8586

State of Delaware:

ISS.

Counties of Kent:

Before me, a Notary Public, for the County and State aforesaid, Wanda Ford-Waring, known to me to be such, who being sworn according to law deposes and says that she is an officer of Independent Newspaper Inc, the Publisher of the **The Delaware State News**, a daily newspaper published at Dover, County of Kent, and State of Delaware, and that the notice, a copy of which is hereto attached, as published in the **The Delaware State News** in its issue of April 19-23, 2011,


Wanda Ford-Waring
Vice President, Corporate Services
Independent Newspapers, Inc.

Sworn to and subscribed before me this 23rd

Day of April A.D. 2011

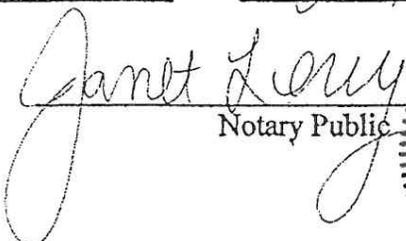

Janet Levy
Notary Public



EXHIBIT
JOINT-60

**BEFORE THE INSURANCE COMMISSIONER
FOR THE STATE OF DELAWARE****IN RE: THE PROPOSED AFFILIATION OF BCBS, INC., DOING
BUSINESS AS BLUE CROSS BLUE SHIELD OF DELAWARE,
WITH HIGHMARK INC. Docket No. 1509-10****PUBLIC NOTICE OF PUBLIC INFORMATION SESSIONS**

Highmark Inc. ("Highmark"), a Pennsylvania nonprofit corporation, has filed with Insurance Commissioner Karen Weldin Stewart, pursuant to the Commissioner's general regulatory authority under 18 Del. C. § 301 et seq., a proposed plan to affiliate with BCBS, Inc. ("BCBS"), a Delaware nonprofit health service corporation. The Hearing Officer, appointed by the Commissioner's Order, dated November 4, 2010, will hold a public hearing later this year to consider the merits of the affiliation proposal.

To provide an opportunity for policyholders, subscribers, and all interested persons to learn more about the proposed affiliation and to present comments relevant to the proposed affiliation in advance of the hearing to consider the merits of the proposed transaction, the Delaware Department of Insurance (the "Department"), with the assistance of Blackstone Advisory Services L.P., advisor to the Department for purposes of evaluating the proposed affiliation, will hold the following series of public information sessions:

Monday, May 16, 2011, 6:30 pm-9:30 pm

Delaware Technical & Community College
William A. Carter Partnership Center, Room 555 A & B
Georgetown, DE 19947

Tuesday, May 17, 2011, 6:30 pm-9:30 pm

Delaware Department of Insurance
Hearing Room
841 Silver Lake Boulevard
Dover, DE 19904

Thursday, May 19, 2011, 6:00 pm-9:00 pm

Carvel State Building
Auditorium, M Level
820 North French Street
Wilmington, DE 19801

At the start of each of the public information sessions, representatives of Highmark and BCBS will make short presentations concerning the proposed affiliation. Following those presentations, the floor will be opened for public comments and questions. Deputy Insurance Commissioner Gene Reed will facilitate the sessions.

Be advised that all comments received in advance of or during the sessions will be transcribed and will become part of the public record regarding this filing. Written answers to each question posed to Highmark and BCBS (together, the "Applicants") in advance of or during the sessions will be provided by the Applicants and posted on the Department's website as soon as practicable after the information sessions.

Anyone wishing to speak about this proposed transaction at one of the above public information sessions may follow the procedure outlined below to preregister and submit advance written comments before Monday, May 9, 2011, at 4:00 p.m. Anyone who has not preregistered by this date but who wishes to speak must register within the first thirty minutes of each session, and will be permitted to speak at that session. Each speaker (or multiple speakers representing the same organization or entity) will be limited to a 5-minute presentation.

Everyone is strongly encouraged to preregister and provide advance copies of their comments. To preregister to speak at one of the above sessions and/or to submit advance copies of comments, please submit the following information, before Monday, May 9, 2011, at 4:00 p.m., to Linda Sizemore, Director of Company Regulation, via mail, hand, or parcel delivery (Delaware Department of Insurance, 841 Silver Lake Boulevard, Dover, DE 19904-2465), via fax (302-739-2709), or via electronic mail (Linda.Sizemore@state.de.us): name; address; other contact information, such as telephone or email address; organization or entity represented, if any; date of session to attend; and written comments and/or questions.

Persons who are unable to attend the public information sessions or who would prefer to submit written comments in lieu of speaking at the information sessions may submit written comments by delivering a copy of their comments to Linda Sizemore, using the contact information above.

Individuals who require the assistance of auxiliary aids or services to participate in or attend one of these public information sessions can contact Linda Sizemore, using the contact information above.

Additional information about this matter is available at the following website:
<http://www.delawareinsurance.gov/departments/bcbs/bcbs.shtml>
384409 DSN 4/19-23/2011

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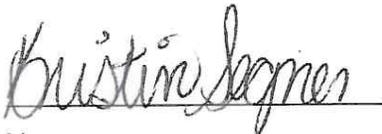
(302) 324-2500
(800) 235-9100

AFFIDAVIT OF PUBLICATION

State of Delaware

Personally appeared before me this 25th day of April, 2011.

I, Kristin Segner, of The News Journal Company, a daily newspaper printed and published in the County of New Castle County, State of Delaware, who, being duly sworn states that the advertisement of PUBLIC NOTICE OF PUBLIC INFORMATION SESSIONS - IN RE: THE PROPOSED AFFILIATION OF BCBSD, INC., DOING BUSINESS AS BLUE CROSS BLUE SHIELD OF DELAWARE, WITH HIGHMARK INC. (Docket No. 1509-10) was published in The News Journal on April 19, 20, 21, 22, 23, 2011.

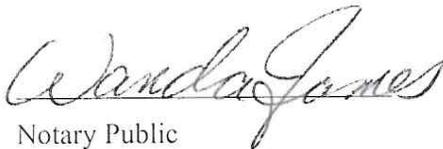


Name

Legal Coordinator

Title

Sworn to before me this 25th day of April, 2011



Notary Public

Wanda James

Notary Public

State of Delaware

Commission expires 11/02/2012

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BEFORE THE
INSURANCE
COMMISSIONER FOR
THE STATE OF
DELAWARE

IN RE: THE PROPOSED
AFFILIATION OF BCBS
INC., DOING BUSINESS
AS BLUE CROSS BLUE
SHIELD OF DELAWARE,
WITH HIGHMARK INC.

Docket No. 1509-10

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PUBLIC INFORMATION
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Additional information about this matter is available at the following website:
<http://www.delawareinsurance.gov/departments/bcbs/bcbs.shtml>.
4/19,20,21,22,23-NJ

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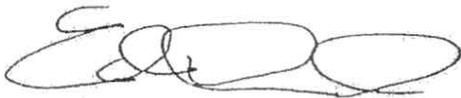
INDEPENDENT NEWSPAPERS, INC.

P. O. Box 7001 • Dover, Delaware • 19903 • 1-800-282-8586

State of Delaware:

County of Kent:

Before me, a Notary Public, for the County and State aforesaid, Edward Dulin, known to me to be such, who being sworn according to law deposes and says that he is President of Independent Newspapers, Inc. / Delmarva, the publisher of **The Delaware State News**, a daily newspaper published at Dover, County of Kent, and State of Delaware, and that the notice, a copy of which is hereto attached, as published in **The Delaware State News** in its issue of September 10-14, 2011.



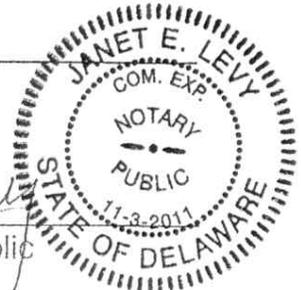
President
Independent Newspapers, Inc. / Delmarva

Sworn to and subscribed before me this 14th

Day of September A.D. 2011

**EXHIBIT
JOINT-62**


Notary Public



Legal Notice Legal Notice Legal Notice

**BEFORE THE INSURANCE COMMISSIONER
FOR THE STATE OF DELAWARE**

**IN RE: THE PROPOSED AFFILIATION OF BCBS, INC.,
DOING BUSINESS AS BLUE CROSS BLUE SHIELD
OF DELAWARE, WITH HIGHMARK INC.
Docket No. 1509-10**

PUBLIC NOTICE OF PUBLIC HEARING

Highmark Inc. ("Highmark"), a Pennsylvania nonprofit corporation, has filed with Insurance Commissioner Karen Weldin Stewart, pursuant to the Commissioner's general regulatory authority under 18 Del. C. § 301 et seq., a proposed plan to affiliate with BCBS, Inc. ("BCBS"), a Delaware nonprofit health service corporation. The Hearing Officer, appointed by the Commissioner's Order, dated November 4, 2010, will hold a public hearing to consider the merits of the affiliation proposal as follows:

**Wednesday, October 5, 2011, 9:00 a.m.
Thursday, October 6, 2011, 9:00 a.m.
Friday, October 7, 2011, 9:00 a.m.**

**Delaware Department of Insurance
Hearing Room
841 Silver Lake Boulevard
Dover, DE 19904**

The purpose of the public hearing is to determine whether the Commissioner should approve the affiliation of BCBS with Highmark. Any testimony or documentary evidence which the Hearing Officer determines does not address a matter within the scope of the hearing is subject to exclusion by the Hearing Officer.

Any person, whether or not a party to the proceeding, may appear at the hearing and present testimony in aid of the inquiry; provided, however, that the Hearing Officer shall have the right to limit any testimony which the Hearing Officer determines is unduly repetitive, plainly irrelevant, immaterial, or privileged. The Hearing Officer has designated the final day of the public hearing, Friday, October 7, 2011, for members of the public to have the opportunity to comment orally on the proposed affiliation. Anyone wishing to comment on the proposed affiliation transaction during the final day of the public hearing, Friday, October 7, 2011, is encouraged to preregister by 4:00p.m. on October 4, 2011. To preregister, please submit the following information, by October 4, 2011, 4:00pm, to Linda Sizemore, Director of Company Regulation, via mail, hand, or parcel delivery (Delaware Department of Insurance, 841 Silver Lake Boulevard, Dover, DE 19904-2465), via fax (302-739-2709), or via electronic mail (Linda.Sizemore@state.de.us): name; address; other contact information, such as telephone or email address; and organization or entity represented, if any. Anyone who has not preregistered by this date but who wishes to comment at the hearing may appear on Friday, October 7, 2011, at 9:00am, at Delaware Department of Insurance, Hearing Room, 841 Silver Lake Boulevard, Dover, DE 19904. Upon arrival at 9:00am on October 7, all persons wishing to comment must sign in.

Any person may make written submissions to be considered by the Hearing Officer up to and including Friday, October 14, 2011, 4:00p.m., when the record will close. Written submissions must be furnished to the Hearing Officer, via the Delaware Department of Insurance, and to counsel for all parties.

Written submissions or comments for the Hearing Officer should be delivered by Friday, October 14, 2011, 4:00p.m., to Linda Sizemore, Director of Company Regulation, at the Delaware Department of Insurance, 841 Silver Lake Boulevard, Dover, DE 19904-2465, by mail, hand, parcel service, fax delivery (302-739-2709), or electronic mail (Linda.Sizemore@state.de.us). If delivered by fax or electronic mail to the Delaware Department of Insurance, the original signed document must be received by the Delaware Insurance Department within two (2) days of the transmission. A duplicate submission shall be simultaneously served on counsel for each of the parties to the proceeding by any one of the following methods: mail, hand, parcel service, fax delivery, or electronic mail, as follows: David S. Swayze, Esquire, attorney for BCBS, Inc., at Parkowski, Guerke & Swayze, P.A., 800 King Street, Suite 203, Wilmington, DE 19801 (fax: 302-654-3033; email: dswayze@pgslegal.com); Michael Houghton, Esquire, attorney for the Delaware Department of Insurance at Morris, Nichols, Arshat & Tunnell, LLP, 1201 North Market Street, P.O. Box 1347, Wilmington, DE 19899 (fax: 302-658-3989; email: mhoughton@mnat.com); Frederick K. Campbell, Esquire, attorney for Highmark Inc., at Mitchell & Williams, 425 West Capitol Avenue, Suite 1800, Little Rock, AR 72201-3525 (fax: 501-688-8807; email: RCampbell@mwlaw.com); and Ian McConnel, Esquire, attorney for the Delaware Department of Justice, at P.O. Box 1227, Dover, DE 19901 (fax: 302-577-6499; email: Ian.McConnel@state.de.us).

Be advised that all comments received in advance of, during, or following the hearing will be transcribed if delivered orally and will become part of the public record regarding this filing.

Individuals who require the assistance of auxiliary aids or services to participate in attend the public hearing can contact Linda Sizemore, using the contact information above.

Additional information about this matter is available at the following website:
<http://www.delawareinsurance.gov/departments/bcbs/bcbs.shtml>.

397436 DSN 9/10-14/2011

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Additional information about this matter is available at the following website:
<http://www.delawareinsurance.gov/departments/bcbs/bcbs.shtml>
9/10, 11, 12, 13, 14-NJ

0110862776-01

ROBERT E. NOLAN COMPANY
SIMSBURY, CONNECTICUT AND DALLAS, TEXAS

Replacing ICD-9-CM with ICD-10-CM and ICD-10-PCS Challenges, Estimated Costs and Potential Benefits

PREPARED FOR
BLUE CROSS AND BLUE SHIELD ASSOCIATION

PREPARED BY
ROBERT E. NOLAN COMPANY

OCTOBER 2003

EXHIBIT
JOINT-64

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I. Executive Summary

The Robert E. Nolan Management Consulting Company evaluated the costs and implications associated with replacing the ICD-9-CM diagnostic classification system with ICD-10-CM and ICD-10-PCS for key segments of the health care industry. Currently, the National Committee on Vital and Health Statistics (NCVHS) is considering such a proposal.

Key Findings:

Partial Industry Estimates Total \$6-\$14 Billion

Our estimate concludes that key segments of the health care industry would incur significant expenditure of between \$6 to nearly \$14 billion during a two- to three-year implementation period. The chart below summarizes the costs by health care organization and payer groups:

Chart 1: Summary of cost impacts for providers and payers (in billions)

Area of Impact	Providers (Physician & Facilities)	Health Plans	Medicaid/ Medicare	Cost Ranges
Systems implementation	\$2.6 – 8.2 Billion	\$.4 – 1.0 Billion	\$.7 – 1.4 Billion	\$3.7 – 10.6 Billion
Training	\$1 – 1.4 Billion	\$.06 – 0.1 Billion	Not estimated	\$1.1 – 1.5 Billion
Productivity loss	\$.3 – .4 Billion	Not estimated	Not estimated	\$.3 – .4 Billion
Re-work	\$.3 – .6 Billion		Not estimated	\$.3 – .6 Billion
Contract renegotiation	\$.1 – .4 Billion		Not estimated	\$.1 – .4 Billion
Cost range for implementation				\$5.5 – 13.5 Billion
Long-term loss of coding productivity (annual increase in operating costs)				\$.15 – .38 Billion

It is important to note that this is a conservative study. It excludes many providers such as nursing homes, clinical labs and Durable Medical Equipment vendors. Similarly, a large number of payer organizations have been excluded such as third party administrators, clearinghouses and many small and medium insurers. These providers and payer entities were excluded because they were unable to develop initial cost estimates needed in the study.

The technical modifications alone would affect virtually every system providers and payers use, putting the effort on par with the effort required for Y2K. Among the tasks that would need to be completed are installing new code sets, re-mapping interfaces and recreating all reports used by providers and payers in clinical, financial, reimbursement and quality analysis.

Implementation will also require extensive education and outreach, as well as a wide-ranging effort to train coders, physicians, nurses, and other hospital and payer staff.

While a \$6 to nearly \$14 billion estimate in and of itself represents a major undertaking, its significance is magnified when viewed in the context of the tens of billions of dollars the industry has already devoted to Y2K, HIPAA privacy, transactions and codes sets, and security over the past four years. Many management and staff we interviewed – both providers and payers -- expressed concern about another massive implementation coming so soon on the heels of HIPAA.

Implications of Converting to ICD-10

- **Short-term “data fog”:** Because of code disconnects between ICD-9-CM and ICD-10-CM and ICD-10-PCS, existing medical knowledge would be degraded significantly for a period of three to five years. While crosswalks have been or are being attempted between the current and proposed code sets, it is important to understand that, to date, they cannot address all of the comparability issues and thus do not solve the problem of data continuity.
 - The Canadian experience reveals the presence of a data fog around clinical, diagnostic and procedural trends until enough time passes for statisticians and analysts to understand data in the “new world” of ICD-10-CM or ICD-10-PCS.
 - Upon conversion to ICD-10 for mortality statistics, Florida reported an upsurge in AIDS-related deaths. Upon closer examination, this increase was found to be solely attributable to converting to ICD-10 codes.

- **Likely backlogs and payment delays:** During the initial transitional period, the time required for providers and their coding experts to code claims properly will increase significantly. This is a clear lesson learned from virtually every country's experience. An error by any player will affect not only its own transactions but also all others in the subsequent flow of clinical data and funds.
 - These coding backlogs are likely to result in major payment slowdowns, causing enormous cash flow problems and gaps in data for payers. Other consequences of such a slowdown are increased inquiries from patients and providers, short-term borrowing costs, and potential under and over payments.
- **Potential increase in fraud and abuse:** A change in the underlying claim code sets would necessitate the re-writing of all of the rules to determine fraud patterns. It would then take a period of years to refine these rules to bring them back to the level of sophistication and accuracy represented in the current software. It should be noted that with \$1.5 trillion in overall health care expense, a very small percentage increase in fraud can produce significant excess costs.

Benefits of ICD-10-CM and ICD-10-PCS

Based on our research, it is our opinion that the vast majority of benefits asserted by proponents cannot be achieved by a conversion to ICD-10-CM or ICD-10-PCS without first implementing a standard clinical vocabulary. For instance, while proponents of ICD-10-CM and ICD-10-PCS assert that the classification system would improve the monitoring of outcomes in health care, we found that academic studies on classifications emphasize the need for standard clinical terminology if improvements to outcomes are to be achieved.

Other benefits ascribed to ICD-10-CM and ICD-10-PCS include improved trending abilities, reduced medical review of claims, improved fraud and abuse detection, and improved ability to negotiate contracts between providers and payers. Based on our research, benefits asserted by proponents are uncertain and unproven.

II. Systems Expense Impacts

Hospital Systems Cost Estimates

How extensive is the switch to ICD-10-CM and ICD-10-PCS likely to be for hospitals? While this question is difficult to answer with precision, we believe the following sample quotes accurately represent the scope of the implementation:

“Diagnosis and procedure codes are integral to the treatment and payment process in today’s health care industry. Although these codes change yearly, the changes are minor in nature to accommodate new medical conditions or treatment procedures... ICD-10 however, is a massive overhaul of the coding scheme and will require field size expansion, change to alphanumeric composition, and complete redefinition of code values and their interpretation. In effect, this will be the most significant overhaul of the medical coding system since the advent of computers.”¹

“The move to ICD-10-CM is much bigger in the health care industry than Y2K ever was.”²

Given these statements, we attempted to place the ICD-10 implementations in the context of recent large-scale regulatory changes requiring technology and process modifications. The two efforts that appeared most related were the transactions and code set aspects of HIPAA and Y2K. Several of the interviews we conducted compared ICD-10 to those projects as did some of the literature we reviewed.

Based on emerging information about HIPAA implementation, we believe a credible starting point for the amount of effort is 50-100 percent more than that required for HIPAA compliance (transactions and code sets only) for large facilities. However, we believe the actual effort required could easily climb to 3-4 times that number. The Department of Health and Human Services’ (DHHS) original development estimate for hospital implementation of the transactions and code sets for HIPAA was \$1.4 billion. In an earlier study³, we found this estimate to be substantially understated, however we have used HHS’ estimate in keeping with a conservative approach. The HIPAA work is relevant and instructive as it, like ICD-10, involved every hospital, was systems-related and involved both legacy and non-legacy systems remediation or

¹ Issues Surrounding the Proposed Implementation of ICD-10, Workgroup for Electronic Data Interchange Subcommittee on ICD-10

² “Implementing ICD-10” by Lori Becks, RHIA and Sheri Poe Bernard, CPC published by Ingenix, 2003

³ “Cost/Benefit Analysis HIPAA Transactions and Code Sets,” Robert E. Nolan Company, Inc., 2001

software upgrades. It also involved data sets and transmission standards, and while not the same as ICD-10-CM and ICD-10-PCS, has similar elements.

In a large scale regulatory change, organizations find that the planning, analysis and team formation often involve significant resources in their own right. Technology and process analyses performed to evaluate the effort for HIPAA ranged from a low of \$25,000 in one interview we conducted to a high of \$500,000 for state programs like Medicaid. While much of this also involved privacy and security, a substantial portion was directed at systems analysis.

In the table below, we captured from secondary literature some of the key planning and team formation steps involved in HIPAA and extrapolated these to ICD-10-CM and ICD-10-PCS. We found the description of the effort involved for implementing ICD-10-PCS by the 3M team especially useful in building an implementation model. The extent of this work was confirmed in our discussions with hospital leadership. The ranges reflect differences between the large and small facilities.

Chart 2: Planning, Team Formation and Analysis of ICD-10-CM and ICD-10-PCS: Hospital Setting

Project Step	FTE* Range	HIPAA TCS	FTE Range	ICD-10	Source or Assumption
Assign project leadership	0.25–1	\$25–70,000	0.25–1	\$25–70,000	Professional Costing Approach**
Assemble project team and develop implementation plan	0.5–2	\$50–140,000	0.5–4	\$50–\$280,000	Preparing for ICD-10-PCS***
Perform gap and systems analysis	0.25	\$5–25,000	0.5–3	\$50–210,000	Professional Costing Approach, others
Totals	1–3.25 FTE	\$80–\$235,000	1.25–8 FTE	\$125–\$560,000	

*FTE is full-time equivalent; project leadership is assumed at an annual cost of \$100,000; project staff is estimated at \$70,000

**D'Arcy Guerin Gue et al, Phoenix Health Systems, October 2002

***"Preparing for ICD-10-PCS," Thelma M. Grant, MBA, RHIA; Sharon R. Powell, RHIA; Barbara Steinbeck, RHIT; For the Record, Vol. 14 No. 25 December 16, 2002 (The authors are employees of the 3M Company, which develops coding software and other classification products.)

In essence, we believe these costs would apply to facilities even if vendors provided systems upgrades for little or no cost. While other studies may use this “no cost approach,” we believe this assumption to be highly speculative at best. Many providers made similar assumptions about HIPAA compliance and have since learned that vendors cannot or would not provide “free” upgrades when extensive work or a complete overhaul of systems is required.

Our estimates for hospital implementation of transaction and code sets range from a low of \$100,000 to a high of \$5 million per hospital. Those estimates come from three sources: the California Healthcare Association, Tillinghast-Towers Perrin and the Phoenix Health Services provider HIPAA surveys (in the latter case, the costs include privacy and security, but we assumed that between 50–70 percent of the costs were for transactions only). While imprecise and varied, these estimates provide at least a context for estimating the costs associated with implementation of large scale regulatory changes that involve significant systems remediation, training and process change.

At the higher end of our model, we compared implementation costs for ICD-10-CM and ICD-10-PCS with Y2K. We believe such a comparison to be instructive because Y2K required a review of all systems, new coding or updates to software and testing of those systems and their related interfaces. ICD-10-CM and ICD-10-PCS would require less review since not all systems store or use diagnosis or procedure codes (human resources, payroll, direct deposit, scheduling), but unlike Y2K, the code sets involved are much more complex to convert and test than date fields and the impact on reporting and analytical systems that rely on these code sets would be significant. In simple terms, this effort would require installing new code sets, re-mapping interfaces and recreating every report used by hospital staff in clinical, financial, reimbursement and quality analysis.

A hospital CIO for a large system in Texas stated that the costs would exceed Y2K in the depth of the implementation.

As in Y2K, vendors would assist in the remediation of their software while IT staffs would have had to perform the updates to legacy systems and interfaces and would be heavily involved in testing. Unlike Y2K, ICD-10-CM and ICD-10-PCS would require little hardware review or purchase, nor would it require replacement of devices. For these reasons, we believe the upper end of the effort required for ICD-10 implementation to be 25 percent less than that required for Y2K implementation. The American Hospital Association estimated Y2K costs at \$8 billion for hospitals.⁴ (Some hospital systems like Catholic Healthcare West and UCSF Stanford Health Care reported spending in excess of \$100 million for

⁴ AHA President Dick Davidson, December 14, 2000, in a press statement on HIPAA privacy costs for hospitals

Y2K compliance, while Kaiser Hospitals reportedly spent more than twice that amount, confirming that the \$8 billion appears reasonable.)⁵

Next, we compared the implementation in a large, complex facility to the effort required by software vendors to convert their own suite of products. Susan Seare of Medicode, a medical software vendor, estimated costs for her company in 1997 testimony to NCVHS on ICD-10 migration as follows: "A far greater challenge to time, human and monetary resources is the clinical decision-making which must take place to develop the editing/unbundling rules tables for both diagnostic and procedure codes as well as evaluating the mapping exercises from the old system to the new. Based on similar tasks, a rough estimate of programming and clinical costs would be \$500,000 to \$750,000 to update all databases and subsequently all products."⁶ In a subsequent interview, she provided a new figure of \$2 million to upgrade their suite of products.

One software vendor we spoke with said the ICD-10-CM and ICD-10-PCS implementation impacts every form and every table with a diagnosis or procedure code and would involve "unbelievable man hours." Another vendor said that upgrades such as these are "part of doing business," though in our discussions with vendors we found that many would recoup costs through upgrades that a client would pay for or through higher licensing or maintenance fees. In addition, these vendors would likely charge for redesigning and testing interfaces to hospital legacy systems.

For larger facilities with a mix of legacy and vendor-supported systems, the vendor estimate provides insights into their own unique system expense for the transition. This cost would include IT staff expense, software purchases or upgrades, operations and analysis staff, management and planning expense. Because of the large number of systems in those facilities, we place the range between \$1.5 and \$5 million, depending upon the age, complexity and kind of technology deployed. We believe that mid-sized and small institutions would have significantly less expense because of the nature of their system architecture, which is more highly vendor dependent.

In developing system expense estimates, one hospital IT executive estimated that the cost of a systems remediation for a 390-bed teaching hospital maintaining 50 interfaces could fall between \$750,000 and \$1.2 million. Those we spoke to in large or multi-site facilities confirmed that virtually every system in a hospital uses, stores and processes diagnosis and procedure codes and many of these systems are linked through interfaces to share information or to extract it for analysis.

⁵ "RX for Y2K: Hospitals spending millions," Peter Delevett, Silicon Valley/San Jose Business Journal, February 1999

⁶ Testimony to NCVHS, April 15-17, 1997

The numbers of systems can be very large. For instance, one hospital CIO we spoke with counted 145 systems, 45 of which were identified as critical. The hospital, a large facility in the upper Midwest, maintains 80 interfaces. Another IT executive at a large teaching hospital had a number of disparate systems, some vendor supported, others legacy, with “more than” 25 interfaces. Smaller hospitals we spoke with say they would most likely depend upon vendors to supply new versions of software at relatively little cost. It is also likely that some vendors would either assess clients for the upgrade or increase license or subscription fees to recoup costs.

The following diagram summarizes our estimates for these hospital systems.

Chart 3: Hospital Systems Cost Estimates

400 Beds Plus		100–400 Beds		Fewer Than 100 Beds		Total Cost Range
Number Of Entities	Organizational Cost	Number Of Entities	Organizational Cost	Number Of Entities	Organizational Cost	
440	\$1.5–\$5 million	2,201	\$500,000–\$1.5 million	2,267	\$100–\$250,000	\$2–\$6 Billion
Source for bed size: American Hospital Association Hospital Statistics, 2003 edition; community hospitals only						

Physician Offices And Solo Practitioner Cost Estimates

The implementation and use of ICD-10-CM would have systems impact for all physician practices. In large physician organizations, that include legacy and vendor-supported software, costs will be similar to larger hospital complexes.

Systems impacted for large practices include clinical, financial, analysis, scanning and billing software (the cost of ICD-10-CM upgrades might or might not be included in new releases). Overall, we put the range at between \$500 million and \$1.6 billion for total system expenses for provider organizations while independent physicians in small practices can expect to spend \$181 million.

Here again, we found few provider organizations able to provide a specific estimate for system expenses. However, a high-level executive with a large, medical group practice estimated a minimum of 50,000 hours to convert and test systems. He added that it would likely cost his company \$5 million or more, most of which would be staff expense and

would involve a “Y2K scale of effort” without the need for hardware purchases. Other large provider organizations expressed similar ranges and felt the effort would likely become a massive IT and process change initiative for the complex multi-specialty practices.

Mid-sized provider organizations would also face significant costs, even if vendors provide software versions at little cost. One systems analyst felt that the practice management software upgrades would come in regular releases, but that installing, testing and rewriting interfaces would be an internal systems cost of more than 10,000 hours. She also thought that re-tooling forms would be a significant effort by internal and vendor staff.

Overall, our assessment is that the largest provider organizations (those with more than 100 physicians) would face systems conversion expense, report re-mapping and testing expenses of \$2–\$6 million. We placed the mid-sized groups (50–100 physicians) at between \$400,000 and \$1.2 million, while the smallest practices we estimated at just \$2–\$8,000. Individual physicians would bear some expense in conversion and testing expense of between \$1,000 and \$4,000.

Chart 4: Provider Organizations And Physician Practice System Expense Estimates

	Large or complex		Mid-sized		Small		Total Cost Range
	Number	Organizational cost	Number	Organizational cost	Number	Organizational cost	
Provider organizations (3 or more physicians)	200	\$2 – 6 million	240	\$400,000 – \$1.2 million	19,560	\$2 – 8,000	\$0.5 – 1.6 billion
Independent physicians (solo or two)					145,000	\$1 – 4,000	\$145 – 580 million
Total							\$645 million – \$2.2 billion

Ancillary providers also would bear system expense. These entities include nursing homes, home health companies, mental health and substance abuse facilities, physical therapists, and other providers. There are nearly 100,000

enterprises in these categories, each with billing systems of their own or those that depend upon a billing agent to submit claims to payers. Those billing companies would either charge more for services or levy a one-time compliance charge to their clients. In our estimation, expenditures for systems for these companies are less predictable, but the sheer number of providers and systems variations would mean a per installation cost of between \$2,000 and \$25,000. Our estimate for system costs for these ancillary providers ranges from \$200 million to \$400 million, though we have not included this cost in our overall cost figures.

Health Plan Cost Estimates

We surveyed a number of large health plans along with mid-sized and smaller plans. There was generally unanimous agreement that systems expenses would be significant and could reach the level of the Y2K implementation in the larger enterprises. Health plans, like hospitals, have multiple claims, managed care, optical scanning and analytical systems that all use ICD-9-CM today and would need to be revised for ICD-10-CM and ICD-10-PCS implementation. In addition, every interface used with vendor software, whether front-end or back-end processing would require updating and testing. Training on the new code set within IT, operations, medical management and other departments also would be required along with procedure and user manual revisions. Overall, we put the range at between \$400 and \$800 million for total health plan system costs.

Of particular concern among health plans was data comparability across periods. So much of what the modern health plan does is heavily dependent upon diagnostic and procedure codes, especially in back-end functions of clinical and claims analysis, underwriting, benefit plan development, actuarial analysis and other medical and operational reporting. Many large health plans, for example, have significant numbers of "power or super users" who assemble and query data in large data warehouses containing critical information. In the estimation of key IT executives in these plans, virtually every report that depends upon diagnosis and procedural data would have to be rewritten and tested, requiring enormous time and resource commitments. This effort alone was estimated at 100,000 hours in one plan that we interviewed.

In smaller operations, it is believed that vendor supported software should relieve a great deal of the burden, but there still would be back-end reports, claim edits, and interfaces that must be redesigned and tested. In the WEDI whitepaper referred to earlier in this report, the authors projected expense for a relatively minor upgrade of codes at 30,000 hours for one Midwestern health plan.

Chart 5: Health Plans Systems Cost Estimate

Health Plans (Number Of Plans)	Cost Range Per Entity	Total Category Costs
National and super regional (12)	\$10–20 million	\$120–240 million
Large (45)	\$4–8 million	\$180–360 million
Mid-sized (75)	\$500,000–1.5 million	\$38–113 million
Small (160)	\$250–\$750,000	\$40–120 million
Total		\$378–\$833 million
<p>Assumptions include: National and super regional are companies such as United Health Care, Aetna, Kaiser Health Plans, Wellpoint, and Anthem. Large plans are single or multi-state Blue Cross and Blue Shield plans and other statewide or regional plans. Mid-sized plans are those with 100,000–200,000 members. Small plans are those with fewer than 100,000 members. All national plans were treated as a single entity for this study. Data from InterStudy Competitive Edge 13.1</p>		

III. Training Expense Impacts

Providers and Payers

All of the parties supporting the move to ICD-10-CM and ICD-10-PCS agree that training would be critical to successful implementation of the new coding systems; however, there is little consensus as to the extent of the training that needs to be done and who needs to be trained. All agree that coders would need significant training, and many believe that physicians would need to be trained on the new classification or coding systems. Overall, we estimate initial health care industry training costs at between \$1–1.5 billion for coding and support staff, providers, hospital systems and payers. This includes necessary follow-up training.

3M coding authors said the following about education and training in hospitals for ICD-10-PCS alone:

“Topping the list of the most important aspects of implementation is education. Four areas requiring extensive education are the HIM [Health Information Management] department, medical staff, quality management reviewers, and physicians. Education for all four should include the basic structure of ICD-10-PCS and the expanded requirements for assigning a procedure code. Each area would approach education from a different perspective. Coders need to increase their medical knowledge, physicians need to understand the requirements for documentation, and the medical staff needs to be aware of the challenges to the physicians and be supportive of processes that allow greater interaction between the coding staff and the physicians. Quality management needs to understand ICD-10-PCS and how it relates to its data collection, reporting, and JCAHO requirements.”⁷

Coder Estimates

Estimates for training of coders range from a low of 16 hours to as much as 80 hours. Even these figures seem optimistic after interviews that were conducted with a Canadian hospital coding manager and a review of available literature in the U.S. and Canada. For example, many coding experts urge hospitals to begin training 6–9 months prior to implementation. A coding director in the U.S. also supported the need to begin training very early on the new code set. There is wide agreement that coders would need to understand aspects of anatomy and physiology not required by current classification schemes.

⁷ “Preparing for ICD-10-PCS,” IBID

On the high side of training costs, the United Kingdom provided its recommendations to the World Health Organization (WHO) as 10 days for basic training for coders. Noted experts in the U.S. tend to focus on the low range of the estimates, but the literature from Canada and Australia, as well as the UK would argue for more extensive training if hospitals want to ensure the lowest loss of productivity. In many respects, the transition period would likely come down to “pay me now or pay me later.” With less training, we believe that productivity would suffer for more than six months and re-work would increase significantly with exception processing and claim rejections, adjustments and pends increasing dramatically during the first months of the transition period. At the very least, coders would direct an increasing number of queries to physicians, when chart documentation is inadequate to support a higher level of detail required for both ICD-10-CM and ICD-10-PCS.

The literature from the Canadian implementation also indicates a fairly dramatic increase in the backlog of coding after implementation because of the very different nature of the new code set and the need to automate coding. “We’ve had a learning curve, because even though the abstract and the CIHI (Canadian Institute for Health Information) dictionary and tables were familiar, our coding people had to unlearn the old ICD-9 codes and their structures,” according to Evelyn Connors, the health records manager for clinical information at the Health Care Corp. of St. John’s. In British Columbia, a project manager for a large facility called learning ICD-10-CA (CA refers to the clinical modification in Canada) “like learning to read Greek.” Smaller hospitals might struggle even more.

In a rural facility in Kitimat, Canada, where just two coders work, it took more than six months to work through their backlog after implementation.⁸ The Canadian experience notwithstanding, we have developed a model based on a review of the literature and discussions with facility coding managers in the U.S., who say training should probably be done over a longer period of time but would likely require a minimum of 4–5 full days for an experienced coder. We are using the five days as the beginning point for coders, with a one-day follow-up. We believe this estimate to be in keeping with the available literature, but we also believe that more training would ultimately be required if production is to be maintained. In fact, it seems obvious that additional coders would be needed to assist facilities through the transition period. Some have suggested a permanent loss of productivity in the range of 10 to 25 percent.

To reinforce this point, we summarize statistics provided by Michelle Bamford, Regional Coordinator Clinical Information Services with the Vancouver Island Health Authority, in the September 2002 newsletter of Utilization Managers Network of

⁸ “Coding requires effort, but produces useful information,” by Andy Shaw, Canadian Health Technology, January/February 2002

Ontario. Ms. Bamford reported shortly after implementation that average coding per record increased from 12–15 minutes to 33 minutes, that turnaround time increased from 69 to 139 days, and that the coding backlog increased from 64 to 139 days. Subsequent productivity improved, but it never returned to pre-ICD-10 levels. In addition, new tools had to be developed to improve coding productivity, including a query database and an educational program developed by two local hospitals.⁹ The Australian experience appears to have been somewhat better than Canada, though productivity has been a real issue there as well. At St. Andrew's Hospital in Queensland, productivity declined 32 percent in the first phase of training, improving over time, but leveling off at an 18 percent loss of production after three months.¹⁰

The National Centre for Classification of Health in Australia asserted: "Introduction of the new classification will have major implications for the clinical coder workforce. They will not only need to become familiar with ICD-10-AM coding, but will also need an understanding of anatomy and the surgical procedures required by the specificity of the MBS-E (Medicare Benefit Schedule). ICD-10-AM coding is expected to take longer initially, although no allowances have been made in the deadlines for reporting hospital morbidity data in the States and Territories adopting the new classification in 1998. Health facility managers are becoming more aware of the need for resources for clinical coders to reflect the complexity of casemix through accurate and timely clinical coding."¹¹

During the summer of 2003, the American Health Information Management Association (AHIMA) and AHA conducted a simulation of coding under ICD-10-CM.¹² This simulation, which is reported at the AHIMA web site, developed results and productivity numbers that are quite similar to the Australian and Canadian experience. The simulation showed that it took roughly twice as long for a coder to code under ICD-10, or approximately a 50% initial productivity reduction. The authors of this study suggested that coder productivity was reduced due to inadequate training and difficulties with reference materials used in the coding process. In light of the international experience with coder productivity post-implementation, the results of the simulation are not surprising but they are troubling. These findings are suggestive that without substantial efforts to avoid this problem, American health entities can anticipate increased backlogs of coding and increased staff costs.

⁹ UMNO News, September 27, 2002 edition

¹⁰ "ICD-10-A Strategy for Hospital Implementation," Nicole Mair, St. Andrew's War Memorial Hospital, Brisbane, Australia, Casemix Quarterly, Vol. 1, No. 2, 30th June 1999

¹¹ "Introducing ICD-10-AM in Australian hospitals", Rosemary F Roberts, Kerry C Innes and Susan M Walker, Medical Directory of Australia, 1998

¹² "ICD-10-CM Field Testing Project", AHA and AHIMA, September 23, 2003

Non-coder Estimates

This is an area of little agreement among the proponents of the change. While a review of the literature indicates many believe physicians and other clinical professionals and non-clinical staff would need to be trained, there is no consensus on the number who need training and the length of that training. But it would seem apparent that if the advantages of the new coding system are to be realized, physicians would need to document care differently than they do today, otherwise the greater level of detail found in ICD-10-CM and ICD-10-PCS would not be realized. The 3M authors emphasize physician training, along with other clinical staff, to support the change in coding. The authors of "Implementing ICD-10" write:

"The level of detail required in medical documentation for assignment of ICD-10-CM codes emphasizes physician participation. The patient chart MUST specify terminology and provide complete documentation according to new standards. For example: For osteoporosis with pathological fracture, the origin of osteoporosis as either postmenopausal or other type, such as disuse, drug-induced, idiopathic, or, post surgical, must be identified together with the specific site of the current fracture."¹³

"Physician documentation is a problem now," according to a health information manager at a South Bend, Indiana hospital. She doesn't feel ICD-10-CM would fix that; in fact, it could make it worse. She gave this example: Congestive Heart Failure (CHF) codes were changed adding extra digits for specificity such as acute, chronic, diastolic and systolic. In ICD-9-CM, she says the hospital is still using unspecified codes most of the time since the doctor's documentation does not specify and reimbursement is not affected. She stated doctors would need one or two days of training for ICD-10-CM and ICD-10-PCS and that their buy-in and participation is critical if "we are to achieve the gains of better statistics/analysis promised by ICD-10-CM or ICD-10-PCS."

Professional coding managers interviewed for this study agreed with this assessment, but were, we believe, more realistic about physician training, suggesting that four to eight hours would be about the most that could be expected, and that this might not be enough to change documentation patterns. We settled on more training for surgeons, because they perform more inpatient procedures, and less training for office-based physicians as they would need to understand primarily the changes to ICD-10-CM.

¹³ "Implementing ICD-10" by Lori Becks, RHIA and Sheri Poe Bernard, CPC published by Ingenix, 2003

Again, the Canadian experience might be instructive here. One coding manager for a large, acute care facility stated flatly that physicians had not changed their documentation practices as a result of ICD-10-CM implementation.

Non-hospital Office Staff

Office staff in primary care, specialty offices and large provider organizations would also have training needs. Thousands of office staff in physician practices assist in the coding process, but might need only limited training on the new code set, assuming they have access to ICD-10-CM and ICD-10-PCS on-line support (this would be much more difficult with ICD-10-PCS because of the size of the files). Billing office staff in both large physician practices and billing companies would also require 4–8 hours of training in our estimation, based both on interviews and a review of the literature.

Health Plans and Insurers

Health plans would need to train a number of positions, including claim payers, customer service representatives, utilization management nurses, provider contracting and information technology. Some of the training requirements would be extensive while others would require only a few hours.

Chart 6: Estimated Training Cost Ranges For Providers And Payers

Category	Estimated Staff Requiring Training	Range Of Hours	Total Cost, Including Follow-Up
Coders, medical records	142,170	24–40	\$94–141 million
Physicians (Surgeons, anesthesia at higher end)	754,636	4–12	\$332–499 million
Other clinical (including nurses and physician assistants)	1,455,015	4–8	\$456–684 million
Other hospital	44,207	4–40	\$30–45 million
Total, provider			\$900 million–\$1.4 billion (rounded)
Health plans, insurers	117,020	4–80	\$54–80 million
Total training range			\$950 million to \$1.5 billion (rounded)

IV. Reimbursement Impacts

Cash Flow Effect on Providers

If coding slows by 10–25 percent after ICD-10-CM and ICD-10-PCS implementation in facilities and/or physician offices, cash flow could be affected in significant ways. Such problems are not new to the facility community, which had serious billing issues following implementation of Ambulatory Payment Classifications (APC) in 2000. While APC implementation is not completely analogous to the contemplated classification changes, it provides an example of how large scale reimbursement changes can have significant impacts on cash flow.¹⁴

With hospitals receiving \$500 billion in payments in 2003 from payers of all types, a relatively minor delay can have material financial consequences to the health care system as a whole. “It’s going to be a protracted reimbursement cycle” immediately after implementation, according to Sherri Bernard, Director of Essential Regulatory Products for Ingenix in a recent audio seminar she presented to coders. Because of the complex and somewhat unpredictable nature of these issues, we have not attempted to quantify the potential economic impact of slower payments for 3–6 months, but this is an issue that would need attention before, during and after any implementation.

Contract Negotiations

In changing the underlying diagnostic and procedural coding, many, if not all, contracts based on code definitions and their associated reimbursement rates would require development, negotiation, review and ultimately agreement. This would prove to be an expensive and time-consuming exercise shared by payers and providers alike. The WEDI white paper speaks to several million contracts, and we would agree that literally millions of contracts would likely require review and renegotiation. The number of contracts we have used for our estimate is much smaller than the total number of contracts the white paper estimates because we assume that many contracts for physicians in provider groups would be common and would be negotiated by contracting staff rather than by physicians themselves. Still, the sheer number of contracts and staff involvement would be a significant effort.

¹⁴ Straight Talk, Modern Healthcare, April 28, 2003

The following chart summarizes the results of our findings in this area. We provided no estimates for health plans as these were assumed in the health plan costs discussed earlier.

Chart 7: Contract Renegotiation Model Cost Ranges

Entity	Entities	Contracts per entity	Range of total contracts in category	Hours per contract by payer and provider	Total hours	Average salary/hour*	Total cost of negotiation
Hospitals	5,000	10 – 20	50 – 100,000	10 – 20	500,000 – 2 million	\$40	\$20 – 80 million
Provider organizations	20,000	7 – 15	140 – 300,000	4 – 8	560,000 – 2.4 million	\$30	\$17 – 72 million
Individual physicians	145,000	5 – 15	725,000 – 2.2 million	2 – 4	1.5 – 8.8 million	\$30	\$45 – 264 million
Totals	170,000	5 – 20	915,000 – 2.6 million	2 – 20	2.6 – 13.2 million		\$82 – 416 million
* Represents blended salary estimates of contracting, support, hospital and physician office staff, weighted with physician, legal and management.							

V. Re-Work and Productivity Loss Impacts

Coding managers we spoke with who are familiar with ICD-10-CM and ICD-10-PCS expressed the fear that productivity would indeed suffer a permanent decline after the implementation forcing them to hire additional coders, outsource coding overflow or find alternate solutions, especially given the labor shortages for hospitals generally and coders specifically.¹⁵ In an audio workshop for coders, an Ingenix presenter told the program participants to expect a 25 percent decline in coder productivity and to begin making provisions 6–9 months in advance for the coding changes.¹⁶ Overall, we put the range at between \$600 million and \$1 billion for short-term re-work and productivity loss impacts. Permanent production loss could add an additional \$380 million annually to overall operating costs for inpatient facilities.

Chart 8: Rework and short-term production impacts cost ranges

Issue	Volume estimates	Impact estimate	Dollar impact range
Payer and provider rework (rejections, pends, adjustments inquiries)	2 billion plus claims filed annually for physician and facility	Claim rejections, adjustments and inquiries are likely to increase 10–25% in the year after implementation	\$300–\$600 million in first year
Productivity loss (three months)	A loss in productivity among coders could be as high as 25%; among other health care practitioners, the loss in productivity will be in the 5–10% range	A loss of 20% productivity among coders is assumed for a period of three months; other productivity losses are assumed at between 5–10% for a period of 4–5 weeks	\$300–\$440 million
Total range of re-work and productivity costs, short term			\$600 million–\$1 billion

¹⁵ “A Looming Crisis in Care”, AHA Commission on Workforce for Hospitals and Health Systems, 2002

¹⁶ “ICD-10 CM Update,” Sheri Poe Bernard, Director of Essential Regulatory Products, Ingenix

Re-work and Short Term Productivity Impacts

During the transition period, there seems to be little doubt that providers and health plans would face increased levels of re-work, particularly in the first 3–6 months after implementation. That re-work would develop in a number of key areas: facility coding queries to clarify documentation in patient records, increased billing inquiries by payers and providers and increased number of pending claims and adjustments.

Assuming a relatively modest increase in all of these transaction volumes, the hiring of additional staff or paying overtime to customer service and claim representatives in payer organizations and to billing and coding staff among providers would be required. Physicians would also be drawn increasingly into coding issues and would spend additional hours reviewing charts and encounter forms in order to comply with the new documentation requirements.

Productivity Loss Impacts

Information from the international experience is just now beginning to become available. Some experts including those from inside the U.S assert that a permanent loss of inpatient coder productivity would result from the migration from ICD-9-CM to ICD-10-CM and ICD-10-PCS. In an interview with the Humber River Hospital in Ontario, a 600-bed facility, Kerry Johnson (Decision Support and Coding Manager) said that his hospital had a 10 percent decline in productivity for a year prior to and a year following implementation. We spoke with several representatives of the CIHI in Canada. They reported that the loss of production prior to and after the implementation was significant but that productivity rebounded to pre-ICD-10-CA levels in six months in most locations. The increased level of complexity in ICD-10-PCS especially leads to our conclusion that there would indeed be a permanent productivity loss after implementation.

Chart 9: Cost Range For Permanent Loss Of Productivity For Inpatient Coders

Issue	Volume Estimates	Impact Estimate	Dollar Impact Range
Production loss (permanent)	A loss of productivity between 10–25% will be seen, according to the literature and international experience	Estimated impact based on hiring between 10–25% additional coders	\$152–\$380 million

VI. Government Programs and Public Health Impacts

Medicaid and Medicare would share in the transition costs to ICD-10-CM and ICD-10-PCS, as they did in the implementation of HIPAA transactions and code set changes. In fact, HIPAA implementation is instructive as a point of comparison for government-funded and sponsored health programs, particularly in regard to the systems impacts. Overall, we put the range at between \$700 million to \$1.4 billion for government programs.

Impact on Medicaid

The impact would be greater for Medicaid because there are 50 payers, with each state using its own version of the MMIS (Medicaid Management Information System) system. These systems are high integrated integrating claims processing, managed care functions, decision support, utilization management, and other functions around a hub of eligibility, provider, rendered services, and reference databases. These clusters of functions in today's MMIS applications continue to act as a whole through interfaces and integrated data repositories."¹⁷

The implications of federal regulatory change on Medicaid systems and programs would likely be dramatic because of the age and complexity of many of the systems and the number of interfaces maintained. One executive at a large Medicaid operations service provider called ICD-10 "a profound change – perhaps greater than HIPAA overall." He believes history conversion costs would be particularly high.

As described earlier in this report, ICD-10-CM and ICD-10-PCS deployment could have a significantly greater impact on payers than HIPAA's transactions and code set compliance because it forces them to analyze, redesign and test all claim processing rules, medical management rules, interfaces and backend reporting and analysis used for trends and reimbursement. The literature on state expenditures for HIPAA would indicate that just to comply with the transaction and code requirements, states would spend well in excess of \$1 billion. South Carolina recently announced spending more than \$27 million to upgrade its MMIS system for HIPAA,¹⁸ while a Michigan Medicaid official said the state spent \$20 million for transaction compliance. North Carolina reported in September 2000 that it had budgeted \$49 million for HIPAA

¹⁷ "The Private Sector View of Challenges and Opportunities for the 21st Century," Private Sector Technical Group (PS-TG), October 15, 1997

¹⁸ "EDS wins South Carolina Medicaid system upgrade," William Welsh, Staff Writer, Washington Technology, March 31, 2003

transaction compliance activities¹⁹ while Iowa estimated in 2001 needing \$10 million.²⁰ Overall, it is clear that states spent in excess of \$1 billion to comply with HIPAA's transactions and code sets.

Other state agencies would also be forced to invest in system upgrades if they use diagnostic and procedure coding, including prison clinics, community mental health agencies, state funded medical schools and/or state employee health benefit programs.

While the Medicaid expenses are borne principally by the federal government (approximately 90 percent), many of the other expenses are either fully paid by the state or are reimbursed at the 50 percent level.

Impact on Medicare

Medicare spending would likely be significantly less than that for Medicaid because of the limited number of systems deployed to pay claims. This would result in a concentration of effort among just a handful of vendors, who would be able to amortize those costs over the base of the durable medical equipment payers, Part A intermediaries and Part B carriers. While it might be that ICD-10-CM and ICD-10-PCS implementation would be more significant than HIPAA remediation, an earlier study conducted by the Robert E. Nolan Company concluded that Medicare processors faced less than \$100 million in system expenses to meet compliance guidelines for HIPAA's transactions and code sets. Even if ICD-10-CM and ICD-10-PCS costs are twice those of HIPAA, the system related expense would likely be under \$200 million, principally for system upgrade costs not provided by software vendors, training of staff, report analysis and revision and testing with providers.

An added cost to CMS includes the development of new diagnosis-related groups (DRGs) or the reorganization of existing DRGs based on ICD-10-CM and ICD-10-PCS codes. This exercise might prove to be much more complex and cumbersome than many realize. It might also lead to changes in reimbursements by medical supply companies, drug manufacturers and others who want to be paid for a device or drug. The international literature from Australia and other countries indicates significant work on payment groupers and associated problems with them. These issues are not as serious in a single-payer system since reimbursement continues to flow to facilities regardless of any data continuity

¹⁹ DHHS minutes, September 7, 2000

²⁰ State of Iowa – Enterprise HIPAA Compliance Project Management Charter, Tom Shepherd, Information Technology Department, Des Moines, IA 50309-4611, November 19, 2001

issues regarding payment or classification changes. This issue would prove to be much more complex in the multi-payer system in the U.S.

Chart 10: Medicaid, Medicare System Cost Estimates

Program	Per State Range	Total
Medicaid	\$10–24 million	\$500 million–\$1.2 billion
Other state programs	\$1–3 million	\$50–150 million
Medicare	NA	\$150–\$200 million
Total state and federal cost range outlay for Medicaid/care		\$700 million to \$1.4 billion

Impact on Public Health Programs

Essential to many aspects of the public health system is the collection of diagnosis data from clinical providers. Collection of diagnostic data is critical to the successful identification of epidemics or new disease outbreaks. That data is most often collected from clinicians in the normal course of patient encounters and is reported to a variety of agencies at the local, state and federal levels.

Certainly the implementation of ICD-10-CM would have a dramatic impact on the tracking of diseases across the transition period. This would affect the identification and treatment of new outbreaks as epidemiologists work to understand the differences in diagnostic coding after implementation occurs. By one estimate, there are more than 900 epidemiologists and nearly 1,200 biostatisticians working in public health agencies today.²¹ It is believed that diverting their attention to data analysis and normalization issues post-implementation would affect their work for a period of 6–12 months. These effects might be minimized if significant mapping is in place at the time of cutover or if records are double coded in ICD-9-CM and ICD-10-CM for a period of time prior to implementation to gain an understanding of the differences.

To provide just one example of how coding can affect data analysis, we cite the change in AIDS/HIV reporting that occurred when Florida implemented ICD-10-CM mortality coding in place of ICD-9-CM. In a study later published in the

²¹ "The Public Health Workforce," Kristine Gebbie, Jacqueline Merrill, Hugh H. Tilson, Health Affairs, November/December 2002, Volume 21, Number 6

Journal of the American Medical Association (JAMA), Becky Grigg, Ph.D., et al writes that “the effect of the new ICD-10 coding rules was an ‘artificial’ increase of 14 percent in the number of HIV deaths in 1999” over 1998. When records were re-coded using ICD-9-CM, there was an actual decrease in deaths due to AIDS.²²

A separate impact would be felt by public health agencies that deliver service to the poor and uninsured and who use diagnostic coding to bill Medicaid or Medicare. In some of these agencies, services are actually provided and billed for, which means systems would need to be converted and tested. That same impact would be felt by community health centers that serve a similar population, many of whom are uninsured but some of whom have Medicaid, Medicare, or in some cases, commercial coverage. In both of these settings, ICD-9-CM is currently deployed and used in coding any claim to a payer and training would need to be provided and systems would need to be converted. These centers service an estimated 11 million patients according to a recent study performed by the National Association of Community Health Centers, Inc., in Washington, DC.²³

Even a relatively modest need for investment in systems, training or process changes at these centers would have significant impact on administrative costs for these providers. Our estimate would be between \$10 and \$40 million, depending upon sophistication and deployment of billing systems.

²² “Coding Changes and Apparent HIV/AIDS Mortality Trends in Florida, 1999,” Becky Grigg, PhD; Robert Brooks, MD; Spencer Lieb, MPH; Meade Grigg, MA, JAMA, Oct. 17, 2001, Volume 286, Number 15

²³ “Exploring Health care Quality and Effectiveness at Federally-Funded Community Health Centers: Results from the Patient Experience Evaluation Report System (1993-2001)”, © National Association of Community Health Centers, Inc., Washington, DC, March 2003

VII. Benefits Discussion

Proponents of replacing ICD-9-CM with ICD-10-CM and ICD-10-PCS point to several potential benefits:

- Improved outcome studies
- Improved ability to analyze trend data
- Improved fraud and abuse detection
- Improved ability to negotiate provider contract

Outcomes

While verifying benefits from implementation in early adopter nations like the UK, France and others, we found very little in the literature to support some of the proponents' claims of improved clinical data and thus improved surveillance and outcomes. In fact, in three citations from the U.K., there was evidence that physician documentation and training were far more important than coding in assessing outcomes and improving epidemiology.

In the U.S., academics and physicians have for years stressed the importance of adopting standard clinical terminology as the most important precedent to improving outcome studies and thus providing meaningful direction to physicians and other clinicians. In this view, three separate terminologies must be managed together in order to produce outcomes improvement. Rose et al describe those terminologies as:

1. Application terminology, also called interface terminology, refers to those terms seen in (and used in) documenting or facilitating care.
2. Reference terminology, more academic term classification, is often represented in a complex knowledge base and is rich with rigorously controlled rules and relationships (used predominantly for data analysis).
3. Administrative terminology, also called code sets, is a collection of coded expressions used for financial or ancillary system communications.²⁴

²⁴ "Common Medical Terminology Comes of Age, Part One: Standard Language Improves Health care Quality," Jeffrey S. Rose, MD; Bruce J. Fisch, MD; William R. Hogan, MD; Brian Levy, MD; Philip Marsh, MD, MPH; David R. Thomas, MD; Debra Kirkley, PhD, RN; Journal of Health care Information Management, vol. 15, no. 3, Fall 2001

This same study quotes Dr. Christopher Chute of the Mayo Clinic, who suggests that “improvement of medical knowledge about the best practice depends upon the ability to study practice outcomes and apply them to the patients we see. This implies that we can generate data about our patients that is comparable, so that it can be used in aggregate analysis, and so clinical decision support resources can be linked to patient data in real time. The single greatest obstacle to comparable data remains medical terminology. Failure to adopt and embrace a common terminology would doom outcomes research and data-driven clinical guideline development.”²⁵

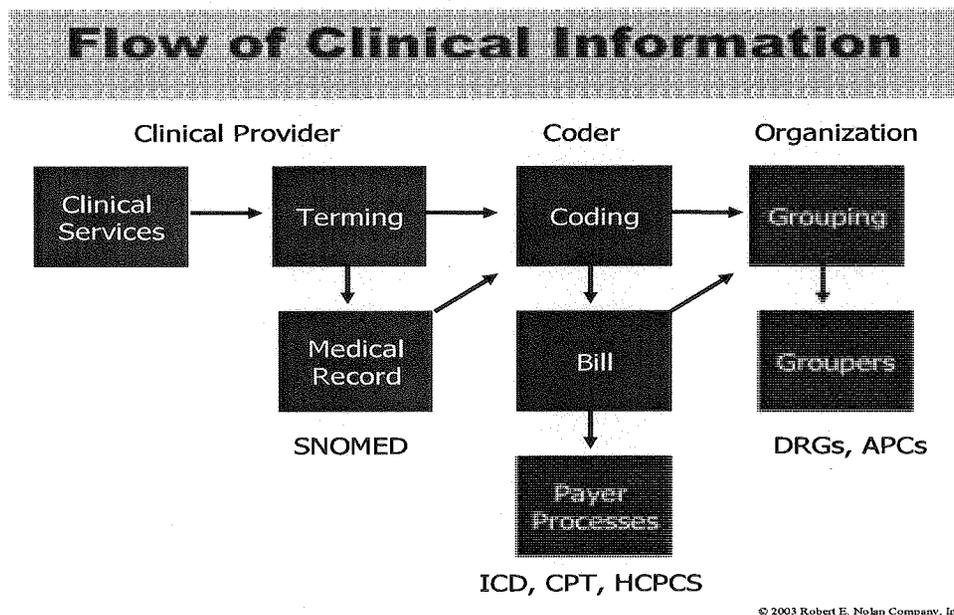
In India, where technology deployment is far less extensive than in the U.S., one physician writing in Express Health Care Management makes the case clearly for clinical terminology as the most important element of improving health outcomes: “ICD-10 and CPT-4 are designed for coding diseases and recording medical services and procedures but they lack the necessary terms for assessing the quality of patient outcomes.”²⁶

²⁵ Ibid.

²⁶ “CPR is the backbone of an integrated HIS,” P Ravisankar, Express Health care Management (India’s First Newspaper for the Health care Business); issue dated 1st to 15th April

The Terming – Coding – Grouping Sequence

Discussions about changing to ICD-10 can be improved by understanding and using a simple concept model that shows the sequence of events that creates and moves clinical information from providers to payers. The best description of the flow of information is a sequence of 'terming – coding – grouping' developed by H.C. Mullins, M.D. Professor, Family Practice University of South Alabama in Mobile.



In this model, "terming" follows the actual delivery of clinical services. Terming means describing in precise – but currently non-standardized ways – the exact clinical situation and actions taken. Terming is done in some settings by simple handwritten notes, ticking off forms, inputting to an electronic medical record or in many inpatient services dictating operative notes. Terming is used for clinical coordination with staff and other providers, risk management, and reimbursement.

“Coding” occurs when the “termed record” is reviewed and coded to a classification within a coding scheme such as ICD-9-CM. This is generally done by staff that is less well trained than the clinical staff that did the terming, and it may involve the use of reference materials and judgment about the actual code used. Coding is done to report health services statistics and to drive other administrative processes such as billing and reimbursement, utilization reporting and quality assurance.

“Grouping” occurs when the coded information is further mapped and classified to broader groupings of services and conditions. Grouping is done most frequently for reimbursement and claim payment. Grouping can also be done for other reasons such as disease management, where the disease management application or algorithm functions as the “groupers”.

With this sequence or model in mind several implications of changing “coding” are apparent:

- Changing coding, without first standardizing inputs to coding, cannot bring about critical benefits like improvements in outcomes of health care. It also does nothing, without other efforts, to improve care documentation by physicians and other clinical staff. This situation represents the old saying “Garbage in...”
- Changing “coding” means “grouping” must also change. The codes are the inputs to the various grouping processes and if we change the inputs the groupers must be amended as well. This implies that the cost and confusion of changing the groupers must ultimately be considered to be a part of making changes to the codes. This sequence is exactly the experience in Canada, where coding changes resulted in the need to make a series of changes to groupers used for health care budgeting.
- Multiple parts of the sequence cannot be changed at the same time. For example, it is important to have substantial post-implementation experience with any new codes before groupers can be mapped accurately. Again the Canadian experience is instructive on that point. (The CIHI estimated in June 2003 that 36 percent of Canada’s Case Mix Groups were impacted by coding changes after ICD-10-CA implementation.²⁷)

²⁷ CIHI Case Mix Update, March 18, 2003

- Given that there are other national initiatives planned for this sequence such as SNOMED²⁸, it is important to understand how the sequence of changes to “termining – coding –grouping” will impact the cost of implementation. Changes made to coding prior to termining may necessitate revisiting coding again.

Trend Data

While proponents of replacing ICD-9-CM speak to improvements in the analysis and trending of data in health care and payer organizations, we believe that for a period of 3–5 years, the impact to existing medical knowledge would be degraded significantly. The implementation in Canada speaks to this issue fairly clearly. While these impacts were predicted, they nonetheless create a data fog around diagnostic and procedural trends until enough time passes for statisticians and analysts to understand data in the “new world” of ICD-10-CM or ICD-10-PCS. Discontinuity in data can be seen fairly clearly in the U.S. by considering ICD-10 implementation for mortality coding and the subsequent changes in causes of death that occurred after the coding change.

In a major study of the impacts in implementing ICD-10 for mortality coding in the U.S. the numbers for causes of death were altered either up or down when the coding change was made. As a result, the top 10 causes of death changed when records were coded in ICD-10 versus ICD-9. The authors of the study concluded:

“With the implementation of ICD–10, a set of mortality trends and patterns would emerge that are discontinuous with those produced under ICD–9. Trends for many causes of death and the ranking of leading causes of death would be substantially affected.”²⁹

R.B. Rothenberg and R.E. Aubert, writing for the Center for Chronic Disease Prevention and Health Promotion of the Centers for Disease Control (CDC), noted impacts on ischemic heart disease and hypertension rates after implementation of ICD-9 for epidemiologic studies. The authors caution that “as preparations are made for ICD-10, special attention should be given to the preservation of epidemiologic continuity to provide better assessment of trends in population subgroups.”³⁰ The results of their study, in the words of the authors, “point to a non-uniform impact of the coding change

²⁸ SNOMED stands for Systematized Nomenclature of Medicine and was developed as a standard clinical terminology by the College of American Pathologists (CAP)

²⁹ Comparability of cause of death between ICD–9 and ICD–10: Preliminary estimates. Anderson RN, Miniño AM, Hoyert DL, Rosenberg HM, National Vital Statistics Reports; vol. 49 no. 2, Hyattsville, Maryland: National Center for Health Statistics. 2001.

³⁰ “Ischemic heart disease and hypertension: effect of disease coding on epidemiologic assessment,” R.B. Rothenberg and R.E. Aubert, Public Health Rep., 1990

on individual ICD codes, which in turn, might alter the ability to define disease trends. Since there is no *a priori* reason for a differential change in the rates of decline after 1979, coding might play a role...³¹

Finally, in a study termed "The Interpretation of Time Trends," authors C.S. Muir et al point out that while trend data can still be useful across different versions of ICD classifications, "precise time trend analysis for [an] important group of neoplasms is impossible unless data at the four digit level are available for the periods covered by the 7th and 8th revisions."³² In addition, because "successive revisions of the ICD have tended to be more detailed than their predecessors... comparison of subsite data over time can be impossible as the subsite of interest might be 'buried' in a larger grouping of the previous revision."

Fraud and Abuse Detection

Detection of fraudulently submitted claims is a significant effort among the payer community and it has invested enormous resources in business rules in existing systems to detect patterns of fraud. A change in the underlying claim code sets would necessitate the re-writing of all of the rules that now exist to determine fraud patterns. It would then take a period of years to refine these rules to bring them back to the level of sophistication and accuracy represented in the current software. We have included in our payer cost estimates some of the cost of rewriting these rules, but estimating how much fraudulent billing might increase in the meantime is beyond our ability to predict. However, it should be noted that with \$1.5 trillion in overall health care expense, a very small percentage increase in fraud can produce significant excess costs.

Improved Ability to Negotiate Reimbursement Terms

Using the WEDI white paper referenced above we have attempted to define the costs and time associated with renegotiating the millions of contracts that either depend upon or reference diagnosis or procedure codes. As those who have negotiated provider contracts realize, changes can mean confusion, misunderstanding and ill will. The chances that both providers and payers would come to easy or quick solutions on the new code sets are unrealistic. The migration process would likely be a protracted and difficult one involving both front-line provider contracting staff, systems staff and management levels to settle disputes. Providers would have the same issue on their side forcing contracting and billing staff, physicians and others to spend significant time re-contracting with all of their payers. If, over time, greater specificity does become a reality, it is conceivable that this would bring a greater degree of clarity and specificity to contracts, but this is

³¹ Ibid

³² "The Interpretation of Time Trends," C.S. Muir, J.F. Fraumeni Jr., R. Doll; Cancer Surveys Volume 19/20; Trends in Cancer Incidence and Mortality, 1994 Imperial Cancer Research Fund

highly speculative.

Implications

Implementing ICD-10 CM in a cost neutral manner may be impossible.

The proponents of moving from the current ICD-9 system assert that such a change can be made in a cost neutral manner. (By “cost neutral” we mean without significant impact on medical reimbursements. Clearly there is a major impact on administrative costs, as we have outlined above.)

There are two ways to examine the medical cost problem.

- The first scenario assumes that total medical costs are allowed to increase. In this example providers bill increased charges for advanced services and materials resulting in an increase in overall health care costs.
- In the second scenario overall medical costs are “held constant.” But because large or specialized medical centers perform higher level or more complex services that can now be billed in a new coding schema, their revenue will increase relative to that of smaller, community and rural hospitals that provide general care.

At a national level a theoretical economist might say that the latter change (known as “the constant pie”) has been made in a cost neutral manner, but at the level of hundreds of small local hospitals the implementation has been any thing but “cost neutral.” In other words, coding changes creates “winners” and “losers.”

The Canadian experience provides a good example of how coding changes can alter data comparability between regions or institutions. Following implementation of the Canadian version of ICD-10 and a new procedure coding scheme, health information authorities noticed clinical data changes that could not be explained by changes in the underlying health or utilization statistics. Changes in how care was coded created what appeared to be increases in the number and severity of diagnoses in Ontario and has led the Canadian Institute of Health Information (CIHI) to examine coding practices and standards and other issues to determine how to address the new data picture.^{33,34}

33 Coding Variations in the Discharge Abstract Database, May 2003, Canadian Institute of Health Information

34 Data Quality Initiatives and the Impact on Health Record Professionals, Gail Crook, CHE, Canadian Health Record Association, 2003

Because Canada is close to the “constant pie” scenario, overall reimbursement will not change there. However, there is real concern about data comparability and validity going forward. In the U.S., there is no “single” payer to ensure that the pie remains constant, and thus changes in coding practices may indeed lead to increases in reimbursement or to a shift in payments to larger, urban facilities.

Moreover, changing coding will directly cause a change in reimbursement groupers, requiring revisions in the composition and weighting of DRGs and other payment types. Recalculation of groupers will involve re-weighting based on complexity and case mix and in effect gives yet another opportunity for revenue shifting from small institutions to larger facilities.

The potential for unintended consequences is high.

Some consequences of implementation can be easily anticipated. For example considering the experience with coding backlogs that occurred in Australia and Canada and the recent coding experiment conducted by AHIMA, we can anticipate that coding backlogs are likely following implementation. It is more difficult to anticipate the consequences of backlogs, but surely reimbursement to providers will likely be slowed, creating ripple effects through the health care provider and payer communities.

Why are unintended consequences likely? The chief reasons to expect the unexpected during ICD-10 CM implementation include:

- Making an important change in the *middle* of a complex process. The key sequence is “termining – coding – grouping” (refer to diagram above). Making a change to coding will still require restructuring parts of the upstream and downstream processes, namely termining and grouping.
- The scale of the change is enormous. Diagnosis and procedure codes are used in billions of transactions per year by hundreds of thousands of providers and hundreds of payers. The odds of flawless implementation by this complex web of players are virtually zero. (Consider the delays and problems attending HIPAA transaction standards implementation.) Error by any player will affect its own transactions and in most cases impact others in the flow of clinical data and funds.
- Coding backlogs are likely to slow payment to providers creating enormous cash flow problems and gaps in data for payers. The consequences of such a slow down are increased inquiries among all parties, including patients, providers and health plan members, short term borrowing costs and potential under and over

payments. Uncertainty regarding reimbursement or the data that flows from payments will likely be reflected in additional premium increases to employers and consumers.

VIII. Methods for Studying the Change

In assembling this study we relied primarily on secondary sources. Our findings were supplemented with interviews with management and staff in payer organizations, hospitals, provider offices and software vendors. We also examined recent classification changes in Canada and Australia as well as the United Kingdom (U.K.) and spoke to a limited number of Canadian sources. In reference to hospital system changes, we looked to two recent large-scale system initiatives as reference points—the implementation of transactions and code sets for the Health Insurance Portability and Accountability Act or HIPAA (excluding security and privacy) and remediation for the year 2000 preparations (Y2K). Here, both the government and the American Hospital Association have developed estimates that provide useful order of magnitude comparisons (not transactions and code sets). Several sources put the costs for the provider and payer community at “Y2K levels” or greater while others suggested HIPAA’s transaction and code set implementation as a useful comparison.

A limited number of payer organizations were able to provide implementation estimates based on a relatively quick but comprehensive analysis of the potential burden. Most providers we spoke to have not developed cost estimates nor talked to their software vendors mainly because of the lack of awareness among stakeholders. However, all agreed the implementation was a tremendous undertaking.

In developing cost estimates, we used a “process consulting approach” that includes internal staff and management costs deployed for implementation, the cost of overtime and lost time for training, along with any direct costs that sources identified. In all cases involving salary information we relied on the Bureau of Labor Statistics for information.

It should be noted that we have estimated costs only in areas where we could either collect or derive sufficient information to do so. Among providers we included community hospitals, provider groups and individual physicians. We did not include Federal hospitals or the Veterans Administration, nursing homes, surgery centers, home health companies, clinical laboratories and other providers who use diagnostic and procedure coding. Among payers, we included health plans, but could not estimate third party administrators, clearinghouses and other insurers that use diagnosis and procedure codes for health claim transactions, such as workers compensation and auto liability.

Additionally, many in the health care and payer community are still heavily involved in HIPAA transaction compliance activities and had limited time to devote to this subject.

The scope of a cost analysis is large and complex. The following diagrams may be helpful in seeing what topical items are impacted by a migration to ICD-10-CM and ICD-10-PCS and which items were considered within the scope of the study.

Key Constituents and Major Functions Impacted*				
Physicians	Hospitals	Health Plans and HMOs		Government Programs
Electronic Health Records Practice Management Systems Billing Accounts Receivable Net Productivity Loss	ADT Lab Radiology Pharmacology Physician Order Entry Image Management Supplies & Inventory Management Bar Coding Billing	Claims Fraud & Abuse Customer Service Reimbursement EOBs/EOPs Network Contract Actuarial Rating Underwriting	Enrollment Utilization Review Benefits Contracts EDI Editing OCR/Imaging ERA/EFT Reporting Data Warehousing	Medicare (Same as Health Plans, less network/rating) Medicaid (Same as Health Plans, less network/rating)
Specialty Providers	Supplemental Health Industry Organizations	Health Care Tools & Decision Support		Major State Government Programs
Veterans Hospitals Federal Hospitals Nursing Homes HHAs	TPAs Workers Comp Auto Liability Self Admin. Employers	Predictive Modeling Health Coaching Personal Financial Tools (e.g., FSA, MSA, HRA, etc.)		University Medical Centers Children's' Health Insurance Programs Student Health Programs Department of Corrections Minority and Rural Health Programs State Health Information Databases State Public Health Programs

* Partial list

Major Functional Uses of ICD-9-CM*				
In Study Scope				
Physicians	Hospitals	Health Plans and HMOs		Government Programs
Electronic Health Records Practice Management Systems Billing Accounts Receivable Net Productivity Loss	ADT Lab Radiology Pharmacology Physician Order Entry Image Management Supplies & Inventory Management Bar Coding Billing	Claims Fraud & Abuse Customer Service Reimbursement EOBs/EOPs Network Contract Actuarial Rating Underwriting	Enrollment Utilization Review Benefits Contracts EDI Editing OCR/Imaging ERA/EFT Reporting Data Warehousing	Medicare (Same as Health Plans, less network/rating) Medicaid (Same as Health Plans, less network/rating)
Out of Study Scope				
Specialty Providers	Supplemental Health Industry Organizations	Health Care Tools & Decision Support	Major State Government Programs	
Veterans Hospitals Federal Hospitals Nursing Homes HHAs	TPAs Workers Comp Auto Liability Self Admin. Employers	Predictive Modeling Health Coaching Personal Financial Tools (e.g., FSA, MSA, HRA, etc.)	University Medical Centers Children's' Health Insurance Programs Student Health Programs Department of Corrections Minority and Rural Health Programs State Health Information Databases State Public Health Programs	

* Partial list

Examining the Cost of Implementing ICD-10

White Paper Prepared by:

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HayGroup, Inc.**

On Behalf of:

America's Health Insurance Plans

October 12, 2006

Examining the Cost of Implementing ICD-10

Executive Summary

Over the next few years doctors, hospitals and other health care providers will change the codes they use to identify different diagnoses. Hospitals will also change the codes they use to describe the services they provide to patients. Diagnoses will be described using the *International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD-10-CM) and inpatient procedures will be described using the *International Classification of Diseases, Tenth Revision, Procedure Classification System* (ICD-10-PCS). This change will affect any organization that uses detailed health information, including public programs such as Medicare and Medicaid, as well as private health insurers and health plans.

Both health care providers and the organizations that pay for care will have to modify their information systems to accommodate the new codes. Anyone working directly with diagnosis and procedure codes will also require training. Because of the number of systems and people involved, the cost of this transition will be substantial.

Several reports have been published estimating the cost of implementing the new codes. Based on a review of this literature:

- A reasonable preliminary estimate of the total cost to the healthcare system would be \$3.2 to \$8.3 billion;
- The implementation will cost the Medicare program between \$200 and \$220 million;
- The implementation will cost state Medicaid programs \$1 to \$3 million each; and
- Requiring health care providers and private payers to speed up implementation has the potential to increase costs and result in a less effective implementation; and
- While difficult to quantify precisely, requiring an accelerated implementation of the ICD-10 code sets as proposed in H.R. 4157 rather than a more orderly, staged roll-out has the potential to increase system implementation costs by \$115 to \$416 million.

Introduction

Background

The effective use of health information in an increasingly complex and diverse health care system depends on well defined, commonly understood terminology and coding systems. The coding systems used to describe diagnoses and treatments are directly used by virtually every participant in the system other than the patient, and are deeply embedded in the delivery, management and financing of care.

Most diagnosis coding is currently performed using the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). It is also used for procedure coding in inpatient hospital settings. Most outpatient procedure coding is performed using the Current Procedure Terminology (CPT®).¹ It is anticipated that over the next few years, the ICD-9-CM

¹ The American Medical Association owns the CPT.

will be replaced by the *International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD-10-CM) and, for inpatient procedure coding, the *International Classification of Diseases, Tenth Revision, Procedure Classification System* (ICD-10-PCS). The ICD-10 is intended to be more accurate and flexible than the coding systems it will replace, and better document patient health and treatment. As might be expected, the structure of the ICD-10 is significantly different from that of the ICD-9 and CPT.

Survey of Existing Estimates

Implementing the ICD-10 will require a significant effort on the part of health care providers, health plans, health insurers, and other organizations that pay for health care.

Several organizations have attempted to estimate the cost of this conversion. The three most complete recent estimates are by the RAND Corporation (2004), Robert E. Nolan Company (2003) and PriceWaterhouseCoopers (2003).² These estimates vary dramatically. This is due in part to differences in the scope of costs considered; however, there are also very real disagreements over the likely difficulty of the transition.

Purpose of this White Paper

This paper is intended to:

- Identify the primary sources of implementation cost;
- Review the existing cost estimates; and
- Develop a preliminary estimate of the likely cost to the U.S. health system as a whole.

The scope of the discussion will include health care providers, private payers and government payers. The types of cost considered will be systems implementation, training and provider contract renegotiation.

We are not including employers or other health plan sponsors that are not directly involved in the administration of benefits. Nor are we including organizations that are not directly involved in the delivery or financing of care, such as research and academic organizations. Only direct implementation costs are considered – we do not include the cost of work that must be re-done due to increased error rates or other forms of lost productivity.

Systems Implementation

Overview

Changing code sets involves more than just widening a data field, although that certainly is part of the process. Perhaps the simplest change will be modifying the field definition (size and

² Martin Libicki & Irene Brahmakulam, *The Costs and Benefits of Moving to the ICD-10 Code Sets*, RAND Corporation, March 2004;
Replacing ICD-9-CM with ICD-10-CM and ICD-10-PCS: Challenges, Estimated Costs and Potential Benefits, Robert E. Nolan Company, October 2003;
Cost-Benefit Analysis Implementing CPT as the Single Procedure Code Set, Implementing ICD-10-PCS as the Single Procedure Code Set, or Implementing ICD-10-PCS in the Inpatient Environment, PriceWaterhouseCoopers, September 2003.

character set) in the various databases where diagnosis and procedure codes are stored. The tables used to store the code definitions themselves must also be restructured, as well as input screens and data edits. In addition to basic data editing, any program logic that depends on diagnosis will also have to be revised.

Updating particular software packages is only on part of the process. Most large organizations have multiple systems and exchange data with multiple other organizations. The interfaces between internal systems and those with business partners must be revised to accommodate a new code set, as must any electronic transactions using diagnostic or procedure codes.

Existing data must be converted, provision made to support both the old and new formats, or parallel systems must be maintained during a transition period. The most efficient approach will vary. Reports, whether on-line or hardcopy, will also need to be reformatted and in some cases restructured. Similarly, paper forms and the attendant work flows will also need to be revised and in some cases restructured.

For any given organization, the extent of the effort will depend on the number of computer systems in place, whether those systems are purchased or developed in-house, the age and flexibility of each system, the number of internal system interfaces and reports, and the number of external data transfers and reports to business partners and other entities.

The ICD-10 implementation presents the greatest challenge to hospitals, because the ICD-10-PCS will only be used for inpatient procedure coding. For outpatient settings, the existing code sets – most commonly the CPT – will continue to be used.

Hospitals

Hospitals typically use a variety of software systems to support clinical management and data reporting, utilization and case management, managed care and quality reporting (e.g., HEDIS and JCAHO), billing, ordering of tests and pharmaceuticals, reporting of mortality and morbidity, financial reporting and submission of claims to various payer organizations.

The number and complexity of the information systems used varies by size and type of hospital. In general, larger hospitals use more information technology than smaller hospitals. Urban hospitals use more information technology than rural hospitals, teaching hospitals use more than non-teaching hospitals, and hospitals that are part of a system use more than do stand-alone hospitals. The level of financial investment also varies significantly. The median annual capital investment in information technology of hospitals that have just begun using advanced information systems is \$140,000; the median annual capital investment for hospitals with cutting edge systems is \$2 million.³ Annual operating spending on information systems varies proportionately.

Physician Practices

Medical practices are even more diverse than hospitals, ranging from large multi-specialty organizations with multiple locations to solo practitioners. At the upper end, a large provider organization may have a range of systems similar to that of a large hospital, including financial,

³ *Forward Momentum: Hospital Use of Information Technology*, American Hospital Association, 2005.

clinical, medical management and billing systems. These organizations may have a mix of purchased systems from multiple vendors and in-house legacy systems, with multiple interfaces between internal systems and with external business partners.

Overall, most group medical practices now have automated billing and scheduling systems. Many are in the process of implementing more sophisticated systems, such as electronic medical record, drug interaction warning and clinical ordering systems. Larger practices tend to be further along in adopting health information technology.

At the other extreme, the information systems of some solo practitioners may be limited to a desktop computer with the minimum amount of purchased software necessary to support billing. In that case the implementation may be limited to the installation and testing of updated software from a single vendor, conversion of existing data or parallel operation of two versions for a period of time, and purchasing revised paper forms.

Payers

Health insurers, Health Maintenance Organizations (HMOs), Pharmacy Benefit Managers (PBMs) and other payer organizations are, by their very nature, financial intermediaries that are intensely data driven. Diagnosis and procedure information is central to their core function of paying for necessary and appropriate medical care. The broad functions that are supported by computer systems include the adjudication of health care claims, medical and case management, provider payment, provider contracting, pricing and underwriting, actuarial reserving and financial reporting, enrollment and customer billing.

The number and type of systems will vary by organization. Larger organizations that support multiple product lines and accept insurance risk will require systems to support all of these functions. In some cases, due to consolidation in the industry, there will be a complex mix of legacy systems. Smaller, local organizations will generally have less complex infrastructures. Some, such as PBMs and Third-Party Administrators (TPAs) will not perform all of these functions. Small TPAs, in particular, may rely on a relatively small number of purchased systems. Large PBMs, however, will have a variety of systems for managing pharmacy utilization and costs.

Training

Implementation of a new code set requires that both the individuals assigning codes, and those using the codes, become familiar with the new system. The amount of training needed will vary, as will the mix between formal and informal training. Regardless of the training methods used, however, some training time will be required by many individuals working for both providers and payers.

Hospitals

Most hospitals are likely to have full-time staff dedicated to the assignment of codes. Familiarity with current code sets will be central to the jobs of others involved in medical records and

billing. Finance and information technology staff would also need to become familiar with the new code sets.

For all of the benefits of a new code set to be realized, clinical staff must also become familiar with the new terminology and codes, even though most will not do their own coding. This will include physicians, nurses, and any other clinical staff who currently use diagnostic or procedure codes.

Physician Practices

Large multi-specialty practices are also likely to have one or more individuals for whom coding is a primary job function. Smaller practices, and especially solo-practitioners, will typically depend on part-time coders. Regardless of the size of a practice, the same core functions will be performed: code assignment, maintenance of medical records, billing, financial reporting, and ordering of tests and medications. The depth of knowledge needed will vary based on the size and complexity of each practice, but every practice will require some degree of familiarity for both administrative and clinical staff. Because the ICD-10-PCS is only used in inpatient settings, the transition will generally be easier for medical practices than for inpatient facilities.

Payers

Because the core function of a health plan is paying for health care, understanding what care was provided and why it was needed is central its operations. Thus, it is unsurprising that a large number of payer personnel require at least a basic understanding of current procedure and diagnostic terminology and codes.

The areas most directly affected are claim adjudication, medical management, provider contracting and auditing – these staff must be thoroughly familiar with current code sets. Others working with utilization and claim data, such as actuaries, underwriters and finance staff, must also have a basic familiarity with the codes.

Contract Re-negotiation

The payment rates negotiated between health plans and providers are defined using standard diagnostic and procedural codes. Provider contracts that are currently based on ICD-9 codes will have to be revised. Because the ICD-10 is designed to more accurately describe the services that are provided, a one-to-one mapping is not appropriate – and both providers and payers will want a clear understanding of the payments that will be made for services billed under the new code set. Each negotiated fee schedule will need to be updated and perhaps actively re-negotiated.

Review of Existing Cost Estimates

Three primary estimates have recently been published of the cost of implementing the ICD-10 code set. The first was performed by the RAND Corporation for the National Committee on

Vital and Health Statistics (RAND report).⁴ The second was performed by the Robert E. Nolan Company for the Blue Cross and Blue Shield Association (Nolan report).⁵ The third was prepared by PriceWaterhouseCoopers for the American Medical Association (PWC report).⁶ The Congressional Budget Office has also published a cost estimate of the impact of H.R. 4157, which would mandate the implementation of the ICD-10 code sets as of October 1, 2010.⁷

While all three considered providers and payers, the scope of these estimates was significantly different. The most significant difference between the PWC report and the other estimates is that the PWC estimates only examine procedure coding. All three reports considered the cost of system changes and staff training. The RAND report includes the cost of lost productivity. The Nolan and PWC reports do not include productivity losses, but do include the cost of renegotiating provider contracts. The PWC report also includes the cost of “[t]hird party users of health claims data and modifications and reconciliation of data.” The RAND report includes an estimate for the cost to the Centers for Medicare and Medicaid Services (CMS) for systems implementation for the Medicare program, but does not separately identify the implementation cost for Medicaid or other state programs.

The general approach taken by RAND was to develop a point estimate for each component of cost, and then assign a confident interval around it to produce a likely range of costs. The confidence intervals appear to be based on the judgment of the researchers. Nolan assigned ranges to specific key assumptions. In most, but not all cases, we have been able to use those ranges to reproduce the range of costs reported in the Nolan report.⁸ The PWC estimate was based on a prior report by Coopers & Lybrand of the cost of system changes, which was trended forward and adjusted to reflect training, contract renegotiation and other implementation costs.⁹

Table 1 restates these three estimates to put them on a more directly comparable basis. The RAND report estimates system implementation costs separately for providers, software vendors, payers, and CMS. Table 1 allocates RAND’s estimated cost for software vendors between providers and vendors. RAND analyzes training costs by full-time coders, part-time coders, physicians, and code users. Based on the descriptions in the RAND report, Table 1 allocates the cost for coders and physicians to providers; the cost for code users to payers.

The Nolan report included an estimate for the system implementation costs for “ancillary providers” – providers other than hospitals or physician practices – but excluded them from the

⁴ Martin Libicki & Irene Brahmakulam, *The Costs and Benefits of Moving to the ICD-10 Code Sets*, RAND Corporation, March 2004.

⁵ *Replacing ICD-9-CM with ICD-10-CM and ICD-10-PCS: Challenges, Estimated Costs and Potential Benefits*, Robert E. Nolan Company, October 2003.

⁶ *Cost-Benefit Analysis Implementing CPT as the Single Procedure Code Set, Implementing ICD-10-PCS as the Single Procedure Code Set, or Implementing ICD-10-PCS in the Inpatient Environment*, PriceWaterhouseCoopers, September 2003.

⁷ U.S. Congressional Budget Office, *Cost Estimate of H.R. 4157: Health Information Technology Promotion Act of 2006*, July 25, 2006.

⁸ In estimating training costs, Nolan discusses an assumed number of individuals receiving training and a range for the number of hours each spends in training. We have been unable to reproduce the range of estimated costs using a single assumed cost per hour of training.

⁹ *Cost-Benefit Analysis of a Uniform Procedural Coding System for Physician Services*, Coopers & Lybrand (PWC), September 1989.

totals. Table 1 adds them back in. These include a wide variety of providers, such as physical therapists, nursing homes, home health care companies and substance abuse treatment facilities.

The PWC report developed a “cost impact,” which is described as representing the one time implementation cost of converting information systems to use the ICD-10 code sets, and a “full cost” includes the expenses associated with training, education, provider contract renegotiation, and certain costs associated with “third party users of health claims data.” Table 1 shows the “cost impact” as the systems implementation cost, allocates 10 percent of the difference between the full cost and the cost impact to contract renegotiation, and allocates the rest of the difference to training. It appears that some of the costs reflected in the difference between PWC’s cost impact and full cost represent integration activities (other than code training) that the other estimates include under system implementation. Table 1 does not attempt to reallocate that portion of the cost. Thus, for PWC the system implementation cost is likely somewhat understated, and the training cost somewhat overstated.

Table 1
Summary of ICD-10 Implementation Estimates*
 (All \$’s in \$1,000’s)

	RAND		Nolan		PWC**
	Low	High	Low	High	
<i>System Implementation</i>					
<i>Health Care Providers</i>	\$75,000	\$262,500	\$2,845,000	\$8,600,000	
<i>Payers</i>	\$125,000	\$312,500	\$378,000	\$833,000	
<i>Government Programs</i>	\$25,000	\$125,000	\$700,000	\$1,550,000	
<i>Total</i>	\$225,000	\$700,000	\$3,900,000	\$11,000,000	\$178,000
<i>Training</i>					
<i>Health Care Providers</i>	\$200,000	\$450,000	\$900,000	\$1,400,000	
<i>Payers</i>	\$25,000	\$50,000	\$54,000	\$80,000	
<i>Total</i>	\$225,000	\$500,000	\$950,000	\$1,500,000	\$831,600
<i>Contract Re-Negotiation</i>			\$82,000	\$416,000	\$92,400
<i>Total Implementation Cost</i>	\$425,000	\$1,150,000	\$5,700,000	\$13,900,000	\$1,102,000

* The estimates have been restated to put them into a more directly comparable format.

** PWC provides cost estimates for three different procedure coding scenarios – the number shown are based on the PWC estimates for the implementation of the ICD-10-PCS for the inpatient hospital setting only.

The most significant area of disagreement appears to be how much system implementation is likely to cost provider organizations. In comparing these estimates, it is important to remember that the PWC numbers are limited to the implementation of the ICD-10-PCS, and do not include

the cost of transitioning to the ICD-10-CM for diagnostic coding. It is important to note that these estimates are now two to three years old – current costs would be higher due to inflation.

Preliminary Cost Estimates

Basic approach

These preliminary cost estimates are based in large part on a review of the methods and assumptions used by the three published estimates discussed above. The basic approach taken is to parallel those methods and assumptions where practical, in order to improve the comparability of the results. A key goal is to provide sufficient detail to allow the reader to reproduce the calculations.

The scope includes the cost of implementing the ICD-10-PCS for procedure coding in inpatient settings, and ICD-10-CM for diagnostic coding in both inpatient and outpatient settings. The types of expense included are systems implementation, training, and provider contract renegotiation for health care providers, private payers, and government payers. No attempt is made to quantify productivity losses. The estimates exclude organizations that are not directly involved in the delivery or financing of care, such as research and academic organizations. Also excluded are employers or other health plan sponsors that are not directly involved in the administration of benefits.

The general structure of the Nolan estimates is followed, because it provides a simple and easy to understand format for discussing the key assumptions driving costs. Analyzing system implementation costs by size of provider and payer organization is especially useful.

Systems Implementation

System implementation costs are estimated separately for health care providers, private payers and federal and state health benefit programs. Training staff in operating new versions of software systems is included, but not the cost of educating staff about the new code sets. System vendors are not considered separately. Ultimately, vendors will pass their costs on to their clients – whether in the current contract period, or through higher license and maintenance fees in the next contract period.

Three types of health care providers are considered: hospitals, physician practices, and ancillary providers. Hospitals and physician practices are grouped by size; larger organizations are assumed to have more complex information system infrastructures and higher average implementation costs. Hospitals are generally assumed to face the highest costs, because both their diagnostic coding and their procedural coding will be changing; medical practices and most ancillary providers will only have to adopt a new diagnostic code set. At a minimum, small practices will have to install and test a new version of their software.

Ancillary providers are a very diverse group – no attempt has been made to analyze them by size or type. The average implementation cost for ancillary providers has been assumed to be equivalent to that for a small medical practice (3 to 5 physicians). This is likely conservative, but provides a sense of the potential magnitude of the aggregate cost for this group.

Table 2
Preliminary Estimate of System Implementation Costs – Health Care Providers
 (All \$'s in \$1,000's)

Hospitals	Per Entity		Entities	Total Cost	
	Low	High		Low	High
400+ Beds	\$500	\$2,000	428	\$214,000	\$856,000
200 - 400 Beds	\$250	\$1,000	973	\$243,250	\$973,000
100 - 200 Beds	\$150	\$500	1,168	\$175,200	\$584,000
< 100 Beds	\$35	\$150	<u>2,326</u>	<u>\$81,410</u>	<u>\$348,900</u>
			4,895	\$713,860	\$2,761,900
Physician Practices					
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	<u>145,000</u>	<u>\$290,000</u>	<u>\$1,160,000</u>
			181,941	\$684,155	\$1,948,310
Ancillary Providers	\$5	\$10	100,000	\$500,000	\$1,000,000
Total for Health Care Providers				\$1,898,015	\$5,710,210

Two types of private payers are considered: risk bearing entities, and non-risk bearing Third Party Administrators (TPAs). Risk bearing entities include licensed health insurance companies and Health Maintenance Organizations (HMOs). System costs for risk bearing organizations are assumed to vary by size. Larger organizations are assumed to have more complex systems, more internal system interfaces, and more interfaces with external business partners. Health plans are heavily dependent on historical data for pricing, reserving and financial reporting. In addition, a small subset of medical claims may require an extended period of time to be fully resolved. As a result, historical data must be converted to the new standards, or two standards supported, for several years.

The primary function of TPAs is claim adjudication. They are typically much smaller than a health insurer or HMO, and do not provide all of the same services. The assumed average cost per TPA presupposes that most TPAs will require the installation and testing of a single vendor supplied system, with limited customization of reports and interfaces with external business partners.

Table 3
Preliminary Estimate of System Implementation Costs – Private Payers
 (All \$'s in \$1,000's)

	Per Entity		Entities	Total Cost	
	Low	High		Low	High
Health Plans & Health Insurers					
National	\$10,000	\$25,000	6	\$60,000	\$150,000
Multi-Regional	\$5,000	\$10,000	6	\$30,000	\$60,000
Large	\$3,000	\$6,000	45	\$135,000	\$270,000
Mid-Sized	\$500	\$1,500	75	\$37,500	\$112,500
Small	\$150	\$500	<u>160</u>	<u>\$24,000</u>	<u>\$80,000</u>
			292	\$286,500	\$672,500
Third-Party Administrators	\$25	\$50	1,500	\$37,500	\$75,000
Total for Private Payers				\$324,000	\$747,500

Both the Medicare and Medicaid programs face many of the same implementation challenges as do private payers. The cost to implement, operate and maintain the claim-processing and other systems for Medicare is borne by the Centers for Medicare and Medicaid Services (CMS), and is subject to appropriation. The assumed cost to CMS is intended to be consistent with the CBO cost estimate for H.R. 4157.

Implementing the ICD-10 code sets will require state each Medicare program to upgrade its Medicaid Management Information System (MMIS). Conservatively, the system implementation cost for a state Medicaid program would be equivalent to that for a mid-sized to large health insurer. States operate a variety of other programs that provide health care, pay for health care, or collect and analyze diagnostic and procedure data. These estimates assume that state spending to implement the ICD-10 code sets for these other programs will be roughly equivalent the system implementation costs for Medicaid.

Table 4
Preliminary Estimate of System Implementation Costs – Government Programs
 (All \$'s in \$1,000's)

	Per Entity		Entities	Total Cost	
	Low	High		Low	High
Medicaid	\$1,000	\$3,000	50	\$50,000	\$150,000
Other State Programs	\$1,000	\$3,000	50	\$50,000	\$150,000
Medicare	\$200,000	\$220,000	1	\$200,000	\$220,000
Total for Government Programs				\$300,000	\$520,000

Training

Training costs are estimated based on the number of individuals receiving training, an assumed number of hours spent in training, and an assumed personnel cost per hour. The assumed cost

per hour is intended to reflect both direct pay and other personnel costs, such as benefits and payroll taxes. Both formal training (e.g., classroom seminars) and informal training (e.g., time spent on-the-job becoming familiar with the new code definitions) are included. These estimates only include staff time spent in training – the cost of developing or purchasing training materials is excluded, as is the cost of providing trainers.

Following the RAND report, a distinction is made between full-time coders and part-time coders; those coders working for hospitals are assumed to be full-time coders, while those in outpatient settings are assumed to be part-time coders. Full-time coders are assumed to require the most extensive training – most likely including several days of formal training.

Physicians and other clinical staff are assumed to spend the equivalent of a half day familiarizing themselves with the new codes over the transition period – much if not all of it on an informal basis. Some other hospital staff (non-coding, non-clinical) will also require familiarity with the diagnostic and procedural code sets – primarily billing and financial reporting personnel. On the low end, they are assumed to require at a minimum a few hours of informal training. At the high end, they are assumed to require a day or two of formal training.

Payer staff who work directly with codes on a routine basis are assumed to require less training than a full-time coder, but more than casual familiarity. The range of hours assumes the equivalent of one to two days of training.

**Table 5
Preliminary Estimate of Training Costs**

	Range of Hours		Personnel	Cost per Hour	Total Cost (in \$1,000's)	
	Low	High			Low	High
Health Care Providers						
Coders & Medical Records (Full Time)	24	40	50,000	\$50.00	\$60,000	\$100,000
Coders & Medical Records (Part Time)	8	12	200,000	\$50.00	\$80,000	\$120,000
Physicians	4	6	691,873	\$100.00	\$276,749	\$415,124
Other Clinical Staff	4	6	691,873	\$70.00	\$193,724	\$290,587
Other Hospital Staff	4	16	<u>44,207</u>	\$50.00	<u>\$8,841</u>	<u>\$35,366</u>
Total for Health Care Providers			1,677,953		\$619,315	\$961,076
Payers	8	16	150,000	\$50.00	\$60,000	\$120,000
Total Training Costs					\$679,315	\$1,081,076

Contract Renegotiation

Reimbursement contracts between health care providers and private payers must describe the services that may be purchased and the price for each. Most often, standard code sets are used for this purpose. If a new code set is to be used for billing purposes, then the contracts must be changed as well. In many cases, this will require active renegotiation.

Moving to the ICD-10-PCM for procedure coding will affect most if not all hospital contracts. The change in diagnosis coding may affect some contracts with other types of providers – that cost is excluded from the preliminary estimate below.

The cost of this may be estimated in a manner similar to that for training costs. An assumed number of contracts per hospital multiplied by an assumed number of hours per contract, and an assumed personnel cost per hour. Because of the financial significance of these hospital contracts, the assumed cost per hour presupposes at least some involvement by senior management.

	Number of <u>Hospitals</u>	Contracts per Hospital		Hours		Cost per <u>Hour</u>	Total Cost (in \$1,000's)	
		<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>		<u>Low</u>	<u>High</u>
		Hospital Contracts	4,895	10	20		10	20

Summary

Table 7 below summarizes the results of these preliminary estimates. The overall cost to implement the ICD-10 code sets is estimated to be \$3.2 to \$8.2 billion. Much of this is attributable to system implementation. Because of the large number of health care providers, even a relatively small cost per provider results in a large aggregate cost to the system as a whole.

<i>System Implementation</i>	<u>Low</u>	<u>High</u>
<i>Health Care Providers</i>	\$1,898,015	\$5,710,210
<i>Payers</i>	\$324,000	\$747,500
<i>Government Programs</i>	\$300,000	\$520,000
<i>Total</i>	\$2,522,015	\$6,977,710
<i>Training</i>		
<i>Health Care Providers</i>	\$619,315	\$961,076
<i>Payers</i>	\$60,000	\$120,000
<i>Total</i>	\$679,315	\$1,081,076
<i>Contract Re-Negotiation</i>	\$34,265	\$137,060
<i>Total Implementation Cost</i>	\$3,235,595	\$8,195,846

Proposed Acceleration of the Implementation

Background

One significant precondition to the successful implementation of the ICD-10 code sets is the implementation of the next generation of the HIPAA codes for electronic healthcare transactions (X12 5010 and the NCPDP telecommunications standard). At the same time, health care providers, payers and transaction clearinghouses will be faced with the need to implement a number of other HIPAA changes, including the new provider identifier (May of 2007), the new health plan identifier (still under development), the claims attachment standards and the anticipated HIPAA 835 ERA Enhancements.

Both the hospital and medical practice communities are beginning to implement much more sophisticated health information systems. Completing this transition will require a very significant commitment of both funds and information technology staff time over the next three to five years.

Discussion

Accelerating the implementation of the ICD-10 code sets will also accelerate spending on implementation, moving certain costs forward. But it is not simply a matter of “pay now or pay later” – there are other considerations.

The time available for implementation will directly affect the “build versus buy” decisions made by providers and payers. The longer the lead time, the more likely it is that vendors will be able to provide packaged solutions. Timing is critical. The key question for vendors is not whether they can implement the new codes before a regulatory deadline, but whether they can provide a credible solution to providers and payers at the point at which those organizations must make a strategic decision about how to come into compliance with the new standards. If vendors are not able to respond in a timely fashion, providers and private payers will be more likely to rely on internally developed solutions and work-arounds. (Of course, payers with multiple and highly customized systems may find packaged vendor solutions of limited benefit in any event.)

The supply of programmers, system analysts and consultants who are experienced with health information systems is limited. Accelerated implementation of a major systems revision will of necessity crowd out health information systems initiatives, and potentially increase the cost of labor and software. Dedicating staff and financial resources to this effort has an opportunity cost, as those resources cannot be used for other business improvement and product development efforts that could reduce expenses or improve revenues.

More generally, the less time available to implement the new standards, the more likely organizations will be to focus on minimum regulatory compliance, which would seriously limit the benefits obtained by the new codes sets.

Equally important as the amount of lead time available is the orderliness of the transition. As noted above, implementation of new code sets is simplified if new electronic transaction standards have already been fully implemented and post implementation problems resolved. That, in and of itself, is a significant effort and will require time. Both the transaction and the

code set changes will affect all segments of the health care system – and will require coordinated implementation between payers and providers. Provision should be made for sufficient testing between payers and providers before the new codes are used to transmit claim information.

A somewhat aggressive schedule for implementing these changes might be:

- 2010 Payers and claim clearinghouses required to accept 5010 transactions
- 2011 Providers required to transmit using 5010 transactions
- 2012 Payers and claim clearinghouses required to accept ICD-10 code sets
- 2013 Providers required to transmit using ICD-10 code sets

Such a staggered implementation timeline would allow payers to make their system changes, and then work with their contracted providers over the course of the next year to begin receiving the new data. This would include both cooperatively testing the data interfaces and negotiating any necessary contract changes.

Simultaneous implementation new code sets, by both payers and providers, would add significant additional overhead and confusion to the process – particularly if insufficient time has been allowed between the implementation of new transactions standards and the code implementation. The testing and debugging process would be particularly affected. If both payers and providers were required to go “live” with new systems at the same time, the opportunity for providers to test against stable, fully implemented payer systems would be limited. It would also prevent payers from spreading the effort of implementing new data interfaces with providers over a reasonable period of time after implementing their internal system changes. Pre-implementation testing would become less effective, and the amount of post-implementation debugging would be significantly increased. It is important to recognize that this would affect organizations of all sizes, and those that use vendor software as well as in-house systems. For instance, a solo physician will use purchased software. Nonetheless, if data transmissions to clearinghouses or payers fail due to inadequate testing, business will be disrupted as office staff attempt to make the software work, the vendor is contacted, and a corrected version is installed. Care should be taken to avoid requiring payers or providers to maintain dual systems and business processes any longer than necessary, because this would create unnecessary additional costs.

Potential Increase in Implementation Costs

Legislation being considered by Congress would require implementation of the ICD-10 standard by payers and providers by 2010, almost concurrently with implementation of the new HIPAA standards for transactions (the 5010 and updated NCPDP telecommunications standard). If adopted, this would result less time available for implementation. It would also require near simultaneous adoption of both new transactions standards and new coding standards, and effectively require payers and providers to go “live” with new systems at the same time.

Simply reducing the time available for implementation has potential costs. Increased reliance on in-house solutions due to a lack of vendor solutions and increased demand for experienced health information system personnel will likely result in systems that meet the minimum regulatory requirements, but do not achieve the goals intended for the new standards. In the meantime,

other needed health information initiatives will be deferred, and labor costs may rise due to increased demand. We have not attempted to estimate the impact of these effects.

While still difficult to quantify, the potential effect of requiring near-simultaneous implementation of multiple standard changes by both payers and providers is easier to estimate. The table below illustrates a typical breakdown of system implementation costs for a payer.

Components of System Implementation Cost		
	Low	High
Planning and Administration	10%	15%
Development and Deployment	55%	65%
Testing and Debugging	25%	35%

While other aspects of the software development process would be affected, simultaneous implementation of multiple standards by both payers and providers would pose a particular problem for testing and debugging. Assuming testing and debugging costs were increased by 25 to 50 percent, the overall cost of system implementation would be increased by 6 to 18 percent. For private payers, this would represent an increase in system implementation costs of \$20 to \$131 million.

Simultaneous implementation is a particular concern for payers and clearinghouses because of their greater reliance on custom software systems and the number interfaces they have with providers and business partners. However, as discussed above, even the smallest providers would be affected by a failed implementation. If provider costs were to increase by only 5 percent, this would result in an additional \$95 to \$286 million to the overall cost of the conversion. Using these assumptions, overall private sector system implementation costs would increase by \$115 to \$416 million.

Health Plans' Estimated Costs of Implementing ICD-10 Diagnosis Coding

September 2010

Over the next three years, health insurance plans are required to implement an updated version of the International Classification of Diseases (ICD) system – ICD-10 – for diagnosis and procedure coding and claims processing. ICD-10 coding will provide the U.S. health care system a wide range of benefits. However, the new system represents a significant change from the current ICD-9 code set, and the incremental costs of implementation will be substantial.

A survey of 20 health insurance plans revealed an average per-member implementation cost of about \$12, ranging from \$38 for small health plans (less than one million members) to \$11 for large plans (more than 5 million members). The overall incremental cost for ICD-10 implementation for all responding plans was estimated to be \$1.7 billion. Since the 20 responding health plans do not comprise the whole of the U.S. health insurance market, the total system-wide cost for insurers is likely in the \$2-3 billion range.

Estimated Cost of ICD-10 Implementation, by Size of Company

	Number of Companies	Total Medical Membership	Total Cost to Implement ICD-10	Per-Member Average Cost (Weighted by Enrollment)
Small (<1M Members)	7	2,635,000	\$99 Million	\$38
Medium (1-5M Members)	7	23,400,000	\$293 Million	\$13
Large (>5M Members)	6	113,162,000	\$1.3 Billion	\$11
Total, Responding Health Plans	20	139,197,000	\$1.7 Billion	\$12

Source: America's Health Insurance Plans, Center for Policy and Research.
Notes: Membership has been rounded to the nearest million.

EXHIBIT
JOINT-66

BACKGROUND

The International Classification of Diseases (ICD) is an internationally standardized diagnostic classification code set maintained by the World Health Organization and is used for studying the health and illness of populations, as well as for health management and clinical purposes, such as reimbursement, resource allocation, quality and guidelines. The ICD code set has existed in many forms and is periodically revised in order to allow for progress in the medical field. The ninth version (ICD-9) is currently used in the U.S. In 2009, the Department of Health and Human Services (HHS) announced final regulations¹ requiring the U.S. payers and providers to fully transition to ICD-10 by 2013.

ICD-9 versus ICD-10. The ICD version 10 for diagnoses and procedures differs from ICD version 9 in many ways, most notably in that the new code set has alphanumeric categories rather than numeric categories and that ICD-10 has almost twice as many categories as ICD-9. Details have been expanded for many conditions, causing a jump from 17,000 to 155,000 codes, with additional capacity to add new procedures and diagnoses as medical sciences continue to progress. Additionally, conditions have been regrouped and other classification changes have been made.²

¹ U.S. Department of Health and Human Services. *Standards for Electronic Transactions-New Versions, New Standard and New Code Set - Final Rules*. January 16, 2009. Accessed September 24, 2010. Available at: http://www.cms.gov/TransactionCodeSetsStands/02_TransactionsandCodeSetsRegulations.asp.

² The diagnosis classification system (ICD-10-CM) was developed by the Centers for Disease Control and Prevention (CDC) and is for use in all health care settings in the U.S. For more information on ICD-10-CM, see: <http://www.cdc.gov/nchs/icd/icd10cm.htm>. The classification system used for procedures (ICD-10-PCS) was developed by the Centers for Medicare & Medicaid Services (CMS) for inpatient hospital settings in the U.S. only. For more information on ICD-10-PCS, see: <https://www.cms.gov/ICD10/>.

BENEFITS OF ICD-10

The enhanced data that will come from the switch to ICD-10 will provide the U.S. health care system a wide variety of benefits, including improved public health surveillance and enhanced data for treatment and research, as well as the building blocks to refine payment systems, bolster pay-for-performance, and identify fraud and abuse by more accurately defining services rendered.

ICD-10 will allow health care providers to categorize disease states, document medical complications, and track health care outcomes more effectively than they could with ICD-9. As a result, they will have a better understanding of diseases and causes of death, and they will be able to more efficiently identify ways to improve health care quality. The expanded code set enables providers to indicate on health claims detailed clinical information (e.g., blood pressure levels and body mass index) geared towards improving health outcomes.

Additional examples of the increased specificity of the new code that will assist practitioners and enhance health care quality include:

- Angioplasty, a procedure for widening a narrowed blood vessel, currently has only one code under ICD-9. This will be increased to 1,170 under ICD-10, with separate codes describing the precise location of the blockage and instruments used to widen the vessel.
- Whereas medication errors and external causes of injury are recorded separately from condition codes under the ICD-9 system, they are embedded with the condition code under

ICD-10. This change is expected to help prevent medical errors.³

- Using ICD-10, it will be possible to indicate on which side of the patient's body a condition occurred, which could help identify surgical errors.

Furthermore, the additional detail provided with the expanded code set will make it easier to put electronic health records into practice and improve their utility for practitioners and patients.

Use of ICD-10 will further assist the U.S. health care system in improving quality of care by ensuring that U.S. health care data can be more precisely tracked and compared with those collected by other countries that already use ICD-10.

It is important to note that, despite the benefits of moving to a new code system, these changes pose a number of challenges for health care stakeholders – health plans and health care providers. Among them are the implementation costs involved with revising the system.

INCREMENTAL IMPLEMENTATION COSTS FOR ICD-10

AHIP's survey of ICD-10 implementation costs was designed to separate the incremental, extra costs of implementing the new coding system from routine information technology (IT) or business costs (e.g., costs for maintenance or upgrades to existing IT systems) that would occur even in the absence of ICD-10 implementation. Among the 20 health

³ U.S. Department of Health and Human Services. *HHS Issues Final ICD-10 Code Sets and Updated Electronic Transaction Standards Rules*. January 15, 2009. Accessed August 2, 2010. Available at: <http://www.hhs.gov/news/press/2009pres/01/20090115f.html>.

insurance plans that responded to the survey, the average implementation cost was \$12 per member when weighted by enrollment. For small health plans, covering fewer than 1 million individuals, the per-member implementation cost ranged from \$8 to \$68, with an enrollment-weighted average per-member cost of \$38. For a medium-sized health plan, covering between 1 million and 5 million individuals, the implementation cost per member ranged from \$4 to \$42, with an enrollment-weighted average cost per member of \$13. Finally, for a large health plan, covering more than 5 million individuals, the implementation cost per member ranged from \$3 to \$15, and an enrollment-weighted average cost per member of \$11.

SURVEY METHODOLOGY

AHIP asked member companies to provide total enrollment in their health insurance plans, as well as the total incremental cost of adopting ICD-10. Health plans were asked to report the total business and technology costs associated with implementing ICD-10. The cost figure, reported regardless of time frame, excludes maintenance costs and claims payment costs. For example, administrative costs, including those for adoption of Version 5010 of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) standards⁴ and other expenses related to the maintenance and use of codes and the claims systems after implementation, were considered administrative expenses and excluded from these calculations.

⁴ The HIPAA-mandated transaction standard for covered entities to use when conducting certain health care transactions electronically is currently X12 version 4010A1 for health care claims, remittance advices, eligibility, claims status, referrals, and NCPDP version 5.1 for pharmacy claims. CMS has mandated that the industry upgrade to X12 version 5010 and NCPDP version D.0. in order to increase transaction uniformity, support pay-for-performance, streamline reimbursement transactions, and support ICD-10-CM codification. For more information, see: <http://www.cms.gov/Versions5010andD0/>.

As with any survey of estimated costs, where each company might use different estimating parameters and assumptions, or different periods of time, an extra degree of variability in responses is possible. However, any such variation should be randomly distributed (with an equal likelihood of comparatively higher or lower estimates), and we believe the aggregated results shown in the table above are likely representative.

ACKNOWLEDGMENTS

This survey was conducted and prepared for publication by Hannah Yoo and Kelly Buck of AHIP's Center for Policy and Research.

For more information, please contact Jeff Lemieux, Senior Vice President, at 202.778.3200 or visit www.ahipresearch.org.



BCBSD Affiliation Capability Tracing

July 2011

EXHIBIT
JOINT-67.1



Executive Summary

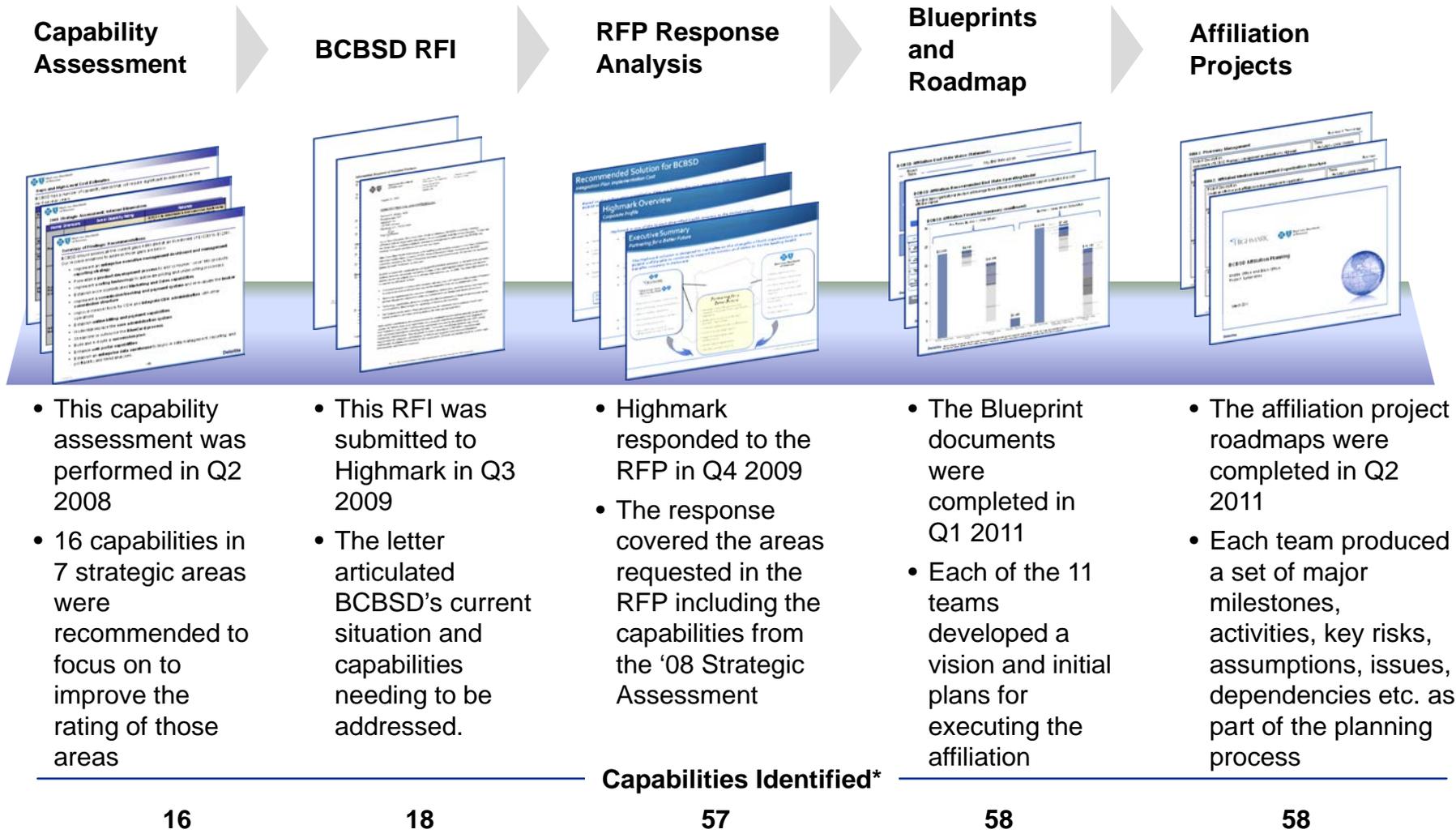
- In Q2 2008 Deloitte performed a capabilities assessment for Blue Cross Blue Shield of Delaware and recommended key capabilities in areas of strategic growth opportunities
- In 2009 BCBSD issued an RFI to capture the opportunities identified by Deloitte through an affiliation. In Q4 2009, Highmark responded to the RFP addressing the requested areas.
- Following the RFP response and selection of Highmark as a partner, a comprehensive blueprint and program roadmap were developed in Q1 2011
- The existing blueprint and road map show that a majority of the capabilities determined in the BCBSD initial capabilities assessment and addressed in the initial BCBSD RFP are captured.

Objectives

- Identify capabilities and map capabilities across the following artifacts:
 - Deloitte Capability Assessment
 - BCBSD RFI
 - Highmark RFP Response
 - Current Blueprint
 - Project Summaries / Roadmap
- Artifact capability alignment

Affiliation Capability Mapping Framework

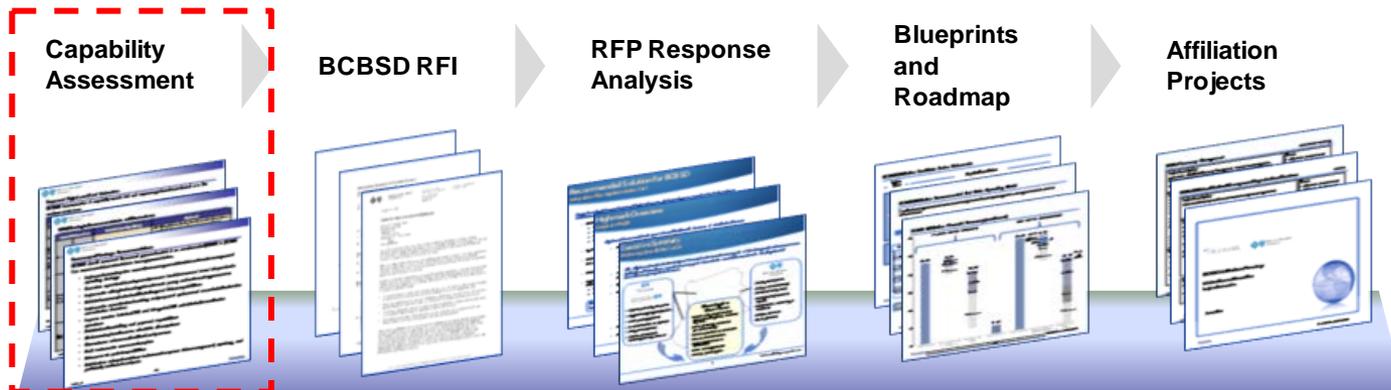
The chronology and series of artifact developed were evaluated to cross check for the affiliation scope and capabilities intended for BCBSD at an end state



Capabilities Identified*

*Counts vary partially due to different levels of granularity

BCBSD Capability Assessment





BCBSD Capability Assessment – Go to Market and Middle Office

Deloitte performed a capabilities assessment during Q2 2008 and recommended focus on these 16 capabilities

Business Area	Capability Element	Capability Element Description
Go to Market	Document Management	[Redacted]
	Informatics	[Redacted]
	External Client Reporting	[Redacted]
	Product	[Redacted]
		[Redacted]
	Sales and Marketing	[Redacted]
	Commissions	[Redacted]
	Pricing/Underwriting	[Redacted]
Middle Office	Network and Medical Management	[Redacted]
		[Redacted]

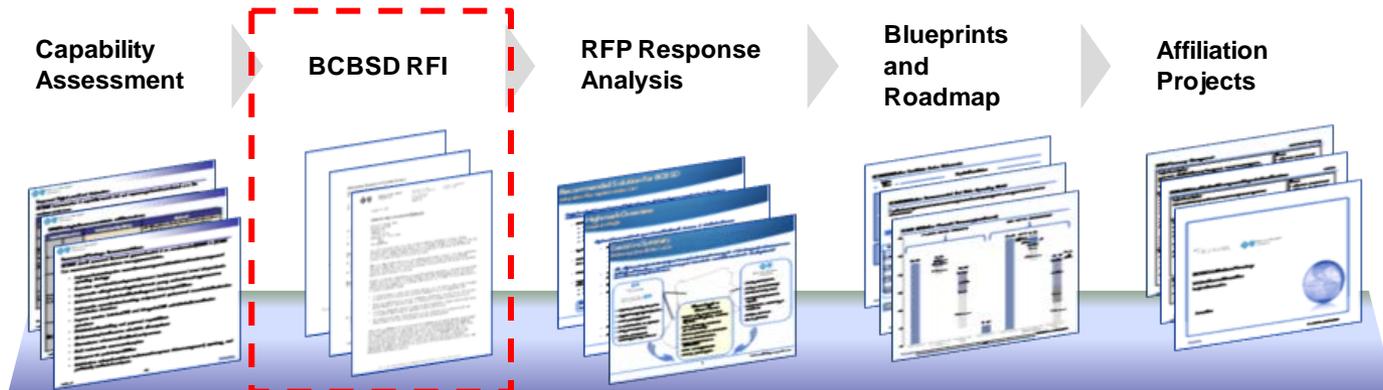


BCBSD Capability Assessment – Back Office and Corporate

Deloitte performed a capabilities assessment during Q2 2008 and recommended focus on these 16 capabilities

Business Area	Capability Element	Capability Element Description
Back Office	Membership and Billing	[Redacted]
	BlueCard	[Redacted]
	Core Administration – TBS (Claims, Enrollment, Billing, Provider)	[Redacted]
	Web Portals and tools to support CDH	[Redacted]
	Infrastructure (Service Oriented Architecture)	[Redacted]
	IT Operations	[Redacted]
Corporate	Financial Processes	[Redacted]
	Human Resources	[Redacted]

BCBSD RFI





BCBSD RFI – Go to Market and Middle Office

In 2009 BCBSD issued an RFI to capture the opportunities identified by Deloitte through an affiliation

Business Area	Capability Element	Capability Element Description Reqs
Go to Market	Informatics	[Redacted]
	Pricing/Underwriting	[Redacted]
	Product	[Redacted]
	Comprehensive and Innovative Products and Services	[Redacted]
	Direct Marketing Experience	<ul style="list-style-type: none"> Market leading people and processes for direct marketing
	Proven Relationships with Brokers and Consultants	<ul style="list-style-type: none"> Established relationships with broader range of brokers
Middle Office	Efficient operations	<ul style="list-style-type: none"> Systems that enhance ability to achieve a more competitive administrative cost position
	Medical and Health Management	<ul style="list-style-type: none"> Best in class medical policy/quality programs Automated clinical business rules Superior clinical program reporting
	Specialty Networks	<ul style="list-style-type: none"> Comprehensive network of clinics and physicians for specialty products and benefits
	Strong Provider Relations & Contracting	<ul style="list-style-type: none"> Strong rapport with Providers

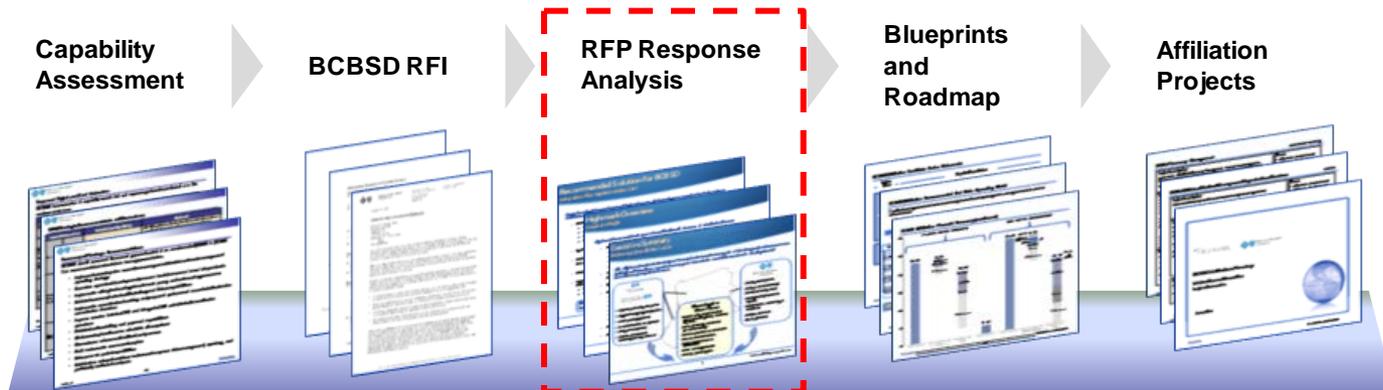


BCBSD RFI – Back Office and Corporate

In 2009 BCBSD issued an RFI to capture the opportunities identified by Deloitte through an affiliation

Business Area	Capability Element	Capability Element Description Reqs
Back Office	Core Administration – TBS (Claims, Enrollment, Billing, Provider)	[REDACTED]
	Infrastructure (Service Oriented Architecture)	[REDACTED]
	Membership and Billing	[REDACTED]
	Web Portals and tools to support CDH	[REDACTED]
Corporate	Human Resources	[REDACTED]
	Maximum Value to Stakeholders - Community	<ul style="list-style-type: none"> Continued support from mission-driven health insurer Real-time claim estimation and adjudication for providers Affiliation structure preserves local jobs and significant economic impact
	Maximum Value to Stakeholders - Customers	<ul style="list-style-type: none"> Improved operational performance and efficiencies Comprehensive portfolio of products under one umbrella
	Maximum Value to Stakeholders - Employees	<ul style="list-style-type: none"> Financial stability Competitive compensation and benefits Access to resources and tools

Highmark RFP Response





Highmark RFP Response – Go to Market

Highmark’s response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark’s Capability Offering to BCBSD
Go to Market	Actuarial and Pricing Expertise	<ul style="list-style-type: none"> Highmark offers market leading people and processes for actuarial and pricing
	Ancillary Products – Dental	<ul style="list-style-type: none"> BCBSD’s migration to Highmark’s platform would give BCBSD the ability to provide customers with a Blue-branded Dental product while utilizing UCD economies of scale for a lower priced product
	Ancillary Products – HM Insurance Group	<ul style="list-style-type: none"> BCBSD’s migration to Highmark’s platform would enable Highmark to further improve/streamline the administration (joint billing etc.) of Stop Loss for the BCBSD self-funded customers
	Ancillary Products – Productivity Management	<ul style="list-style-type: none"> BCBSD’s migration to Highmark’s platform would provide BCBSD the Relationship with Industrial Medical Consultants (“IMC”)-a unique productivity management company that provides organizations with client-focused programs that increase employee and organizational efficiency
	Ancillary Products – Vision	<ul style="list-style-type: none"> Ability to offer customers competitive Vision products
	Commissions	<ul style="list-style-type: none"> Broker relationships are a key strength, but an opportunity exists to reevaluate the broker commission and incentive structure to move in line with the market
	Comprehensive and Innovative Products and Services	<ul style="list-style-type: none"> Opportunity to grow revenues and customer retention by providing Highmark’s integrated offering of ancillary products and services
	Consumerism Capabilities	<ul style="list-style-type: none"> Highmark has made significant investments in consumerism and retail marketing capabilities
	Custom Reporting	<ul style="list-style-type: none"> Custom reports for business areas to leverage in order to use the data informatics
	Direct Marketing Experience	<ul style="list-style-type: none"> Market leading people and processes for direct marketing
	Document Management	<ul style="list-style-type: none"> BCBSD does not have a central repository for data



Highmark RFP Response – Go to Market cont'd

Highmark's response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark's Capability Offering to BCBSD
Go to Market	Enterprise Informatics Capabilities - Data Mgt	<ul style="list-style-type: none"> Enterprise Data Warehouse (EDW) single version of truth Directly integrated into Financial process - financial reporting, billing, and pricing Simplified architecture with focus on internal controls and balancing
	Enterprise Informatics Capabilities - Reporting and Analytics	<ul style="list-style-type: none"> Self-service utilization standard reporting for internal and external customers Comprehensive financial and clinical trend reporting and projections for Actuarial and other areas
	External Client Reporting	<ul style="list-style-type: none"> [Redacted]
	Informatics	<ul style="list-style-type: none"> [Redacted]
	Innovation	<ul style="list-style-type: none"> Highmark has a dedicated team focused on Innovation strategy and development
	National Account Capabilities	<ul style="list-style-type: none"> Strong claim and customer service platform Industry leading client management Integrated approach to managing health plan and productivity
	Portal Capabilities	<ul style="list-style-type: none"> Member portals, employer portal, provider portal, and product portals all provide the tools for each to self service
	Pricing/Underwriting	<ul style="list-style-type: none"> [Redacted] [Redacted]



Highmark RFP Response – Go to Market cont'd

Highmark's response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark's Capability Offering to BCBSD
Go to Market	Product	[Redacted]
	Product Strategy	<ul style="list-style-type: none"> Blue account products, Lifestyle products, supporting tools, and wholesale product platform; aim to transition membership from traditional, wholesale products into products that engage and empower consumers in making healthcare decisions
	Proven Relationships with Brokers and Consultants	<ul style="list-style-type: none"> Established relationships with broader range of brokers
	Retail Marketing	<ul style="list-style-type: none"> Direct retail locations 1 in each Pittsburgh and Harrisburg Direct model marketing units to provide accounts additional space and technology to generate more consumer engagement
	Robust Portfolio of Product Offerings	<ul style="list-style-type: none"> Full array of health insurance and related products and services required by its customers: employers, individuals, government and health plans
	Sales and Marketing	[Redacted]
	Senior Market Capabilities	<ul style="list-style-type: none"> Dedicated Medicare staff and infrastructure Member retention programs Strong relationship with CMS
	Source Differentiation	<ul style="list-style-type: none"> While price, network, service, and brand are still important, increasing attention is given to new “battlefield value” criteria (e.g., data informatics, behavior change, productivity management, etc.) as a source of differentiation



Highmark RFP Response – Middle Office

Highmark’s response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark’s Capability Offering to BCBSD
Middle Office	Behavior Change / Care Management	<ul style="list-style-type: none"> ▪ Comprehensive behavioral change and care management programs and policies
	Clinical Guarantees	<ul style="list-style-type: none"> ▪ Integrated clinical delivery solution
	Cost-effective Network Development and Management	<ul style="list-style-type: none"> ▪ Strong relationships and extensive experiences in managing and developing networks
	Efficient operations	<ul style="list-style-type: none"> ▪ Systems that enhance ability to achieve a more competitive administrative cost position
	Enterprise Risk Management Processes	<ul style="list-style-type: none"> ▪ Robust processes in place to manage risk at the enterprise level with the support of the many medical management, actuarial functions et. al.
	Health and Productivity Management	<ul style="list-style-type: none"> ▪ Comprehensive health and productivity programs and policies
	Industry leading tools	<ul style="list-style-type: none"> ▪ Industry leading tools and processes that drive consistently high performance metrics-higher bluecard, scorecard, MTM, and pass through rate



Highmark RFP Response – Middle Office cont'd

Highmark's response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark's Capability Offering to BCBSD
Middle Office	Medical and Health Management	<ul style="list-style-type: none"> ▪ Best in class medical policy/quality programs ▪ Automated clinical business rules ▪ Superior clinical program reporting
	Network and Medical Management	<ul style="list-style-type: none"> ▪ BCBSD has the most comprehensive network in Delaware but opportunities exist to increase automation of network management functions
	Progressive Medical and Health Management Tools and Techniques	<ul style="list-style-type: none"> ▪ Market leading tools and techniques used in medical and health management
	Provider Transparency	<ul style="list-style-type: none"> ▪ Suite of tools allowing Providers to price and track claims
	Significant IT Investments	<ul style="list-style-type: none"> ▪ BCBSD's customers will benefit from the recent \$360M investment that Highmark has made and will continue to make in new capabilities and operational improvements
	Specialty Networks	<ul style="list-style-type: none"> ▪ Comprehensive network of clinics and physicians for specialty products and benefits
	Strong Provider Relations & Contracting	<ul style="list-style-type: none"> ▪ Strong rapport with Providers



Highmark RFP Response – Back Office

Highmark’s response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark’s Capability Offering to BCBSD
Back Office	BlueCard	[Redacted]
	Core Administration – TBS (Claims, Enrollment, Billing, Provider)	[Redacted]
	Infrastructure (Service Oriented Architecture)	[Redacted]
	Integration Experience and Expertise	<ul style="list-style-type: none"> ▪ Joint integration teams with dedicated senior management resources
	IT Operations	[Redacted]



Highmark RFP Response – Back Office cont'd

Highmark's response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark's Capability Offering to BCBSD
Back Office	Membership and Billing	<ul style="list-style-type: none"> [Redacted] [Redacted]
	Real Time Solutions	<ul style="list-style-type: none"> Real time claims, estimation, adjudication, and accelerated payment; help increase collection of member responsibility at the point of service and to help enable a retail experience
	State of the Art Data Center	<ul style="list-style-type: none"> Highmark owns and operates one of the most advanced data centers in the industry today
	State of the Art Technology	<ul style="list-style-type: none"> Better positioned to respond to rapidly changing industry needs (e.g. healthcare reform, ICD 10); Single, scalable & flexible platform enables business growth while driving operations performance and efficiency, and customer & provider satisfaction
	Technology/ Systems integration	<ul style="list-style-type: none"> Convert BCBSD to the core platform -migrating BCBSD to a single, core technology footprint
	Web Portals and Tools to Support CDH	<ul style="list-style-type: none"> [Redacted]

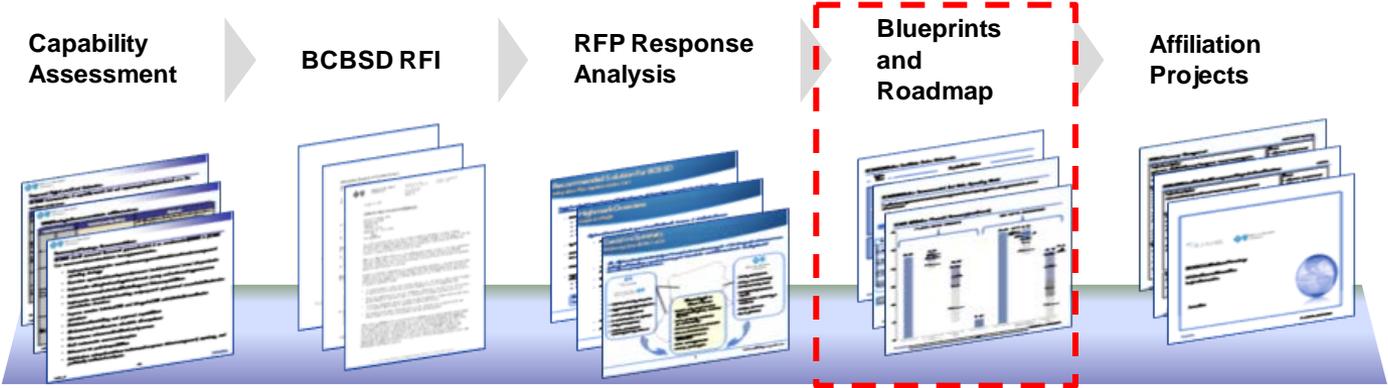


Highmark RFP Response – Corporate

Highmark’s response added many capabilities for consideration

Business Area	Capability Element	Description of Highmark’s Capability Offering to BCBSD
Corporate	Financial Processes	[Redacted]
	Human Resources	[Redacted]
	Maximum Value to Stakeholders - Community	<ul style="list-style-type: none"> ▪ Continued support from mission-driven health insurer ▪ Real-time claim estimation and adjudication for providers ▪ Affiliation structure preserves local jobs and significant economic impact
	Maximum Value to Stakeholders - Customers	<ul style="list-style-type: none"> ▪ Improved operational performance and efficiencies ▪ Comprehensive portfolio of products under one umbrella
	Maximum Value to Stakeholders - Employees	<ul style="list-style-type: none"> ▪ Financial stability ▪ Competitive compensation and benefits ▪ Access to resources and tools

Blueprints



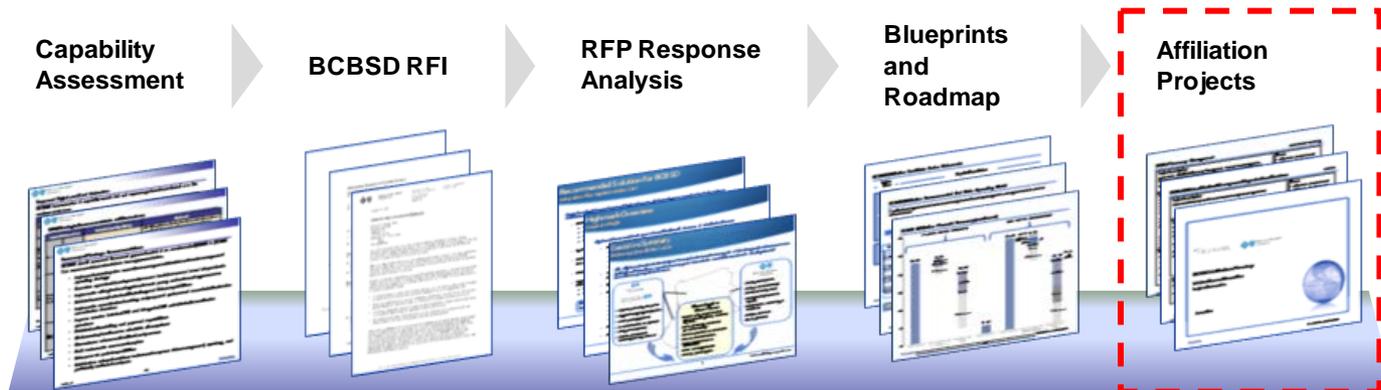


Blueprints

Each of the teams articulated their high level vision for the end state solution in their areas

Project Team	High Level Capability	Description
Corporate Communications & Strategic Planning	Efficient Operations	<ul style="list-style-type: none"> Systems that enhance ability to achieve a more competitive administrative cost position
Finance	Financial Processes	[Redacted]
Health Operations	Technology / Core Systems Integration	<ul style="list-style-type: none"> Convert BCBSD to the core platform -migrating BCBSD to a single, core technology footprint
Human Resources	Human Resources	[Redacted]
Informatics	Informatics	[Redacted]
IT Infrastructure	Infrastructure (Service Oriented Architecture)	[Redacted]
Marketing & Product Development	Product	[Redacted]
Medical Management	Medical and Health Management	<ul style="list-style-type: none"> Best in class medical policy/quality programs; automated clinical business rules; superior clinical program reporting
Provider	Cost Effective Network Development and Management	<ul style="list-style-type: none"> Strong relationships and extensive experiences in managing and developing networks
Sales	Sales and Marketing	[Redacted]

Roadmap





Blueprint, Roadmaps, and Projects – Go to Market

The roadmaps for each project specifically addressed each capability

Business Area	Capability Element	Project ID	Capability Element	Project ID
Go to Market	Actuarial and pricing expertise	FN-7	Informatics	IF-2
	Ancillary Products – Dental	MPD-3; SL-1	Innovation	MPD-1
	Ancillary Products – HM Insurance Group	MPD-3; SL-1	National Account Capabilities	All of Sales Projects
	Ancillary Products – Productivity Management	MPD-3; SL-1	Portal Capabilities	MPD-4, SL-2, MM-4
	Ancillary Products – Vision	MPD-3; SL-1	Pricing/Underwriting	FN-7
	Commissions	SI-3	Product	MPD-1
	Comprehensive and innovative products and services	MPD-1	Product Strategy	MPD-3
	Consumerism Capabilities	MPD-2	Proven relationships with brokers and consultants	SL-1, CCSP-2, MPD-2
	Custom Reporting	IF-2	Retail Marketing	MPD-2
	Direct marketing experience	SL-4	Robust Portfolio of Product Offerings	MPD-1
	Document Management	IF-1	Sales and Marketing	MPD-2
	Enterprise Informatics Capabilities - Data Mgt	IF-1	Senior Market Capabilities	All of Sales Projects
	Enterprise Informatics Capabilities - Reporting and Analytics	IF-2	Source Differentiation	MPD-1
	External Client Reporting	IF-4		



Roadmaps and Projects – Middle Office, Back Office and Corporate

The roadmaps for each project specifically addressed each capability

Business Area	Capability Element	Project ID	Capability Element	Project ID
Middle Office	Behavior Change / Care Management	MM-3	Medical and Health Management	MPD-1
	Clinical Guarantees	MM-5	Network and Medical Management	MM-4, PV-3
	Cost-effective network development and management	PV-4	Progressive Medical and Health Management Tools and Techniques	MPD-1
	Efficient operations	HO-7, HO-8	Provider Transparency	PV-2
	Enterprise risk management processes	LACEA*-3	Significant IT Investments	Many
	Health and Productivity Management	SL-1	Specialty Networks	PV-4
	Industry leading tools	IT-5, HO-7, HO-8	Strong Provider Relations & Contracting	PV-4
Back Office	BlueCard	HO-1	Real time solutions	HO-6, HO-1
	Core Administration – TBS	HO-1	State of the Art Data Center	IF-1
	Infrastructure (Service Oriented Architecture)	IT-2, IT-3, IT-5	State of the art technology	IT-5, HO-7, HO-8
	Integration Experience and Expertise	PV-1; IF-4; HR-1	Technology/ Systems integration	IT-5, HO-7, HO-8
	IT Operations	IT-7	Web Portals and tools to support CDH	MPD-4
	Membership and Billing	HO-4, HO-6		
Corporate	Financial Processes	FN-1	Max Value - Customers	HO-9, Many Others
	Human Resources	HR-2	Max Value - Employees	IT-7, HO-10, IF-4, All of HR Projects
	Max Value - Community	CCSP-3, LACEA*-5	Treasury / Investment management	FN-3

Highlights of Results

The Deloitte strategic assessment highlighted 16 capabilities, the Highmark RFP Response added another 42, for a total of 58 capabilities.

Business Area	Capability Element	Capabilities Assessment	Highmark RFP Response	Blueprint & Roadmaps
Go to Market	Informatics	✓	✓	✓
	External Client Reporting	✓	✓	✓
	Product	✓	✓	✓
	Commissions	✓	✗	✓
	Pricing/Underwriting	✓	✓	✓
Middle Office	Network and Medical Management	✓	✓	✓
Back Office	BlueCard	✓	✓	✓
	Core Administration – TBS (Claims, Enrollment, Billing, Provider)	✓	✓	✓
	Infrastructure (Service Oriented Architecture)	✓	✓	✓
Corporate	Financial Processes	✓	✓	✓
	Human Resources	✓	✓	✓

Addressed ✓ Partially Addressed ○ Not Addressed ✗

- The Highmark RFP Addresses 97% capabilities, External Client Reporting partially, but did not directly address Commissions
- Current capabilities do not include Medicaid
- The Blueprints and Roadmaps address 97% capabilities

Next Steps

- Schedule additional discussions to further refine the capabilities



————— **Appendix** —————



Project Details

Project Details

ID	Project Name	Project Description
CCSP-1	Branding Strategy	Development of the strategy that defines how to brand BCBS of Delaware when the Affiliation Agreement with Highmark is approved by the DE Insurance Department .
CCSP-2	Develop internal and external Communications Strategy	Branding as part of Highmark must maintain the market leadership of the BCBSD brands and extend Highmark's brand strength into Delaware, without market disruption and with positive reception by all stakeholders.
CCSP-3	Market Launch	Create a positive image for the combined enterprise, generate goodwill and maintain relationships with group accounts, providers, customer members, broker/agents and Associates (employees) that publicly launches to all customer touch points how the organization will be known by the community at large
CCSP-4	Rebranding Implementation	Make all the necessary changes on all external communications and building signage, all systems & all business processes to use the new name and logo for Delaware, as efficiently as possible.
CCSP-5	Corporate Website	Incorporate BCBSD into the Corporate Highmark Website – Highmark.com, and determine how the BCBSD Intranet will be integrated to Highwire.
CCSP-6	SalesForce. Com	To support Market Study, ensure SalesForce.com can accommodate the information needed to support Market Research
CCSP-7	Across Affiliates Database/ Company Profile DB	Capture all BCBSD Client information on AADB to support Sales, Marketing, etc. front-end functions. Use the new matching component of the Company Profile DB
CCSP-8	Ad Tracker Study	Determine if the Ad Tracker Study would provide value for Highmark to re-institute or if an alternative solution to provide BCBSDE with an Advertising Effectiveness Study is needed
CCSP-9	Market Research Studies	Make all the necessary changes to existing Highmark Market Research Studies to include BCBSD
CCSP-10	Corp Strategy Policies & Processes	Understand differences between HM and DE departments and develop or modify processes and policies for the affiliated company in :Advertising, PR, sponsorships, Communications

Project Details

ID	Project Name	Project Description
FN-1	Part I – PeopleSoft & Hyperion Migration	BCBSD finance currently uses Walker as the primary financial system along with various supplementary finance systems and applications. As the end-state goal is for BCBSD to apply all Highmark technology, it is important to migrate BCBSD’s finance activities onto Highmark’s PeopleSoft G/L and all relevant modules as well as other finance system and applications used by Highmark.
FN-1	Part II – Other Finance System Migration (including CBS)	BCBSD finance currently uses Walker as the primary financial system along with various supplementary finance systems and applications. As the end-state goal is for BCBSD to apply all Highmark technology, it is important to migrate BCBSD’s finance activities onto Highmark’s PeopleSoft G/L and all relevant modules as well as other finance system and applications used by Highmark.
FN-2	Post Close Interim Reporting Package Design	FAR Post Close and FP&A Post Close Reporting Packages Design
FN-3	Treasury & Investment Management Strategy and Process	BCBSD will utilize Highmark’s banking relationships and investment managers in achieving synergies from banking fees. Bank accounts need to be transitioned and the entire investment management strategy and processes need to be re-aligned with Highmark’s operating model in the area
FN-4	Procurement Consolidation	Consolidation of BCBSD into Highmark Procurement systems and process. Consolidation of vendors to gain efficiencies
FN-5	Financial and Accounting Policy	Review of Delaware policies and adoption of Highmark Financial and Accounting Policies by Delaware
FN-6	Consolidation of Professional Services	Consolidation of services for Audit, Tax and Corporate Insurance post affiliation
FN-7	Actuarial and Underwriting Strategy & Process	Consolidation of Actuarial and Underwriting policies and processes and adoption of Highmark policies by BCBSD (unless otherwise dictated by Delaware requirements)
FN-8	Affiliated Finance Organization	Create an effective post-affiliation Finance organization

Project Details

ID	Project Name	Project Description
HO-1	Claims Application System Changes	The Team feels this project would have to occur immediately after close the duration would be 2 years. We need to meet HCR and ICD-10 requirements. There are a lot of dependencies before this can happen: provider data loaded, pricing data, benefits would need to be coded
HO-2	Customer Service Application System Changes	BCBSD and Highmark will ensure that BCBSD migrates to one common customer service system. This will include call routing, grievance / appeals, IVR support ,etc. The Team will understand the tactical next steps required to complete this migration.
HO-3	Client Admin / Benefit Coding Application System Changes	BCBSD and Highmark will ensure that BCBSD migrates to one common client admin / benefit coding system.
HO-4	Membership/Enrollment Application System Changes	BCBSD and Highmark will ensure that BCBSD migrates to one common membership / enrollment system. This will include the conversion of enrollment to ECS. The Team will understand the tactical next steps required to complete this migration.
HO-5	Banking Arrangements (Treasury)	BCBSD and Highmark will determine lockbox/bank arrangements necessary for invoice generation .
HO-6	Billing Application Systems Changes	BCBSD and Highmark will ensure that BCBSD migrates to one common billing application system. This will include conversion of current and historical data. The Team will understand the tactical next steps required to complete this migration.
HO-7	Operational Excellence Data Analyses	BCBSD and Highmark will ensure that there is alignment with Highmark's Operational Excellence data analyses.
HO-8	Operational Excellence Process Flow Changes	BCBSD and Highmark will ensure that there is alignment with Highmark's Operational Excellence process flows.
HO-9	Communications Impact	THIS WILL BE INCORPORATED INTO THE OVERALL CC&SP PROJECT
HO-10	Affiliated Health Operations Organization	N/A

Project Details

ID	Project Name	Project Description
HR-1	Workforce Management	Manage workforce transition into new affiliated company, including cost analysis, alignment of roles, responsibilities and job grades.
HR-2	HR Systems Migration	Assess and consolidate current HR Systems into one, centralized platform which enables the day to day activities of each HR Function.
HR-3	Compensation & Benefits	Analysis of differences in compensation structures and alignment of compensation and benefits in end-state organization
HR-4	Employee Experience (Change Management & Training)	Manage employee experience throughout the affiliation process and develop strategies and plans to prepare for appropriate HR communications, training, on-boarding requirements, orientation and assimilation
HR-5	Affiliated HR Policies & Procedures	Assess HR policies across Hmk and DE and align to ensure all obligations are appropriately met when developing affiliated organization policies. Ensure consistency of policy and training across all functions
HR-6	Affiliated HR Organization	Development of affiliated HR organization structure
IF-1	Informatics Data Migration	Consolidation of core systems and migration to a centralized platform. Develop a consistent system across the organization
IF-2	Informatics Policy and Reporting	Establish a consistent method of reporting in Informatics
IF-3	Procurement Contract and Process Consolidation	Consolidation of all vendors and vendor management process (SAS, Verisk)
IF-4	Affiliated Informatics Organization	Create an integrated post-affiliation informatics organization. Reorganize key talents to achieve an optimized workforce for the end state organization.

Project Details – Medical Management and Provider (Middle Office)

ID	Project Name	Project Description
IT-1	Day one collaboration	Develop “Day 1 Collaboration” plan
IT-2	Security	Expand Security Configurations
IT-3	Network	Develop network capabilities, centralize the dialing plan and communication services
IT-4	Planning	Create post close timeline to align with business timeline.
IT-5	IT Internal Application Migration	Migrate the set of IT applications from BCBSD to Highmark to establish a centralized IT structure
IT-6	Capacity Planning	Review infrastructure current capacities, utilization forecast
IT-7	Affiliated IT Infrastructure Organization	Create an integrated post-affiliation IT infrastructure organization. Reorganize key talents to achieve an optimized workforce for the end state organization.
IT-1	Day one collaboration	Develop “Day 1 Collaboration” plan
IT-2	Security	Expand Security Configurations

Project Details – Finance (Corporate)

ID	Project Name	Project Description
LACEA*1	Affiliated Legal Organization & Processes	Consolidation of Legal organization processes and creation of an affiliated organization structure
LACEA*2	Affiliated Audit Organization & Processes	Consolidation of Audit organization processes and creation of an affiliated organization structure
LACEA*3	Affiliated Admin Oversight Organization & Processes	Admin functions will apply a mixture of Shared Services Model and Centralized Support Services Model . It is important to define and develop the affiliated organization structure and standardized processes aligned with the end state operating model (including Facility Management and Enterprise Risk Management)
LACEA*4	Affiliated Compliance Organization & Processes	Consolidation of Compliance organization processes and creation of an affiliated organization structure for both Privacy Office and Integrity Office.
LACEA*5	Affiliated External Affairs Organization & Processes	Consolidation of External Affairs organization processes and creation of an affiliated organization structure
LACEA*6	Miscellaneous IT (BlueSTAR and other miscellaneous systems)	Systems and application consolidation and migration for the Legal, Audit, Compliance, External affairs and Admin Oversight functions
MM-1	Pharmacy Management	Assessment of BCBSD Pharmacy Management and transition to Highmark Pharmacy management program and platform as soon as possible following regulatory approval.
MM-2	Affiliated Medical Management Organization Structure	Create an effective post-affiliation medical management organization
MM-3	Medical Management Program & Policy Strategy	BCBSD and Highmark will review their Medical Management Program & Policy Strategy, including an understanding of Provider Management

Project Details – Infrastructure (Back Office)

ID	Project Name	Project Description
MM-4	Medical Management Platform & Systems Integration	Integrate medical management platforms and systems and migrate BCBSD data to Highmark systems
MM-5	Contract Management (Med Mgmt & Provider)	Shift of all Delaware and potentially Highmark medical management contracts to recommended vendors for improved pricing and efficiency.
MPD-1	Product Management & Development	BCBSD and Highmark will work to create centralized product management and development processes to ensure we meet market and customer demands.
MPD-2	Customer Engagement & Marketing Communications	For Day One, BCBSD and Highmark will create a strong customer engagement strategy for its members, employers, consultants, and brokers to better understand the demands of the market. BCBSD and Highmark will also provide in this strategy.
MPD-3	Product Branding Strategy	BCBSD and Highmark will define / create a product branding strategy that is consistent with the enterprise branding strategy. We will work in lockstep with CC&SP.
MPD-4	Digital Strategy	BCBSD and Highmark will create an even more robust digital strategy that will include improving the portal functionalities, platforms and technical capabilities. This will also align with Healthcare Reform mandates.
MPD-5	Affiliated M&PD Organization	THIS WILL BE INCORPORATED INTO THE OVERALL HR/EE PROJECT

Project Details – Health Operations (Back Office)

ID	Project Name	Project Description
PV-1	Affiliated Provider Organization	Create an integrated post-affiliation provider organization. Reorganize key talents to achieve an optimized workforce for the end state organization.
PV-2	Provider Policies and Processes	Development of a single, consistent process for working with providers, and ensure alignment in reimbursement and other policies
PV-3	Provider Systems Migration	For Day One, migration of systems and applications used within the provider organization, and by Providers within the network. Seamless migration is essential to ensure no impact is felt outside the companies.
PV-4	Contract Management (Med Mgmt and Provider)	Shift of all Delaware provider contracts into Highmark contract management system, and consolidation of vendor relationships for improved pricing and efficiency. Ultimately develop a contract that is consistent with methodology, language and policies of Highmark
SL-1	Sales & Retention Strategy	BCBSD and Highmark will create opportunities to cross-sell, up-sell, and offer new products to strengthen sales retention.
SL-2	Salesforce Automation	BCBSD and Highmark will utilize Highmark's sales automation tools and quoting and rating tools. Please note that there are two phases to this project: Phase1) CRM Management and Phase 2) Institutionalizing Back Office
SL-3	Distribution Strategy	BCBSD and Highmark will work to create a distribution strategy, leveraging all media to promotes Sales. This will align with the Sales Retention Strategy.
SL-4	Sales Support / Marketing Administration	BCBSD and Highmark will work to build a strong sales support and marketing administration model.
SL-5	Affiliated Sales Organization	N/A

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How Health Care Reform Will Change the Insurance Landscape

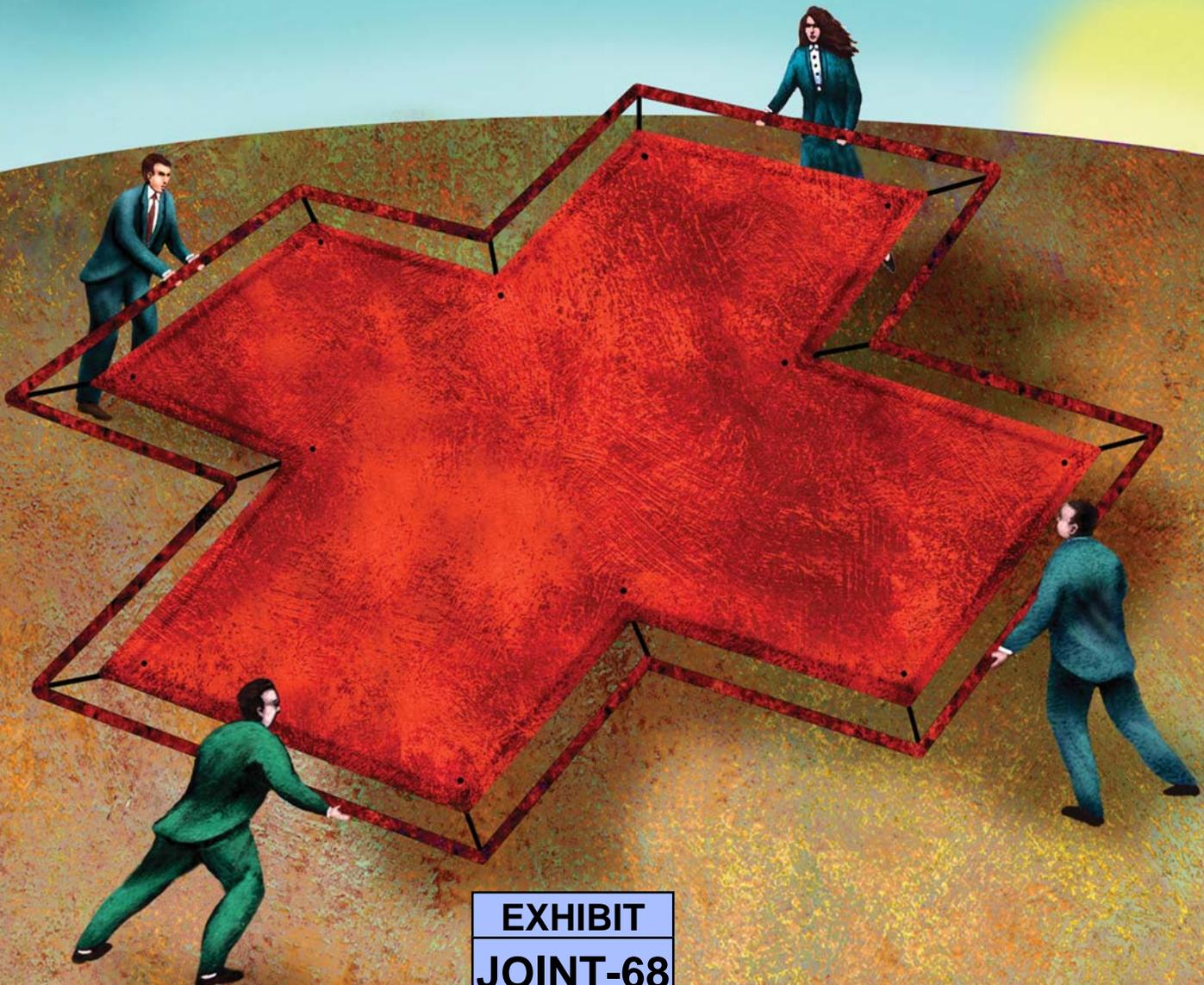


EXHIBIT
JOINT-68

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Innovation, Diversification, and a Focus on Fundamentals

How Health Care Reform Will Change the Insurance Landscape

Martin B. Silverstein, MD, Giridhar N. Rao, and Lori Spivey

July 2011

AT A GLANCE

A BCG study, based on a comprehensive survey of senior insurance executives, found that payers are responding to health care reform on several fronts.

COST IS KING: REDESIGNING THE OPERATING MODEL

More than 90 percent of the plans cited managing medical costs as a top priority; many are actively experimenting with provider reimbursement and collaboration models. Most plans are also taking aggressive steps to curb administrative costs.

THE EMERGING BATTLEGROUND: CAPTURING THE RETAIL CUSTOMER

Insurers are ramping up their growth efforts, but the cornerstone of the new retail-oriented market—the exchange—remains unnervingly abstract.

NEW FRONTIERS: DIVERSIFYING REVENUE STREAMS

Smaller plans are diversifying into new customer and product segments. Larger plans are moving beyond the core business by selling information and medical management services, testing the waters in foreign markets, and acquiring providers.

THE EVOLUTION OF THE PAYER LANDSCAPE

We expect the industry to assume a more sharply divided, barbell-shaped profile, with large plans at one end and smaller, niche plans at the other.

MORE THAN A YEAR after it was signed into law, the Patient Protection and Affordable Care Act is shaping up to be a mixed blessing for the health insurance industry. From 2011 to 2019, an estimated 26 million new customers will enter the market as a direct result of the law. Over the same period, the profit margins of insurers (taking into account a new premium fee but excluding all other taxes) could decline by more than 40 percent.

The change will be made all the more disruptive by the uncertainty surrounding the law. Many of the most significant rules have yet to be written. In addition, the act gives states tremendous latitude to develop their own strategies for ensuring that residents have access to “high-quality, affordable health care.” Insurers are likely to wind up dealing with radically different mandates from state to state. Muddying the picture further are the various state-led experiments to rein in Medicaid costs, along with the political forces and judicial reviews that could change how the act is implemented.

According to a recent BCG study, however, health insurers are looking past the uncertainty and moving ahead with initiatives designed to capture the upside of the changes while minimizing the pressure on profitability. (For more on the study, which was based on a comprehensive survey of U.S. health insurers, see the sidebar below.) Most companies are responding to the law by redoubling their

CANVASSING THE PAYER INDUSTRY

In March and April 2011, BCG surveyed or interviewed about 120 health-insurance executives. The executives represented 48 of the largest payers, including 9 national plans, 21 Blues, 9 regionals, and 9 other plans, most of which were focused-segment and integrated models. A focused-segment payer typically concentrates on just one or two customer segments, such as Medicaid or Medicare. An integrated model is based on the vertical integration of payer and provider.

The payers we surveyed provide health benefits to more than 160 million individuals, or about 65 percent of the total lives covered in the U.S. The survey was complemented by in-depth interviews on a variety of reform-related issues. We interviewed a broad range of executives, including CEOs and medical directors, as well as heads of marketing, IT, and operations.

efforts to improve business fundamentals, primarily by managing medical costs, curbing administrative costs, and capturing new customers. The act has also given them license to experiment with new and unconventional ways of addressing these perennial issues, while prompting some to diversify beyond the core.

Despite their proactive stance, payers still have significant hurdles to clear. Among other imperatives, they will need to transition from what has historically been a business-to-business model to a business-to-consumer model. The playing field will tilt steeply in favor of insurers that can provide low-cost products to retail customers. To achieve a cost position that can support such products, most insurers will need to shift from an adversarial to a collaborative relationship with providers, which is arguably the only way to change the trajectory of health care costs (for the better). Even then, however, the pressure on margins will be so great that almost all payers will need to continue searching for new revenue streams.

The playing field will tilt steeply in favor of insurers that can provide low-cost products to retail customers.

What will the rise of a low-cost, retail-oriented marketplace mean for the payer industry as a whole? The answer can be found not by looking at these companies as a monolithic group, but rather by understanding how each type of payer will respond to these imperatives given its relative strengths and capabilities.

Assessing the Impact of the Affordable Care Act

From 2011 to 2019, when all the elements of the Affordable Care Act go into effect, the total number of lives covered by health insurers is expected to increase by 49 million. Much of this growth—about 26 million new lives—will come as a direct result of the law. (See Exhibit 1.) The significant expansion of coverage, coupled with a steady rise in health care costs, has far-reaching implications for the health care system.

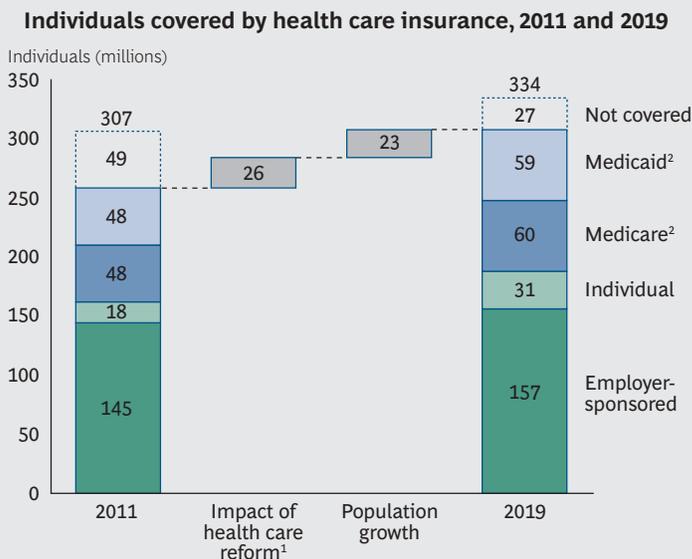
- The market for health insurance is expected to become much more retail oriented, for several reasons. First, we expect to see strong growth in the Medicare and Medicaid segments, both of which (and especially the former) have a retail bent. Second, the individual market and a significant portion of the small-group business will move to exchanges, creating a retail marketplace of some 30 million lives. Third, some analysts estimate that as many as 10 percent of employers may opt out of insurance altogether and instead provide financial incentives for employees to buy insurance via the exchanges; these are relatively conservative estimates—the actual opt-out rate could well be higher.
- The provider landscape will also undergo profound changes due to the growing emphasis on quality and outcomes. Hospitals are already anticipating a dramatic shift in reimbursement policies and are investing heavily in health care information technology (HCIT). HCIT capabilities can help providers make more-informed decisions about patient care, which is a critical step toward taking on the risk associated with outcomes-based arrangements. Many providers are also assessing whether and how to participate in Accountable Care Organization (ACO) pilots and medical home programs, in which a personal physician coordinates a patient's care. In addition, the provider landscape is

being transformed by an uptick in M&A activity. Hospitals have been acquiring physician practices in order to broaden their referral bases, participate as ACOs, assume risk for a larger population, and ultimately have a better handle on quality and outcomes. At the same time, private-equity firms have shown a growing interest in this sector.

As important as they are, these trends are overshadowed by changes in the economics of the health insurance industry—for better and for worse. We expect the industry’s revenues to more than double from 2011 to 2019, to about \$1.2 trillion. Over the same period, however, its profit margin (excluding all taxes other than a new premium fee) could decline from nearly 5 percent to slightly below 3 percent. Most of this decline—over two thirds—will come as a direct result of the new premium fee. The remainder will come from the relatively strong growth of less profitable segments. This estimate excludes other potential threats to margins, such as increased competition on exchanges and constraints imposed by the new medical loss ratio (MLR).

The impact of the fee, which is expected to rise to nearly 1.5 percent of revenues by 2019, will depend on the extent to which insurers pass this cost on to customers. A profit margin of less than 3 percent assumes that insurers pass on none of the fee. Payers are likely to shift at least some of the burden to their customers, but this approach is not without consequences. A rise in premiums may prompt some

EXHIBIT 1 | Health Care Reform Will Bring About 26 Million New Customers into the Market



Sources: BCG analysis; BCG survey of payer responses to the Affordable Care Act; BCG interviews.
Note: The sum of the segments may differ from the totals shown because of rounding. Medicaid lives include both fee for service (FFS) and Medicaid managed care. Medicare lives include both FFS and Medicare Advantage.
¹Includes about 4 million individuals who will be added to the population over this period and who would not have had coverage without health care reform.
²The Medicaid and Medicare categories together include about 7 million dual-eligible individuals.

employers to drop coverage for their employees or encourage larger employers to move from fully insured to self-insured. These actions would undermine the industry's revenues and profits.

One way or another, therefore, the fee could significantly dampen payer profits. Assuming, for the sake of simplicity, that payers pass none of the fee along to consumers, the industry's profit would grow from \$27 billion in 2011 to \$34 billion in 2019. (For more on how we derived these estimates, see the sidebar "Methodology.") This incremental gain—it amounts to average annual growth of only about 3 percent—stands in stark contrast to both the surge in new lives insured and the industry's track record of strong performance.

Our survey showed a wide variation in how different kinds of insurers are responding to reform. The strategies being pursued by nationals, for example, differ significantly from those being pursued by payers that are focused on a specific region ("regionals") or on a small number of customer segments ("focused-segment payers"). There were, however, several common themes.

First, executives are unbowed by the ambiguity surrounding the Affordable Care Act and are positioning their businesses to thrive in the new environment. Second, the strategies are, for the most part, focused on getting back to basics, albeit with a sense of urgency. "We are doing things we should have done all along," remarked one executive. "Reform is just forcing us to do them faster." Third, the disruption caused by health care reform has prompted some insurers to explore new and unconventional ways of improving performance or growing revenues.

The payers we surveyed are pursuing a range of initiatives to succeed in the post-reform environment. Among these initiatives, three broad imperatives are apparent. (See Exhibit 2.)

Insurers are pursuing new and unconventional ways of improving performance or growing revenues.

- *Redesign the operating model.* More than 90 percent of the plans in our survey cited managing medical costs as a top priority; many are actively experimenting with provider reimbursement and collaboration models. Most plans are also taking aggressive steps to curb administrative costs through alliances and outsourcing or by designing low-cost products for retail customers.
- *Capture the retail customer.* Insurers are ramping up their efforts to enhance their brands and reach new customers, but most are concerned about the lack of clarity surrounding exchanges. While virtually all plans are preparing to participate in exchanges, their approaches differ widely. Blue Cross Blue Shield plans ("Blues") and regional plans see their local share and brand as natural advantages. Nationals will participate selectively, but they generally view exchanges as a way to gain local share in what were the individual and small-group markets.
- *Diversify revenue streams.* Smaller plans are diversifying into new customer segments and insurance products, while larger plans are moving beyond the core business of health coverage by selling information and medical management services, testing the waters in foreign markets, and acquiring providers.

METHODOLOGY

Our projections of insurance coverage and industry profits were developed as a supplement to the primary goal of our study, which was to understand how payers are changing their business models in response to health care reform. Accordingly, the inputs to our model that generated these projections were based primarily on public sources.

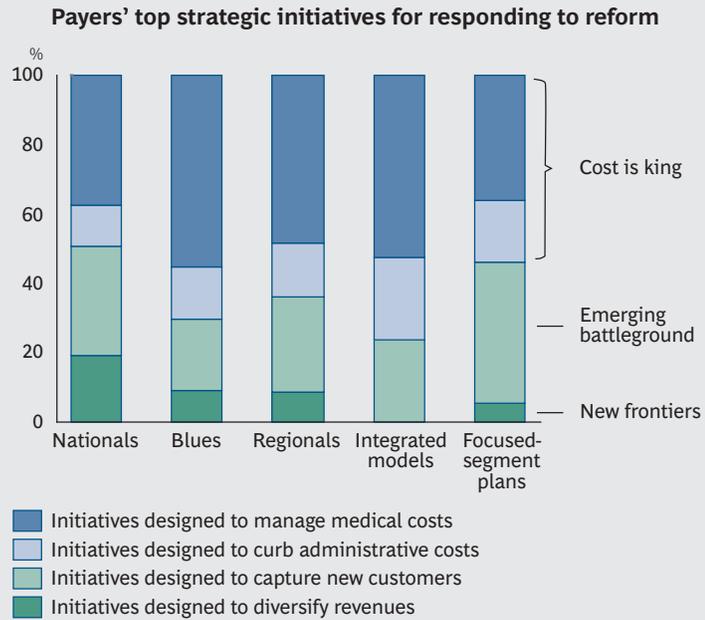
U.S. Census estimates were used for population projections and to understand sociodemographic factors (such as the distribution of the population as a percentage of the federal poverty level). Centers for Medicare and Medicaid Services (CMS) data were used as a baseline for Medicare and Medicaid program enrollment.

Coverage uptake rates were based on various sources, including the Urban Institute's Transfer Income Model (TRIM), the Congressional Budget Office (CBO), the *Current Population Survey*, and the Small Business Administration. In addition, data from the Medical Expenditure Panel Survey (MEPS), conducted by the Department of Health and Human Services, were used as a basis for rates of employees offered, eligible for, and accepting health insurance coverage by employer size.

Our projections of market growth, industry revenues, industry margins, and other reform-related developments, such as the market share of various distribution channels, were based on a set of assumptions about four key aspects of reform:

- **Employer Opt-In.** Projections of the number of people who will receive health insurance from an employer under reform were based on projections from the CBO, with some minor adjustments for expected population shifts among states, as well as on analysts' estimates.
- **Distribution Channels.** Projections for distribution channels were based on the National Federation of Independent Business's (NFIB) National Small Business Poll on purchasing health insurance, CBO estimates, and interviews with industry participants.
- **Individual Uptake.** Projections for the uptake of insurance in the individual market were based on expected price elasticity of demand within this market. Demand curves were based on published research into the impact of health insurance premiums and cost sharing in low-income populations¹ and on health insurance premium affordability and health insurance rates.²
- **Changes in Revenues and Costs.** Future industry revenues and costs were based on calculations of lives covered and were projected per member per month (PMPM) by product category. PMPM data were based on analyst estimates, including estimates from Barclays and Deutsche Bank, and interviews with industry experts. Medical costs were assumed to grow at a little over 6.5 percent annually.

EXHIBIT 2 | Most Plans Are Pursuing a Mix of Cost and Growth Initiatives



Sources: BCG survey of payer responses to the Affordable Care Act; BCG interviews.

Cost Is King: Redesigning the Operating Model

Recognizing that low-cost products will be pivotal to their success, many payers are taking a dual approach to transforming their cost structures. First, they are managing medical costs by redefining their relationships with providers and members. Second, they are lowering administrative costs by redesigning their processes, increasing automation, and pursuing other initiatives to improve efficiency.

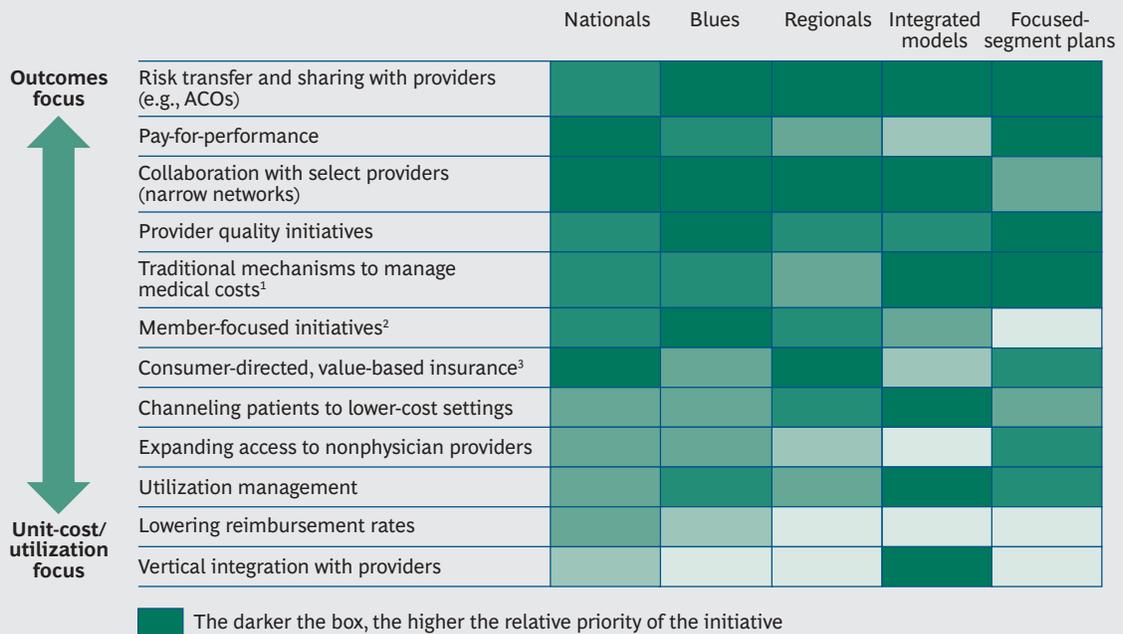
MANAGING MEDICAL COSTS

The insurance industry is pursuing a mix of initiatives to rein in medical costs. Some efforts, like lowering reimbursement rates, are fairly conventional. Others, particularly outcomes-based initiatives, border on the experimental.

For most plans, provider-focused initiatives are the key to managing medical costs. Payers have been experimenting with outcomes-based initiatives for years. Recently, many have begun accelerating their efforts, in part to become more competitive but also because outcomes-based arrangements have the potential to bend the cost curve. The degree to which payers are pursuing these initiatives varies widely. (See Exhibit 3.)

Blues and regional plans are relying on their deep provider relationships and strong positions in local markets to pursue quality initiatives or collaborative arrangements with providers—via medical homes and ACOs. Most are confident that their close ties with providers will give them a competitive edge. Compared with most other payers,

EXHIBIT 3 | Outcomes-Based Initiatives Are Critical to Managing Medical Costs



Sources: BCG survey of payer responses to the Affordable Care Act; BCG interviews.

¹Includes disease management.

²For example, providing direct support, including screenings and health coaching, for members to better manage their health.

³For example, structuring incentives for members to manage their health around preventive medicine, healthier lives, and improved compliance.

they have a better opportunity to shape these programs. At the same time, however, many are questioning how long they can sustain such an advantage, given that most plans will eventually gravitate toward similar arrangements.

Nationals are less interested than Blues and regional plans in outcomes-based efforts, at least in the short term. Only 40 percent of the nationals we surveyed have placed a priority on such initiatives, compared with around 70 percent of regionals, Blues, and integrated models. Most nationals believe that providers do not yet have the means to assume and manage the risk associated with outcomes-based arrangements. As a result, they are continuing with traditional efforts to manage medical costs. About 70 percent of nationals, however, are beginning to shift some risk to providers through their payment models—for example, by implementing pay-for-performance reimbursement schemes. Some nationals were hoping that the early ACO efforts would set the guidelines for such schemes. Given the complexity of the regulations, however, payers will need to work closely with providers to lay the groundwork for ACOs (and pay-for-performance reimbursement schemes) on a community-by-community basis.

Integrated models, which have even closer ties to providers, believe they have natural advantages—collaboration is an intrinsic part of the business model. Many are confident in their ability to capitalize on their strengths. As a result, integrated models are more interested in refining than in changing their approach to working with providers.

National plans are gearing up for exchanges by simplifying the customer experience and product portfolio.

Payers are also pursuing member-focused initiatives to manage medical costs. Member-focused initiatives, which seek to modify behaviors that pose a risk to health, have been gaining prominence. Nearly 40 percent of Blues and more than 30 percent of regionals and nationals cited wellness initiatives as one of their top three priorities for responding to reform. They recognize that member-focused initiatives provide an important opportunity not only to control costs but also to strengthen relationships—a must in the emerging retail environment.

In sharp contrast, focused-segment plans, such as Medicaid-only payers, are managing medical costs almost solely by focusing on providers, not members. This is largely a function of their customer base. “My members have a hard time making ends meet,” said one executive at a focused-segment plan. “We do not want them to have the added burden of making the right choices.”

Lowering reimbursement rates is a double-edged sword. Nationals, unlike most other types of plan, seem likely to press ahead with efforts to negotiate better discounts from providers. In their estimate, the potential benefits, in terms of lower costs, outweigh the risk that tough negotiations might compromise efforts to collaborate with providers. Other plans—Blues, in particular—are more concerned about the downside and have not made lowering reimbursement rates a priority.

CURBING ADMINISTRATIVE COSTS

In addition to managing medical costs, payers have intensified their efforts to lower administrative costs. Over the past five years, for example, investments in technology have helped keep many payers’ administrative costs from rising—or at least from growing faster than enrollments or revenues. Most plans are now accelerating their efforts to increase automation. The most frequently cited goals were to increase auto-adjudication of claims—usually by 3 or 4 percentage points—and to use online portals to expand the range of self-service activities, such as eligibility checks, for both members and providers.

At the same time, the new MLR requirements, together with the expected decline in margins, are forcing almost all plans to consider more-aggressive or more-innovative strategies for controlling administrative costs.

- National plans, already at scale, are gearing up for exchanges by simplifying the customer experience and product portfolio—mainly by minimizing customization and increasing the number of self-service options. They are also redesigning their operating models to enable straight-through processing and greater automation. In addition, some are outsourcing or offshoring certain functions, such as provider services.
- Blues and regionals are lowering costs by building scale or outsourcing activities. Blues are building virtual scale through alliances, primarily within the Blue Cross Blue Shield system. Several Blues are outsourcing much of their technology-development work but are reluctant to let go of customer-facing activities. Lacking both scale and a national network of partner plans, regionals are being forced to consider more-aggressive business process outsourcing (BPO) options.

The Emerging Battleground: Capturing the Retail Customer

From the perspective of payers, the silver lining of health care reform is the influx of new customers, many of whom will enter the market via exchanges. Given their role as a gateway, exchanges have the potential to dramatically change the nature of competition by putting a much stronger emphasis on low-cost plans, restricted networks, and retail capabilities. The survey highlighted several trends in payers' response to the growth opportunity in general and to exchanges specifically.

Most insurers are priming their businesses to capture new customers. Seventy-three percent of insurers are planning to increase their marketing and sales capabilities in the near term, with a particular focus on direct-to-consumer marketing. Most have already begun to bolster their outreach efforts—across the payer industry, spending on digital media increased at an average annual rate of 22 percent over the last few years. In addition, health plans are beginning to segment consumers in order to craft highly tailored marketing campaigns, in some cases by experimenting with life stage marketing. They are also investing more in brand-building efforts. In a retail-oriented environment, marketing is likely to emerge as a critical source of competitive advantage, perhaps even on a par with being a low-cost producer.

The strategies for growth vary among the different types of plan. Given the expected growth in their core markets, more than half of focused-segment plans are preparing for the influx of new customers by increasing their penetration of existing segments, as are more than 40 percent of national plans—primarily those with a presence in the individual and Medicaid markets. Not surprisingly, more than 20 percent of Blues and regionals, which are likely to see their core business (small group) erode, are looking to expand into *new* customer segments. And despite the long-standing reluctance of many plans to return to government business, a majority of the executives we surveyed see Medicaid managed care and the individual exchange customer as growth opportunities. For some plans, this appears to be a defensive rather than an offensive strategy, designed to stem a potential loss of customers. Of course, all plans hope to improve their retention rates, but most acknowledge that intensifying competition will make this a challenge.

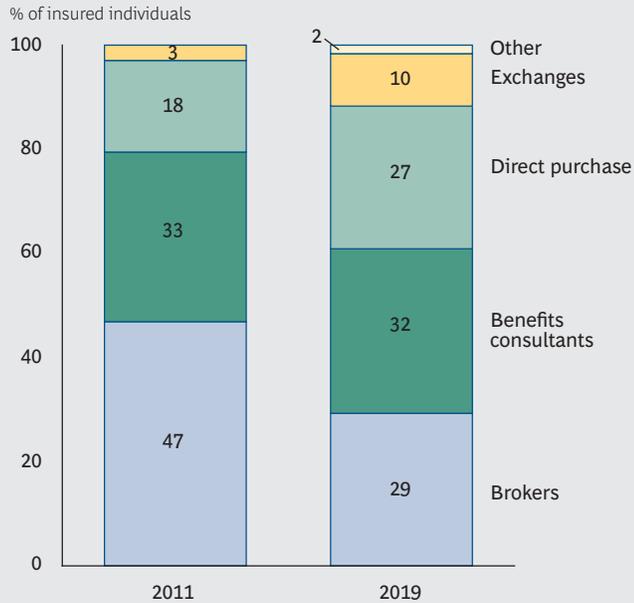
Distribution will undergo significant change. BCG estimates that the share of lives insured via brokers will drop from nearly half in 2011 to less than one-third by 2019, as more business is conducted directly or via exchanges. (See Exhibit 4.) Many Blues and regional plans are trying to find the right balance between investing in the broker channel, which generates the lion's share of their business today, and investing in new or increasingly important channels. One executive summarized the dilemma: "Brokers are why our brand is so strong. They've taken care of us, so we will take care of them. But we may have to cut their commissions to be able to invest in exchanges."

Despite their investments in growth, most insurers remain wary of exchanges. The cornerstone of the new retail-oriented market—the exchange—remains unnervingly abstract. Nearly all the executives we interviewed cited exchanges as their biggest concern, mainly because of the latitude states have to develop their own solutions. It is difficult, if not impossible, for insurers to develop comprehen-

Seventy-three percent of insurers are planning to increase their marketing and sales capabilities in the near term, with a particular focus on direct-to-customer marketing.

EXHIBIT 4 | Brokers Will Account for a Declining Share of Customers

Market share of health insurance distribution channels as a percentage of insured individuals, 2011 and 2019



Sources: BCG survey of payer responses to the Affordable Care Act; BCG interviews.

sive strategies for participating in the exchanges without knowing more about how they will operate. Payers—and others in the industry—are likewise uncertain, or even skeptical, about the extent to which customers will embrace exchanges. “It will be an expensive pool of unhealthy lives,” remarked on survey participant, “and few will buy.” In addition, payers are concerned about the expected churn of customers between Medicaid and the exchanges. Projections show that more than 65 percent of people who are either Medicaid- or exchange-eligible will, at some point during a given 24-month period, shift from being Medicaid-eligible to being exchange-eligible, or vice versa, because of changes in income.³ This volatility could lead to gaps in coverage, particularly if consumers view the enrollment processes as too complicated. As a result, several plans are focusing on simplifying the member experience, especially around purchasing and enrolling.

But exchanges are impossible to ignore. Many insurers have taken a wait-and-see approach to participating in exchanges, but their basic strategies are already taking shape. Nationals will be compelled to compete in states where they have deep roots, such as California, Florida, Illinois, New York, and Pennsylvania. Beyond these markets, however, nationals are likely to cherry-pick the most attractive exchanges. Most are planning to leverage their low-cost operating models to develop affordable products geared specifically to exchanges. Some are reverse engineering existing products with a specific price tag in mind. Blues and regionals, on the other hand, feel obligated to participate in their states’ exchanges, not only out of a sense of duty but also because their success hinges on deep penetration in a single

market. They are planning to leverage their local knowledge and established brands to capture exchange customers.

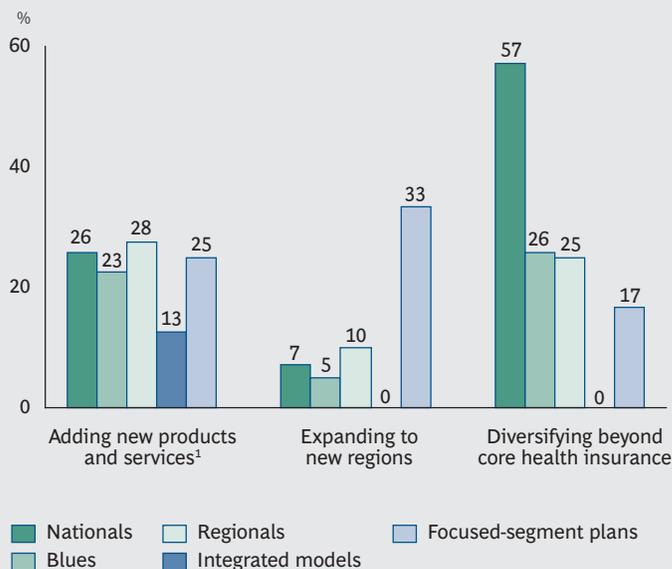
New Frontiers: Diversifying Revenue Streams

Health plans are pushing the boundaries of their businesses in an effort to increase revenues and alleviate some of the pressure on margins. Smaller plans are diversifying into new customer segments or insurance products (such as new stop-loss products for providers), while larger plans are venturing further afield.

Some payers are moving beyond their core health-insurance markets. Nearly 60 percent of nationals are interested in diversifying beyond the core business, in part because they have the capital to do so, along with the need to backfill eroding margins to satisfy investors. (See Exhibit 5.) Some have already ventured into international markets, and we expect others to begin exploring overseas options, as well. Nationals are also pushing the boundaries of their business models within the U.S. For example, Aetna acquired Medcity, a health IT infrastructure provider, to enhance its capabilities in health IT and health information exchanges. Others are seeking to generate new revenue streams by leveraging their core capabilities. Some nationals see an opportunity to help providers transition to an ACO model by providing information infrastructure, including measurement and reporting capabilities and risk management solutions. In addition, many plans, not just nationals, are designing holistic health and wellness services in order to become “health

EXHIBIT 5 | National Plans Are the Most Interested in Diversifying Beyond the Core

Plans citing a specific diversification tactic as a strategic priority



Sources: BCG survey of payer responses to the Affordable Care Act; BCG interviews.

¹Includes customization and bundling.

management” companies. Although such services dovetail with broader trends in health care, more work needs to be done to develop proven, effective strategies for engaging members and changing their behavior. Finally, plans in general have been experimenting with vertical integration, particularly over the past several months.

Reform will prompt payers to expand geographically, sometimes through

M&A. One-third of focused-segment plans want to expand geographically. Most are already active in either Medicaid or the individual business—two areas that are expected to grow significantly. As a result, they see multiple opportunities to push into new states. For example, Centene has moved into the Massachusetts Medicaid market through a subsidiary, CeltiCare. Entry strategies will vary from state to state, depending on growth rates and the current level of market concentration. In Texas and Florida, for instance, the number of people covered by Medicaid is expected to increase at an average compound annual rate of about 7 percent and 8 percent, respectively, from 2011 to 2019. Both markets are relatively fragmented, with the top three payers accounting for only about 40 percent of the Medicaid market. Plans that are looking to enter these markets would likely consider acquiring an incumbent.

Blues have a renewed sense of urgency to cooperate as a system in order to build virtual scale.

The Evolution of the Payer Landscape

The survey of health plan executives revealed an industry in motion. Payers are not only looking past the uncertainty surrounding reform but are moving ahead on more than one front. Most are gearing up for the new environment with a mix of cost and growth initiatives, as well as traditional and innovative strategies. By underscoring how much the responses among the different types of plans diverge, the survey provided important insights into how the landscape will evolve.

- *Nationals* are ahead of most other types of insurers when it comes to shoring up the core business, owing to their scale and capital. They are developing low-cost products and aggressively outsourcing operations. They have also placed significant bets on new products and services as well as on new markets. The successful national plan of the future is likely to be a diversified health-services company. It will leverage its extensive data and analytical capabilities as a source of competitive advantage, and its reach could well extend beyond the U.S. Some nationals are likely to be active acquirers.
- *Blues* are trying to leverage their deep local-market shares and strong relationships to collaborate with providers. While many Blues lack the scale of the nationals, they have a renewed sense of urgency to cooperate as a system in order to build virtual scale. The successful Blue plan of the future is likely to be part of such an alliance. It will differentiate itself with a strong portfolio of member-focused initiatives, along with innovative ways of working with providers to manage medical costs. Further consolidation among the Blues is difficult to predict, given local regulatory oversight.
- *Regionals* have some of the same advantages as Blues but lack their extensive network of sister plans. As a result, the successful regional plan of the future is likely to have a slimmed-down business model that relies heavily on two

capabilities. First, it needs to be an effective integrator, pulling together offerings from various partners to offer a superior member experience. Second, it needs to have a powerful sales and marketing engine. At the same time, we would not be surprised if some regionals merge with other regionals, or—in a nod to integrated models—become part of local delivery systems.

- *Integrated models*, as noted earlier, do not need to change their business model. The rest of the industry is rapidly moving toward their way of doing business. At the same time, they face significant constraints on their growth, including low levels of capital and relatively small footprints. The successful integrated plan of the future will find innovative ways to manage the insurance and medical risks of its population in order to consistently offer low-cost products.
- *Focused-segment payers*, given their penetration of the government (Medicaid or Medicare) and individual markets, are well positioned to capture new retail customers. As a result of their prime positions, some of these plans will be attractive to larger, better-capitalized plans seeking growth via M&A. The successful focused-segment plan of the future will be a retail machine that excels at attracting and retaining customers and is able to leverage its deep knowledge of customers to bend the cost curve.

Of course, theorizing about the pathway to success and actually following it are two different things, particularly in an industry known for trying to be all things to all people. A herd mentality—the convergence of payers on the same growth opportunities—simply cannot prevail in an era of diminished margins. To adapt their business models along the lines described above, many insurers will be forced to make difficult choices while continuing to push ahead with unconventional initiatives—in terms of managing medical costs, for example, or collaborating with providers.

As payers begin to recognize and respond to these imperatives, we expect the industry to assume a more sharply divided, barbell-shaped profile, with large plans at one end and smaller, niche plans at the other. The large plans—a mix of nationals, regionals, and Blues—are likely to be even larger, by virtue of their acquisitions and partnerships, and more diversified. At the other end of the spectrum, smaller, more nimble plans will exploit specialized product or customer niches. A sustained focus on innovation will be the common denominator among successful plans. Payers at either end of the spectrum will excel at developing new kinds of provider relationships, new revenue streams, and new products that appeal to the retail customer.

The payer industry entered the reform era with a fair amount of wind in its sails. Years of steady growth and strong performance have put most insurers in a position to invest in the capabilities and initiatives they need to thrive in the new environment. The survey suggests that few, if any, are complacent, and most are confident in their ability to adapt and win, despite the myriad challenges and complexities introduced by the Affordable Care Act.

We expect the industry to assume a more sharply divided, barbell-shaped profile, with large plans at one end and smaller, niche plans at the other.

NOTES

1. Leighton Ku and Teresa Coughlin, "Sliding-Scale Premium Health Insurance Programs: Four States' Experiences," *Inquiry*, Vol. 36, Winter 1999/2000.
2. Linda J. Blumberg, John Holahan, Jack Hadley, and Katharine Nordahl, "Setting a Standard of Affordability for Health Insurance Coverage," *Health Affairs*, Vol. 26, No. 4 (2007), <http://content.healthaffairs.org/content/26/4/w463.full.html>.
3. Benjamin D. Sommers and Sara Rosenbaum, "Issues in Health Reform: How Changes in Eligibility May Move Millions Back and Forth Between Medicaid and Insurance Exchanges," *Health Affairs*, Vol. 30, No.2, 2011.

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