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Sharing Health Records Electronically: The Views of Nebraskans

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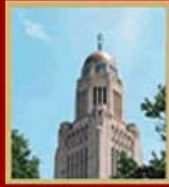*University of Nebraska - Lincoln*, mherian2@unl.edu

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December 11, 2008

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The University of Nebraska Public Policy Center provides assistance to policymakers in all three branches of government and researchers on a wide range of public policy issues. The mission of the PPC is to actively inform public policy by facilitating, developing, and making available objective research and analyses of issues for elected and appointed officials; state and local agency staff; the public at large; and others who represent policy interests.

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Acknowledgments

Executive Summary

In November of 2008, the University of Nebraska Public Policy Center implemented a public input project to gather information from Nebraskans about electronic sharing of medical information. One hundred and sixty eight Nebraskans completed an online or paper copy survey, and 34 of those survey respondents also participated in a deliberative discussion.

Comfortable with Sharing Medical Information Electronically
- Nebraskans have positive views about electronic sharing of medical information.
- Nebraskans understand the benefits of electronic health information exchange.
- Nebraskans have concerns about who should have the authority to access their electronic health information.

Experienced with Information Technology and Healthcare
- Nebraskans already have moderate levels of experience with using technology to find health and insurance information.
- Nebraskans have little experience with using technology to communicate directly with healthcare providers, though they support the concept of electronic communication with healthcare providers.

Want More Consumer Education about Electronic Sharing of Health Information
- Nebraskans see a role for State government in educating citizens about the use and sharing of electronic medical records.
- Education can increase levels of knowledge about the issues surrounding the use and exchange of electronic health information.
- Education can have a positive impact on Nebraskans' perceptions of the use and sharing of electronic health information.

Concerns with Network Vulnerabilities
- Nebraskans are concerned about network vulnerabilities that would compromise security of electronic health records.
- Nebraskans are not overly concerned with improper access of electronic medical records by insurance companies, employers, etc.

Prefer an Indirect Role for State Government in Facilitating the Sharing of Electronic Health Information
- Nebraskans want State government to educate citizens and ensure that the electronic sharing of medical records is done in a safe and secure manner.
- There was a relationship between frequency of healthcare visits and attitudes about the role of government in electronic health information exchange.

Sharing Health Records Electronically: The Views of Nebraskans

Health information technology offers the potential for positive changes in healthcare and health outcomes in Nebraska. Electronic sharing of medical records holds significant potential because of its implications for healthcare quality and cost efficiency. Yet there are many challenges. The successful use and exchange of electronic medical information is contingent upon a viable information-exchange infrastructure, a supportive policy and regulatory environment, and cooperation among healthcare providers, insurance companies, information technology vendors, and other entities. Perhaps most importantly, the success of electronic health information exchange is dependent upon acceptance from consumers.

Residents of Lincoln/Lancaster County gathered to ask questions and provide input about electronic medical records at the Deliberative Discussion held November 17, 2008, at the University of Nebraska-Lincoln campus.

The University of Nebraska Public Policy Center (PPC) organized a public input project to gather information and perspectives from Nebraska residents about the electronic sharing of medical information. The project was supported by a Community Technology Fund/eHealth grant provided by the Nebraska Information Technology Commission.

The overall goal of the public input project was to learn about consumers' attitudes towards electronic sharing of medical information; related concerns about privacy, access, and security; and opinions about what the policy role of the State of Nebraska should be in the development of electronic health information exchange in the state.

The PPC obtained information from Nebraskans in two ways. First, the PPC surveyed a randomly-selected sample of state residents about electronic information sharing and related topics. From November 5 to November 14, 2008, 168 individuals completed the survey either online or through mailed paper copies. Second, on November 17, 2008, the PPC brought together 34 of the same residents in a deliberative discussion to discuss issues related to the electronic sharing of medical records.

Before the deliberative discussion, participants were sent an educational document. At the deliberative discussion, the participants listened to a presentation about electronic sharing of medical information, discussed their views with each other, and interacted with a panel of experts before completing another survey about the topic. More details on both of these methods, as well as the results, are presented in Appendix A (survey) and Appendix B (deliberation).

Nebraskans are Comfortable with Sharing Medical Information Electronically
Nebraskans have favorable views about electronic sharing of medical information and understand its benefits. Nebraskans are concerned, though, about the authorization for release of electronic health information.

Large majorities of survey respondents agreed that electronic sharing of medical records can decrease medical errors (81%), reduce patient wait times and documentation errors (77%), reduce healthcare costs (71%), and believe that the overall benefits of using electronic medical records outweigh the risks (69%). Over 50% of survey respondents also agreed that the ability to share information among multiple providers was the primary benefit of sharing electronic medical records, and about 44% of survey respondents felt that a computer record system is more secure than paper records.

> *"What excites us is being able to travel with health information, and improvements in communication between providers, but also even within a hospital itself."*
>
> **- Deliberation Participant**

Accordingly, survey respondents appeared to support their providers' adoption of electronic records. When presented with a hypothetical situation where two physicians had the same exact qualifications, but used different records systems, 43% of respondents

would choose to go to the doctor with an electronic records system, whereas only 5% would choose the physician with a paper one. However, a plurality of respondents (52%) were undecided, suggesting that there may still be reservations about electronic sharing of medical records with some individuals.

Nebraskans were somewhat divided on questions of who should be authorized to release electronic medical information. In principle, survey respondents strongly favored having access to their personal electronic medical records controlled by their physicians (90%), but fewer respondents (47%) agreed that explicit approval from the consumer should be required before healthcare providers share information with each other. Only 37% agreed that "My healthcare providers should be able to share information about my health with each other without my approval." These findings suggest Nebraskans are comfortable with sharing electronic medical records, but there is not a clear consensus about who should have the authority to permit electronic sharing of those records.

**Nebraskans Have a Basic Level of Experience with
Information Technology and Healthcare**
*Nebraskans regularly use the internet to access health or insurance information. They
also indicate that many of their primary care providers are using electronic records.
However, not many Nebraskans have used the internet to communicate directly with their
providers through email, although they would like to.*

Nebraskans regularly use the internet to access health
information, with 85% of survey respondents indicating
that they have used the internet to search for information
about a health condition or disease, and 45% indicating that
they had used a health insurance company's website to
learn more about coverage or claim status. However, fewer
Nebraskans have used the internet to communicate directly
with healthcare providers. Only 23% of respondents, for
example, had used email to communicate with a healthcare
professional directly, although nearly 70% thought
consumers should be able to email healthcare providers as
part of their overall care.

Lt. Governor Rick Sheehy addressed
participants at the Deliberative
Discussion.

Nebraskans reported that their healthcare providers at least partially use electronic
medical records. A plurality of survey respondents (50%) reported their primary
healthcare provider used both a paper and computer-based medical records system.
Eighteen percent (18%) reported that their primary care provider only used computer
records, and 17% reported their doctor only used paper records.

**Nebraskans Want More Consumer Education about
Electronic Sharing of Health Information**
*Nebraskans want State government to take a leading role in educating citizens about the
use and sharing of electronic health information. Moreover, consumer educational efforts
can have a positive impact on knowledge about electronic medical record issues, and
increase their favorability among consumers.*

Nebraskans would like to see State government take an active role in providing consumer
education about electronic sharing of medical information. Seventy-two percent (72%) of
the deliberation participants said it was "very important" for the State government to
educate Nebraskans about electronic health information exchange.

Education can increase knowledge of the issues. Deliberation participants were asked two
identical factual questions in the original survey and at the end of the deliberation ("How
many small physician practices currently use electronic medical records?" and "What is
the Federal law that covers the security and privacy of electronic medical records?") to
test whether the information provided to them prior to the deliberative event increased
knowledge. For both questions, the percentage of respondents who correctly answered
each question increased from 40% to 66% (small physician practices) and 45% to 70%
(Federal law).

Changes in Attitude

The use of electronic medical records makes it easier to ensure patients' privacy.
- Pre-Deliberation 45%
- Post-Deliberation 81%

The use of electronic medical records can lower my health care costs by reducing unnecessary tests and procedures.
- Pre-Deliberation 58%
- Post-Deliberation 97%

Pre-Deliberation n=137 Post-Deliberation n=32

Consumer education may also foster favorable attitudes towards electronic sharing of medical information. After participating in the deliberation—where an expert panel discussed the pros and cons of electronic health information exchange—63% of participants believed computer-based records were more secure than paper records. This was a substantial increase from the 44% of survey respondents who believed a computer-based records system better prevented improper access to personal information than a paper one. Similar increases in favorable attitudes towards electronic sharing of health information were seen following the deliberative discussion. The percentage of individuals agreeing that the use of electronic records reduces patient costs increased from 58% to 97%, and the percentage who agreed that electronic records make it easier to ensure patient privacy increased from 45% to 81%.

Nebraskans Have Concerns with Network Vulnerabilities

Nebraskans believe electronic records systems are generally secure. They are concerned, however, with potential vulnerabilities of their electronic records to unauthorized access. There is less concern with inappropriate use of their health information by healthcare providers, insurance companies, and employers.

Plenary panelists at the Deliberative Discussion (L to R): Nancy Shank of the NU Public Policy Center, Lt. Gov. Rick Sheehy, Dr. Harris Frankel of the Nebraska Health Information Initiative, and Dr. David Lawton of Nebraska Health and Human Services.

Nebraskans are generally comfortable with the security of electronic medical records. Nearly two-thirds (63%) of the deliberation participants indicated they believed that electronic medical records best prevent improper access to medical information, compared to only 9% who thought paper records were more secure.

There are still security concerns however. Asked what the biggest potential problems were with electronic health information exchange, survey respondents indicated they were most concerned with network vulnerabilities such as computer hacking (35%) and internet or communication outages (33%). Nebraskans were less worried with misuse of their electronic health information. Only small numbers of survey respondents were concerned with inappropriate use of their health information by their employers (12%), insurance companies (8%), or healthcare providers (4%).

> *"The concerns we had were the broad security and privacy issues . . . the reliability of the system if it were to go down, and how errors in records would be dealt with."*
>
> **- Deliberation Participant**

Nebraskans Prefer an Indirect Role for State Government in Facilitating the Sharing of Electronic Health Information

There was no strong preference for direct government activity in encouraging the use and sharing of electronic medical records. However, deliberation participants supported a role for government in consumer education, and ensuring the security and privacy of medical information. Consumer support for government activity may be related to how frequently individuals seek healthcare.

About half the survey respondents (52%) indicated State government should have a role in encouraging doctors to use electronic medical records. A slightly smaller amount of respondents (48%) believed that the State should have a role in encouraging insurance companies to use electronic medical records. There was somewhat less support for Federal government involvement. Forty-five percent (45%) and 41% of respondents respectively thought the Federal government should have a role encouraging doctors and insurance companies to electronically share medical information.

Large percentages of deliberation participants felt it was very important for State government to ensure the privacy and security of health information (84%), and provide information to consumers about health information security and privacy (72%). There was also support for the State to facilitate public-private partnerships to exchange health information (59%), and regulate health information networks (53%). Relatively small percentages felt that it was very important for State government to provide incentives (9%) or grants (9%) to encourage—or to require—the use of electronic records systems.

> *"Many of the group members seemed to think that the government could be trusted to do a good job, but there was a vocal minority that expressed a strong aversion to government involvement."*
>
> **- Kathy Castle, Deliberation Facilitator**

Individuals who interact with health providers more frequently may be less inclined to support a role for government in encouraging electronic health information exchange. For example, individuals who visited their primary care physician once or no times in the past

Do you feel that the state government has a role in encouraging doctors to use electronic medical records?

One or no visits (n=54): Yes 65%, No 35%
Two or more visits (n=76): Yes 41%, No 60%

Number of times survey respondents visited a primary care physician in the past year

year were more likely to support a role for State government (65%) in encouraging doctors to use electronic medical records than those who visited their primary care physicians two or more times last year (41%). Thus, there may be a relationship between frequency with which individuals visit healthcare providers, and the degree of support they have for a government role in electronic sharing of medical information.

Recommendations for Further Research

Findings from this public input project indicate that Nebraskans are generally comfortable with and supportive of electronic medical records and information exchange, and understand the benefits of electronic sharing of health information. Nebraskans also use information technology to gather information about health and health insurance. Nebraskans are, however, somewhat concerned with security and privacy issues surrounding electronic health information exchange. A consumer education effort may increase understanding and support for greater electronic health information exchange, and Nebraskans would welcome a State government role in providing education to the public about these issues.

Additional research with an expanded sample size should be done to further examine Nebraskans' attitudes towards these and related issues. Particular inquiries should be made into consumer preferences regarding authorization for release of electronic health information, and the relationship between how frequently consumers visit healthcare providers, and the degree of support they have for government involvement in electronic health information exchange.

Participants in the November 17th discussion deliberated about security, privacy, and policy issues related to electronic sharing of medical information in small group sessions.

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Appendix A:

Survey Methods and Results

Appendix A: Survey Methods and Results

Survey Methods

The survey was developed by the Public Policy Center in consultation with a working group composed of members of Nebraska's eHealth Council—an advisory committee created by the Nebraska Information Technology Commission to make recommendations about electronic health technologies—and the Health Information Security and Privacy Committee (HISPC)—an advisory committee which focuses on health information security and privacy concerns. The working group also provided consultation on overall project design. The University of Nebraska-Lincoln Institutional Review Board provided review and approval of the study.

The PPC targeted residents of Nebraska from three different areas to participate in the survey: 1) Lincoln/Lancaster County; 2) Omaha/Douglas County; and 3) a six-county area in central Nebraska surrounding Kearney (Adams, Buffalo, Dawson, Hall, Kearney, and Phelps). Prospective survey respondents were contacted by letter through postal mail by the PPC. Contact information was obtained from lists derived from random digit dialing or publicly available residential addresses obtained by the PPC in previous public opinion projects.

An estimated 1,610 households were contacted by a mailed letter, inviting prospective respondents to complete the survey online. Individuals who preferred to complete a paper version of the survey had the option of contacting the PPC and requesting that a paper copy be sent to them with a business reply envelope. Staff from the PPC also telephoned 282 prospective respondents and encouraged them to complete the survey. A total of 168 respondents participated in the survey either online or through a paper hard copy, although not all respondents answered every survey item.

Online Survey Results

Knowledge and Experience

Table 1

Have you ever done any of the following things before?			
	n	**Yes**	**No**
Used the internet to find information about a particular illness or disease?	138	84.8	15.2
Used email to communicate with a healthcare professional?	137	23.4	76.6
Used a health insurance company's website to learn more about your healthcare coverage or check on the status of a claim?	137	44.5	55.5

Table 2

To the best of your knowledge, what type of medical records system does your primary healthcare provider use?		
	n	**Percent**
A paper record system	24	17.4
A computer record system	25	18.1
Both	69	50
Not sure	19	13.8
I don't see any health providers	1	.7
Total	138	100

Table 3

Compared to the average person, how knowledgeable do you think you are about health information security and privacy issues?		
	n	**Percent**
I know much less than the average person	5	3.6
I know less than the average person	16	11.7
I know about the same as the average person	71	51.8
I know more than the average person	35	25.5
I know much more than the average person	10	7.3
Total	137	100

Table 4

What is your best answer to the following questions?		
Nationally, approximately how many small physician practices currently use electronic medical records?		
	n	**Percent**
Less than 5%	20	14.6
Between 5%-35%	55	40.1
Between 36%-50%	37	27
Between 51%-75%	22	16.1
Between 76%-90%	3	2.2
Total	137	100

The federal law that covers the security and privacy of electronic medical records is:		
	n	**Percent**
The Medical Information Exchange Act	11	8.1
The Electronic Fraud and Abuse Prevention Act	8	5.9
The Patient's Bill of Rights Act	22	16.3
The Health Information Portability and Accountability Act	61	45.2
There is no federal law that covers the security and privacy of electronic medical records	33	24.4
Total	135	100

Table 5

Approximately how many times have you visited the following types of healthcare providers in the past year?						
	n	No times	Once	2-3 times	4-6 times	7 or more times
Primary care physician	132	14.4%	28%	40.2%	15.9%	1.5%
Emergency room provider	133	80.5%	17.3%	1.5%	-	.8%
Obstetrics or Gynecology	134	85.8%	12.7%	1.5%	-	-
Nurse practitioner	129	80.6%	8.5%	8.5%	1.6%	.8%
Physician's assistant	130	65.4%	16.9%	14.6%	3.1%	-
Specialist (cardiology, oncology, psychiatry, rheumatology, orthopedics, general surgery, etc.)	133	45.9%	22.6%	22.6%	6%	3%
Other	117	63.2%	15.4%	13.7%	5.1%	2.6%

Table 6

Experience in the Healthcare Industry			
	n	Yes	No
Are you currently employed by a healthcare organization or health or life insurance company?	137	13.9%	86.1%
Have you worked in any area of healthcare in the past?	135	33.3%	66.7%
Have you ever been formally trained or educated in some aspect of healthcare?	136	37.5%	62.5%

The Role of Government

Table 7

What should be the role of Government when it comes to electronic medical records and the electronic sharing of information?			
	n	Yes	No
Do you feel that the federal government has a role in encouraging doctors to use electronic medical records?	135	45.2%	54.8%
Do you feel that the federal government has a role in encouraging insurance companies to use electronic medical records?	134	41%	59%
Do you feel that the Nebraska state government has a role in encouraging doctors to use electronic medical records?	134	51.5%	48.5%
Do you feel that the Nebraska state government has a role in encouraging insurance companies to use electronic medical records?	133	48.1%	51.9%

Table 8

Under current Nebraska state law, individuals must re-authorize release of their electronic medical records to healthcare providers every 180 days. Do you think that this 180 day period should be:		
	n	Percent
Decreased to a shorter amount of time (people will have to re-authorize release of their records more frequently)	1	.7
Extended to a longer amount of time (people will have to re-authorize release of their records less frequently)	34	25
Left the same	34	25
Changed to require authorization by individuals anytime their electronic medical record is accessed	16	11.8
The time limit should be removed (people could choose when their authorization period expires)	21	15.4
Not sure	30	22.1
Total	136	100

Figure 1

Do you feel that the federal government has a role in encouraging doctors to use Electronic Medical Records?

- Once or None (n=55): Yes 54.5%, No 45.5%
- Twice or more (n=76): Yes 36.8%, No 63.2%

How many times have you visited primary care physician?

Figure 2

Do you feel that the state government has a role in encouraging insurance companies to use Electronic Medical Records?

- Once or None (n=54): Yes 59.3%, No 40.7%
- Twice or more (n=75): Yes 38.7%, No 61.3%

How many times have you visited primary care physician?

Figure 3

Do you feel that the federal government has a role in encouraging insurance companies to use Electronic Medical Records?

Figure 4

Do you feel that the state government has a role in encouraging doctors to use Electronic Medical Records?

Opinions of and Confidence in Electronic Medical Records

Table 9

In your opinion, which type of medical records system do you believe best prevents improper access?		
	n	**Percent**
A computer record system	60	43.5
A paper record system	43	31.2
Not sure	35	25.4
Total	138	100

Table 10

If two doctors had exactly the same qualifications, but one used an electronic record system and the other did not, which ONE would you choose?		
	n	**Percent**
The doctor using an electronic record system	59	42.8
The doctor NOT using an electronic record system	7	5.1
Not sure	72	52.2
Total	138	100

Table 11

How confident are you that when you go to see a healthcare professional, he or she has an accurate and complete picture of your necessary medical information and prior medical history?		
	n	**Percent**
Very confident	38	27.7
Somewhat confident	68	49.6
Not very confident	18	13.1
Not at all confident	8	5.8
Not sure	5	3.6
Total	137	100

Table 12

The following is a list of potential benefits of electronic medical records. Which ONE is the most important potential benefit to you?		
	n	**Percent**
Better treatment in an emergency	26	18.8
Increased efficiency in healthcare resulting in decreased costs	15	10.9
An increase in the ability of healthcare providers to share and review the same patient records and work together to deliver better care	70	50.7
Reduction in medical errors	10	7.2
Personal access to and control of my own health record	12	8.7
None of these	2	1.4
Not sure	3	2.2
Total	138	100

Table 13

The following is a list of potential problems with electronic medical records. Which ONE do you think creates the greatest problem?		
	n	**Percent**
An internet or communication outage makes my records unavailable	45	32.6
A hacker bypasses security and steals my personal data	48	34.8
My healthcare providers learn about my health information when it is not necessary for them to know it	6	4.3
My health insurance company learns about my health information when it is not necessary for them to know it	17	12.3
My employer learns about my health information when it is not necessary for them to know it	11	8
None of these	5	3.6
Not sure	6	4.3
Total	138	100

Table 14

How strongly do you agree or disagree with each of the following statements?						
	n	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure
The use of electronic medical records can decrease medical errors.	137	28.5%	52.6%	8.8%	2.9%	7.3%
The use of electronic medical records can reduce healthcare costs.	137	20.4%	50.4%	10.9%	3.6%	14.6%
The use of electronic medical records makes it easier to ensure patients' privacy.	135	11.9%	32.6%	25.9%	8.1%	21.5%
The use of electronic medical records can improve the quality of care patients receive by reducing patient wait times and errors in documentation.	137	30.7%	46.7%	5.8%	5.1%	11.7%
The use of electronic medical records can lower my healthcare costs by reducing unnecessary tests and procedures.	137	20.4%	38%	19.7%	7.3%	14.6%
If doctors and researchers were able to share information more easily via electronic medical systems; patients could receive better care based on current scientific knowledge.	135	40.7%	45.2%	4.4%	.7%	8.9%
Patients should have access to their own electronic medical record maintained by their physician.	135	61.5%	28.1%	5.9%	1.5%	3%
Patients should have access to their own electronic medical record through an organization not linked with their providers.	135	16.3%	25.2%	17.8%	24.4%	16.3%
Medical offices should provide patients with the ability to schedule appointments via email or on the internet.	135	27.4%	39.3%	14.8%	7.4%	11.1%
Patients should be able to email their doctors as part of their overall care.	135	29.6%	40%	15.6%	6.7%	8.1%
The benefits of electronic medical records outweigh the risks.	135	28.1%	40.7%	5.9%	3%	22.2%
Doctors should be compensated for time spent connecting with patients by phone or electronic systems.	135	11.1%	34.1%	20%	23%	11.9%

Table 15

What statement best represents your viewpoint?		
	n	**Percent**
My healthcare providers should be able to share information about my health with each other without my explicit approval	51	37.2
My explicit approval should be required before my healthcare providers share information about my health with each other	65	47.4
Not sure	21	15.3
Total	137	100

Table 16

How likely are you to use an online service to store your medical records like those offered by Microsoft or Google?		
	n	**Percent**
Very likely	8	5.8
Somewhat likely	30	21.9
Not likely at all	43	31.4
Not sure	18	13.1
I don't know enough about their services	38	27.7
Total	137	100

Demographics

Table 17

What ethnicity do you consider yourself?		
	n	**Percent**
Hispanic or Latino	6	4.4
Not Hispanic or Latino	130	95.6
Total	136	100

Table 18

What race or races do you consider yourself?		
	n	**Percent**
White alone	126	92.6
Black or African American alone	6	4.4
American Indian and Alaska Native alone	-	-
Asian alone	-	-
Native Hawaiian or Pacific Islander alone	-	-
Some other race	-	-
Two or more races	4	2.9
Total	136	100

Table 19

What is the highest grade or year of school you have completed?		
	n	**Percent**
Some high school	2	1.5
High school degree	17	12.4
Some college	43	31.4
Associates certificate/2 year program	10	7.3
Bachelor's degree	28	20.4
Some graduate school	10	7.3
Master's degree	17	12.4
Doctorate/Advanced degree	10	7.3
Total	137	100

Table 20

What is your gender?		
	n	**Percent**
Male	62	45.6
Female	74	54.4
Total	136	100

Table 21

What is your age?		
	n	**Percent**
19-24	4	2.9
25-34	8	5.8
35-44	19	13.9
45-54	31	22.6
55-64	38	27.7
65-74	24	17.5
75+	13	9.5
Total	137	100

Appendix B:

Deliberative Discussion Methods and Results

Appendix B: Deliberative Discussion Methods and Results

Deliberative Discussion

Upon completion of the survey, the Public Policy Center invited a sub-sample of respondents from the Lincoln/Lancaster County area to participate in a deliberative discussion about electronic sharing of medical information and related topics. The format for the discussion was based about the deliberative polling model.[1]

In deliberative polling, a survey is conducted of a random sample of individuals about the public policy issue(s) of interest. That sample is then provided with educational materials about the issues of interest, and then invited to participate in small group deliberations about the issue and engage a panel of experts in a question-and-answer period. A follow-up survey of the sample is then conducted which measures the extent to which the deliberative process altered opinions or knowledge of the topic(s) of interest. A deliberative doll thus measures changes in attitudes towards the topic(s) of interest among a sample of individuals who have become more informed about an issue.

The deliberative discussion was convened on the evening of November 17, 2008, at the campus of the University of Nebraska-Lincoln. Prior to the discussion, an educational document was sent to all participants to review before the deliberation. Thirty-four survey respondents attended the deliberative discussion. The forum included a 1) presentation about electronic sharing of medical information by an expert from the Nebraska Department of Health and Human Services; 2) small group discussion sessions among participants facilitated by graduate students from the University of Nebraska-Lincoln Department of Communication Studies; and 3) a question and answer session with an expert panel composed of members from the Nebraska eHealth Council, HISPC, and the Lt. Governor. Following the expert panel session, a post-deliberative discussion survey was administered among participants. All questions initially asked on the original survey were replicated in the post-deliberative discussion survey, and additional questions were also asked.

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[1] Deliberative Polls were first conducted in the United States in 1996, but have since been convened in Australia, Britain, Denmark, and various other nations. More information about Deliberative Polling can be found at the website of the Center for Deliberative Democracy at Stanford University (http://cdd.stanford.edu/).

Deliberative Discussion Results

Knowledge and Experience

Table 22

Have you ever done any of the following things before?			
	n	Yes	No
Used the internet to find information about a particular illness or disease?	32	81.3%	18.8%
Used email to communicate with a healthcare professional?	32	12.5%	87.5%
Used a health insurance company's website to learn more about your healthcare coverage or check on the status of a claim?	32	40.6%	59.4%

Table 23

To the best of your knowledge, what type of medical records system does your primary healthcare provider use?	*n*		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
A paper record system	24	12	17.4	38.7
A computer record system	25	3	18.1	9.7
Both	69	12	50	38.7
Not sure	19	4	13.8	12.9
I don't see any health providers	1	-	.7	-
Total	138	31	100	100

Table 24

Compared to the average person, how knowledgeable do you think you are about health information security and privacy issues?	*n*		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
I know much less than the average person	5	-	3.6	-
I know less than the average person	16	-	11.7	-
I know about the same as the average person	71	12	51.8	37.5
I know more than the average person	35	18	25.5	56.3
I know much more than the average person	10	2	7.3	6.3
Total	137	32	100	100

Table 25

<table>
<tr><td colspan="5">What is your best answer to the following questions?</td></tr>
<tr><td colspan="5">Nationally, approximately how many small physician practices currently use electronic medical records?</td></tr>
<tr><td></td><td colspan="2">n</td><td colspan="2">Percent</td></tr>
<tr><td></td><td>Pre-Survey</td><td>Post-Survey</td><td>Pre-Survey</td><td>Post-Survey</td></tr>
<tr><td>Less than 5%</td><td>20</td><td>6</td><td>14.6</td><td>18.8</td></tr>
<tr><td>Between 5%-35%</td><td>55</td><td>21</td><td>40.1</td><td>65.6</td></tr>
<tr><td>Between 36%-50%</td><td>37</td><td>5</td><td>27</td><td>15.6</td></tr>
<tr><td>Between 51%-75%</td><td>22</td><td>-</td><td>16.1</td><td>-</td></tr>
<tr><td>Between 76%-90%</td><td>3</td><td>-</td><td>2.2</td><td>-</td></tr>
<tr><td>Total</td><td>137</td><td>32</td><td>100</td><td>100</td></tr>
</table>

<table>
<tr><td colspan="5">The federal law that covers the security and privacy of electronic medical records is:</td></tr>
<tr><td></td><td colspan="2">n</td><td colspan="2">Percent</td></tr>
<tr><td></td><td>Pre-Survey</td><td>Post-Survey</td><td>Pre-Survey</td><td>Post-Survey</td></tr>
<tr><td>The Medical Information Exchange Act</td><td>11</td><td>3</td><td>8.1</td><td>10</td></tr>
<tr><td>The Electronic Fraud and Abuse Prevention Act</td><td>8</td><td>3</td><td>5.9</td><td>10</td></tr>
<tr><td>The Patient's Bill of Rights Act</td><td>22</td><td>-</td><td>16.3</td><td>-</td></tr>
<tr><td>The Health Information Portability and Accountability Act</td><td>61</td><td>21</td><td>45.2</td><td>70</td></tr>
<tr><td>There is no federal law that covers the security and privacy of electronic medical records</td><td>33</td><td>3</td><td>24.4</td><td>10</td></tr>
<tr><td>Total</td><td>135</td><td>30</td><td>100</td><td>100</td></tr>
</table>

Table 26

Approximately how many times have you visited the following types of healthcare providers in the past year?						
	n	No times	Once	2-3 times	4-6 times	7 or more times
Primary care physician	32	12.5%	31.3%	37.5%	18.8%	1.5%
Emergency room provider	30	80%	16.7%	3.3%	-	-
Obstetrics or Gynecology	24	80%	13.3%	3.3%	-	3.3%
Nurse practitioner	27	70.4%	29.6%	-	-	-
Physician's assistant	31	51.6%	22.6%	25.8%	-	-
Specialist (cardiology, oncology, psychiatry, rheumatology, orthopedics, general surgery, etc.)	31	38.7%	32.3%	12.9%	16.1%	-
Other	23	82.6%	4.3%	8.7%	-	4.3%

Table 27

Before this survey have you seen, read, or heard anything about electronic medical records?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Yes	98	26	71	81.3
No	40	6	29	18.8
Total	138	32	100	100

Table 28

Have you ever been formally trained or educated in some aspect of healthcare?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Yes	51	10	37.5	32.3
No	85	21	62.5	67.7
Total	136	31	100	100

Table 29

<table>
<tr><td colspan="5" align="center">Are you currently employed by a healthcare organization or
health or life insurance company?</td></tr>
<tr><td></td><td colspan="2" align="center"><i>n</i></td><td colspan="2" align="center">Percent</td></tr>
<tr><td></td><td>Pre-Survey</td><td>Post-Survey</td><td>Pre-Survey</td><td>Post-Survey</td></tr>
<tr><td>Yes</td><td>19</td><td>5</td><td>13.9</td><td>16.1</td></tr>
<tr><td>No</td><td>118</td><td>26</td><td>86.1</td><td>83.9</td></tr>
<tr><td><i>Total</i></td><td>137</td><td>31</td><td>100</td><td>100</td></tr>
</table>

Table 30

<table>
<tr><td colspan="5" align="center">Have you worked in any area of healthcare in the past?</td></tr>
<tr><td></td><td colspan="2" align="center"><i>n</i></td><td colspan="2" align="center">Percent</td></tr>
<tr><td></td><td>Pre-Survey</td><td>Post-Survey</td><td>Pre-Survey</td><td>Post-Survey</td></tr>
<tr><td>Yes</td><td>45</td><td>12</td><td>33.3</td><td>38.7</td></tr>
<tr><td>No</td><td>90</td><td>19</td><td>66.7</td><td>67.7</td></tr>
<tr><td><i>Total</i></td><td>135</td><td>31</td><td>100</td><td>100</td></tr>
</table>

The Role of Government

Table 31

Below are eight general areas of responsibility that Nebraska's state government could take in regards to electronic health information. **Rate how important you think each of these areas are for the state of Nebraska, from not important to very important:**

	n	Not important	Somewhat important	Important	Very important
Ensuring the privacy and security of health information	32	-	-	15.6%	84.4%
Facilitating public-private partnerships to exchange health information	32	6.3%	6.3%	28.1%	59.4%
Providing incentives to providers to use electronic medical records	32	3.1%	50%	37.5%	9.4%
Providing information to consumers about health information security and privacy	32	-	6.3%	21.9%	71.9%
Providing grants or start-up funding for health information networks	32	-	62.5%	31.3%	6.3%
Providing grants to providers to purchase electronic medical records management systems	31	6.5%	48.4%	35.5%	9.7%
Regulating health information networks	32	3.1%	6.3%	37.5%	53.1%
Requiring the use of electronic medical records and health information networks	32	18.8%	18.8%	34.4%	28.1%

Table 32

What should be the role of Government when it comes to electronic medical records and the electronic sharing of information?						
	n		**Yes**		**No**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Do you feel that the federal government has a role in encouraging doctors to use electronic medical records?	135	32	45.2%	78.1%	54.8%	21.9%
Do you feel that the federal government has a role in encouraging insurance companies to use electronic medical records?	134	32	41%	78.1%	59%	21.9%
Do you feel that the Nebraska state government has a role in encouraging doctors to use electronic medical records?	134	32	51.5%	87.5%	48.5%	12.5%
Do you feel that the Nebraska state government has a role in encouraging insurance companies to use electronic medical records?	133	32	48.1%	78.1%	51.9%	21.9%

Table 33

Under current Nebraska state law, individuals must re-authorize release of their electronic medical records to healthcare providers every 180 days. Do you think that this 180 day period should be:				
	n		**Percent**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Decreased to a shorter amount of time (people will have to re-authorize release of their records more frequently)	1	-	.7	-
Extended to a longer amount of time (people will have to re-authorize release of their records less frequently)	34	8	25	25
Left the same	34	6	25	18.8
Changed to require authorization by individuals anytime their electronic medical record is accessed	16	2	11.8	6.3
The time limit should be removed (people could choose when their authorization period expires)	21	12	15.4	37.5
Not sure	30	4	22.1	12.5
Total	136	32	100	100

Opinions of and Confidence in Electronic Medical Records

Table 34

	n		**Percent**	
In your opinion, which type of medical records system do you believe best prevents improper access?				
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
A computer record system	60	20	43.5	62.5
A paper record system	43	3	31.2	9.4
Not sure	35	9	25.4	28.1
Total	138	32	100	100

Table 35

	n		**Percent**	
If two doctors had exactly the same qualifications, but one used an electronic record system and the other did not, which ONE would you choose?				
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
The doctor using an electronic record system	59	21	42.8	65.6
The doctor NOT using an electronic record system	7	-	5.1	-
Not sure	72	11	52.2	34.4
Total	138	32	100	100

Table 36

	n		**Percent**	
How confident are you that when you go to see a healthcare professional, he or she has an accurate and complete picture of your necessary medical information and prior medical history?				
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Very confident	38	8	27.7	25
Somewhat confident	68	17	49.6	53.1
Not very confident	18	5	13.1	15.2
Not at all confident	8	2	5.8	6.1
Not sure	5	-	3.6	-
Total	137	32	100	100

Table 37

The following is a list of potential benefits of electronic medical records. Which ONE is the most important potential benefit to you?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Better treatment in an emergency	26	6	18.8	18.8
Increased efficiency in healthcare resulting in decreased costs	15	1	10.9	3.1
An increase in the ability of healthcare providers to share and review the same patient records and work together to deliver better care	70	21	50.7	65.6
Reduction in medical errors	10	3	7.2	9.4
Personal access to and control of my own health record	12	1	8.7	3.1
None of these	2	-	1.4	-
Not sure	3	-	2.2	-
Total	138	32	100	100

Table 38

The following is a list of potential problems with electronic medical records. Which ONE do you think creates the greatest problem?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
An internet or communication outage makes my records unavailable	45	16	32.6	50
A hacker bypasses security and steals my personal data	48	8	34.8	25
My healthcare providers learn about my health information when it is not necessary for them to know it	6	-	4.3	-
My health insurance company learns about my health information when it is not necessary for them to know it	17	3	12.3	9.4
My employer learns about my health information when it is not necessary for them to know it	11	3	8	9.4
None of these	5	2	3.6	3
Not sure	6	-	4.3	-
Total	138	32	100	100

Table 39

How strongly do you agree or disagree with each of the following statements?						
	n	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	Not sure
The use of electronic medical records can decrease medical errors.	32	62.5%	31.3%	6.3%	-	-
The use of electronic medical records can reduce healthcare costs.	31	48.4%	45.2%	-	-	6.5%
The use of electronic medical records makes it easier to ensure patients' privacy.	32	12.5%	68.8%	15.6%	-	3.1%
The use of electronic medical records can improve the quality of care patients receive by reducing patient wait times and errors in documentation.	32	75%	18.8%	6.3%	-	-
The use of electronic medical records can lower my healthcare costs by reducing unnecessary tests and procedures.	32	65.6%	31.3%	3.1%	-	-
If doctors and researchers were able to share information more easily via electronic medical systems; patients could receive better care based on current scientific knowledge.	32	81.3%	18.8%	-	-	-
Patients should have access to their own electronic medical record maintained by their physician.	32	75%	21.9%	3.1%	-	-
Patients should have access to their own electronic medical record through an organization not linked with their providers.	32	15.6%	21.9%	25%	15.6%	21.9%
Medical offices should provide patients with the ability to schedule appointments via email or on the internet.	32	25%	53.1%	-	12.5%	9.4%
Patients should be able to email their doctors as part of their overall care.	32	21.9%	50%	12.5%	3.1%	12.5%
The benefits of electronic medical records outweigh the risks.	32	59.4%	40.6%	-	-	-
Doctors should be compensated for time spent connecting with patients by phone or electronic systems.	32	15.6%	50%	18.8%	9.4%	6.3%

Table 40

What statement best represents your viewpoint?				
	n		**Percent**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
My healthcare providers should be able to share information about my health with each other without my explicit approval	51	19	37.2	59.4
My explicit approval should be required before my healthcare providers share information about my health with each other	65	10	47.4	31.3
Not sure	21	3	15.3	9.4
Total	137	32	100	100

Table 41

How likely are you to use an online service to store your medical records like those offered by Microsoft or Google?				
	n		**Percent**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Very likely	8	1	5.8	3.1
Somewhat likely	30	7	21.9	21.9
Not likely at all	43	15	31.4	46.9
Not sure	18	2	13.1	6.3
I don't know enough about their services	38	7	27.7	21.9
Total	137	32	100	100

Demographics

Table 42

What ethnicity do you consider yourself to be?				
	n		**Percent**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Hispanic or Latino	6	1	4.4	3.1
Not Hispanic or Latino	130	31	95.6	96.9
Total	136	32	100	100

Table 43

What race or races do you consider yourself to be?				
	n		**Percent**	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
White alone	126	31	92.6	96.9
Black or African American alone	6	1	4.4	3.1
American Indian and Alaska Native alone	-	-	-	-
Asian alone	-	-	-	-
Native Hawaiian or Pacific Islander alone	-	-	-	-
Some other race	-	-	-	-
Two or more races	4	-	2.9	-
Total	136	32	100	100

Table 44

What is the highest grade or year of school you have completed?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Some high school	2	-	1.5	-
High school degree	17	-	12.4	-
Some college	43	11	31.4	34.4
Associates certificate/2 year program	10	6	7.3	18.8
Bachelor's degree	28	4	20.4	12.5
Some graduate school	10	2	7.3	6.3
Master's degree	17	4	12.4	12.5
Doctorate/Advanced degree	10	5	7.3	15.2
Total	137	32	100	100

Table 45

What is your gender?				
	n		Percent	
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
Male	62	15	45.6	46.9
Female	74	17	54.4	53.1
Total	136	32	100	100

Table 46

	n		Percent	
What is your age range?				
	Pre-Survey	Post-Survey	Pre-Survey	Post-Survey
19-24	4	-	2.9	-
25-34	8	-	5.8	-
35-44	19	3	13.9	9.7
45-54	31	6	22.6	19.4
55-64	38	10	27.7	32.3
65-74	24	6	17.5	19.4
75+	13	6	9.5	19.4
Total	137	31	100	100

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