Center for
Technology in Government

Factors Influencing Government Cross-Boundary Information Sharing

Preliminary Analysis of a National Survey

Factors Influencing Government Cross-Boundary Information Sharing:

Preliminary Analysis of a National Survey

Theresa A. Pardo
J. Ramon Gil-Garcia*
G. Brian Burke
Ahmet Guler

Center for Technology in Government
University at Albany, SUNY
187 Wolf Road, Suite 301
Albany, NY 12205
Phone: (518) 442-3892
Fax: (518) 442-3886
E-mail: info@ctg.albany.edu
www.ctg.albany.edu
This report is available online at:
www.ctg.albany.edu/publications/reports/factors_inf_gov_cbi

September 2009

* Assistant Professor in the Department of Public Administration and the Director of the Data Center for Applied Research in Social Sciences at *Centro de Investigación y Docencia Económicas (CIDE)* in Mexico City.

Executive Summary

This report summarizes the results of a national survey of cross-boundary information sharing in the public sector conducted as a part of a National Science Foundation-funded project at the Center for Technology in Government (CTG) at the University at Albany, State University of New York. Researchers at CTG designed the survey to collect the perceptions of public servants and government officials about cross-boundary information sharing (CBI) initiatives and to test a causal model of the interactions of social and technical factors in these initiatives. The primary purpose of the survey was to understand how a specific set of policy, organizational, social, and technical factors influence government CBI initiatives.

The survey tested 41 factors (Appendix II), all of which were pre-identified based on the research and analysis conducted by CTG during earlier phases of the project. The initial theoretical model represented in the 41 factors introduced in the survey is based on eight case studies of cross-boundary information sharing in criminal justice and public health across the United States. This report summarizes the responses of the 173 public health and criminal justice professionals who participated in the 2008 survey.

The survey questions focused on the existence and nature of the 41 factors as they related to the CBI initiatives reported on by the survey respondents. Respondents were asked their opinions about a mix of policy, organizational, social, and technical factors that relate to one specific, U.S.-based government CBI initiative that they had personally participated in within the last five years. Respondents were asked to choose the initiative they knew the best, regardless of its current status (e.g., still in development, defunct, or implemented), level of success, or effectiveness. It is important to note that the survey participants were overwhelmingly positive in their perceptions of the success and outcomes of the CBI initiatives on which they chose to report.

Characteristics of Survey Respondents

Mean Age: **52**
Average Years of CBI Experience: **11**
Average # of Career CBI Initiatives: **7**
Average CBI hours/week: **14**
Role in CBI Initiative:

- **Leadership 50%**
- **Team member 30%**
- **User 10%**
- **Other 10%**

The mean age of survey respondents was 52 and the number of male respondents is slightly higher than female respondents. Respondents reported an average of 11 years of experience with CBI initiatives, and having participated in an average of seven initiatives during their careers. Also, respondents spent an average of 14 hours per week working on such initiatives. Nearly half of the respondents identified themselves as having a leadership role (e.g., executive sponsor or project manager) in the initiative in which they participated. As far as other types of roles that respondents identified themselves as having in their initiative, one third characterized themselves as project team members, nearly ten percent identified themselves as users, and another almost ten percent indicated "Other" such as project oversight, information provider, or a representative of state government. The majority of respondents identified themselves as agency executives or managers of both program and IT

departments in their day-to-day jobs. Only a small percentage of respondents identified themselves as program or IT staff.

In terms of initiative characteristics, respondents reported that most initiatives were implemented at the state level, but funding for these initiatives came from a mix of federal and state sources. The majority of the initiatives were aimed at building general information sharing capability rather than solving a specific problem.

Initiative Characteristics

- Majority were state level
- Funded by a mix of federal/state
- Majority focused on general information sharing capability

More than half of the respondents reported that their initiative resulted in effective work relationships across organizational boundaries and provided opportunities to share formal and informal knowledge across organizational boundaries. In addition, more than half of the respondents reported that the initiative resulted in interoperable computer systems. While the responses related to the effectiveness of the initiative indicated increased effectiveness and efficiency occurred to a great extent by improving day-to-day operations of government and delivering benefits to persons, organizations, or groups, an overwhelming majority of respondents indicated that their initiatives resulted in increased public participation only to a minimal extent. Finally, the majority of respondents reported that the initiative was a success and met its stated policy objectives and goals.

Overall Results of Initiatives

- Effective work relationships across organizational boundaries
- Opportunities to share information
- Interoperable computer systems
- Increased effectiveness and efficiency
- Success in meeting stated policy and goals

Basic statistical measures identified significant differences between different respondent and project demographics. For example, criminal justice initiatives, state initiatives, implemented initiatives, and initiatives that aimed at building general capability received higher scores related to success. Moreover, participants who had more experience (i.e., years working on and number of CBI initiatives) reported higher scores for participants' knowledge, skills, trust among participants, and willingness to participate.

The majority of respondents indicated that most of the 41 factors influenced their CBI initiatives. Looking at the responses with the highest means, while the majority of respondents indicated that information privacy, disclosure, and confidentiality were issues in the initiative, an even higher percentage of respondents indicated that concerns and needs about each of these issues were met in the course of the initiative. In response to a series of questions about the extent to which participants were knowledgeable about their own organizations in the context of the CBI initiatives, many of the survey participants

Most Frequent Factors Influencing Initiatives

- Information Privacy
- Information Disclosure
- Information Confidentiality
- Knowledge of Own Organization

indicated that these factors existed to a large extent and were more prevalent than other factors. The "knowledge of own organization" factors specifically included knowledge of policies, information needs, and management practices. According to the respondents, the use of appropriate and effective strategies was another one of the top factors influencing their CBI initiatives. However, while formal strategies received a high ranking from respondents, the existence of informal problem solving was also identified as equally important. We believe further investigation is warranted to better understand the relationship between informal problem solving and appropriate and effective strategies within a government cross-boundary information sharing environment.

On the other hand, when we looked at the responses with the lowest means (representing factors that existed to a minimal extent or not at all), respondents reported that participants had little knowledge about other participating organizations in the CBI initiatives. More specifically, survey respondents indicated that knowledge about the management practices, information technologies, and policies of other organizations in the initiative tended to exist at a much lower level than the majority of other factors, especially those factors focused on "knowledge of own organization." We find this result very interesting and worthy of additional investigation. Based on our earlier analysis of the project's qualitative data and the general assumption that successful collaboration with new partners requires increased knowledge about one another, we were surprised to see that these factors did not exist to a much greater extent, even in initiatives that were considered successful.

Least Frequent Factors Influencing Initiatives

- Knowledge of Other Participating Organizations
- Existence and Influence of Legislation and Legislative Support
- Legislative or Executive mandates

Also of interest was the finding that the existence and influence of legislation and legislative support was overwhelmingly not a factor in the initiatives. In addition, very few respondents indicated that the decision-making structure for their initiative was established through legislation or executive mandate. Overall, respondents consistently stated that existing legislation neither interfered with nor made their initiatives possible.

The results of this survey support the existence of a comprehensive set of factors that are present in and influence government CBI initiatives. In addition, the results of our preliminary analysis of this survey highlight a number of factors worthy of further study. Overall, the identification of these factors through our research will contribute to the information sharing literature. In addition, the identification of a consistent set of factors and the understanding of how they interact to influence CBI initiatives will provide practitioners from around the world with important knowledge necessary to ultimately improve government operations and services.

Introduction

The Center for Technology in Government's cross-boundary information sharing survey represents the last phase of the "Modeling the Social and Technical Processes of Interorganizational Information Integration" (MIII) project. This national study, conducted by CTG and supported by a grant from the National Science Foundation,[1] was designed to understand how effective information integration and sharing occurs within and across boundaries of organizations. The purpose of the survey was to test the generalizability of a preliminary theoretical model of how policy, organizational, social, and technical factors interact to create criminal justice and public health information sharing capabilities. CTG developed this model based on the data collected and analyzed during earlier phases of the research project.

Purpose of the MIII Project

Integrating and sharing information in multi-organizational government settings involves complex interactions within social and technological contexts. These processes often involve new work processes and significant organizational change. They are also embedded in larger political and institutional environments which shape their goals and circumscribe their choices. The purpose of this research is to develop and test dynamic models of information integration and sharing in these interorganizational settings.

This report provides a first look at the results of the survey in terms of frequencies and basic statistics. The survey was administered during February and March of 2008 to a sample of mostly local and state government public health and criminal justice professionals from across the United States (See Appendix I for survey methodology, sample, and response rate of this project).[2] While the research team has been disseminating findings based on the qualitative data, the information provided in this report represents a preliminary analysis of the survey results using basic statistical measures.[3] The CTG research team is using this preliminary analysis to guide more detailed analyses of the survey data and to test our theoretical model of government cross-boundary information sharing. In addition, this report provides those individuals who participated in the survey and others who are interested in government cross-boundary information sharing with a summary of those items of interest that emerged from the initial phase of analysis. These results might also be of interest to both researchers and practitioners involved in similar initiatives. Additional analyses will be presented in future academic and practitioner-focused outlets such as journals, conferences, working papers, reports and other relevant media.

[1] National Science Foundation grant number ITR-0205152.
[2] A PDF version of the survey is available at www.ctg.albany.edu/static/ctginfosharingsurvey.pdf.
[3] Copies of these publications are publicly available on the CTG Web site at the following link: http://www.ctg.albany.edu/projects/pubs?proj=miii&sub=pubs

Project Background Leading up to the Survey

The project was conducted in three distinct, but related and overlapping phases:

1. In Phase one, two intensive information sharing projects were conducted: one with state-level criminal justice agencies in New York, which aimed to develop a governance structure for statewide criminal justice information sharing initiatives; and one with the New York State Department of Health and related state and local agencies involving a retrospective study of the state's response to the 1999 West Nile virus outbreak and planning for the reemergence of the virus in 2000. This work was conducted in 2003-04.

2. Phase two included six additional case studies—mostly outside of New York State--involving past or ongoing government cross-boundary information sharing (CBI) initiatives within the public health and criminal justice policy arenas. This work, which involved document collection and site visits to interview key government participants, was conducted in 2004 and involved the states of Colorado (public health and criminal justice), Connecticut (public health), North Carolina (criminal justice), Oregon (public health), and the city of New York (criminal justice).

3. Phase three consisted of a national survey designed to test the preliminary cross-boundary information sharing models developed from data collected and analyzed during phases one and two. Theory development and conceptual modeling began in 2004 and the final survey was administered in early 2008. The survey represented the final data collection phase of the MIII project. The Web based survey, which was pretested and piloted in late 2007, was administered in its final version from February through March of 2008.

Upon conclusion of the survey and following preparation of the response data, the research team began its preliminary analysis. The team used basic statistical measures such as descriptive statistics, frequencies, crosstabs, and t-tests. The remaining sections of this report provide what we consider to be the most interesting findings from this preliminary analysis. We first present survey respondent demographics and the results and effectiveness of initiatives. We will then share the comparisons between different groups of respondents and the factors affecting the initiatives.

Survey Respondent Demographics and Experiences with CBI Initiatives

According to responses related to demographic questions, the mean age of survey respondents was 52 and the number of male respondents is slightly higher than female respondents. Respondents reported an average of 11 years of experience with CBI initiatives and had participated in an average of seven initiatives during their careers. On average, respondents spent 14 hours per week working on such initiatives. Nearly half of the respondents identified themselves as having a leadership role in the initiative.

- Survey respondents ranged in age from about 30 to 80 (year of birth 1928 through 1978), with the average age being 52. While 58% of respondents were male, 42% were female.

- When examining the overall number of years of work experience, respondents had almost 26 years on average. Looking specifically at previous experience working on CBI initiatives, respondents had an average of 11 years of experience. In addition, respondents were involved in an average of 7 initiatives, with 66% of the respondents indicating involvement in 5 or fewer initiatives.

- While 37% of respondents were engaged in their initiative as a project team member, 30% took part as a project manager. 17% of respondents were sponsors of their initiative and 8% were users.

- Nearly half of all respondents (47%) reported that they were involved in some sort of leadership role in the initiative, either as an executive sponsor or as a project manager.

- Breaking down the initiatives into different phases, there was a fairly even spread among respondents involved in problem identification/planning (22%), development/design (24%), and implementation/use (24%). About 17% indicated that they were involved in all phases from start to finish. 6% of respondents indicated "Other," which includes the activities of monitoring, evaluation, and education.

- Respondents worked an average of 14 hours per week on their initiative. 42% reported that they worked 5 hours or less per week on their initiative.

Characteristics, Results, and Effectiveness of the Initiative

While most initiatives were implemented at the state level, funding for these initiatives came from a mix of federal and state sources. Moreover, the majority of the initiatives were designed to build general capability rather than solving a specific problem. According to the responses about results of the initiatives, more than half of the survey participants reported that the initiative resulted in effective work relationships across organizational boundaries and provided opportunities to share formal and informal knowledge across organizational boundaries. In addition, respondents reported that the initiatives resulted in interoperable computer systems that can communicate with each other. The responses related to the effectiveness of the initiatives indicated that the initiatives increased effectiveness and efficiency by improving day-to-day operations of government and delivering benefits to persons, organizations, or groups. Overall, the majority of respondents reported that the initiatives were a success and met their stated policy objectives and goals.

- According to the survey results, about two thirds (68%) of the initiatives were implemented at the state level and about one third (32%) were implemented at the local level. In addition, 55% of initiatives were related to the public health domain, and about 44% were related to the criminal justice area.

- About one-third (33%) of the initiatives involved agencies at different levels of government (either local, state, or federal). This top result was followed by initiatives at

multiple levels of government in collaboration with other types of organizations (27%) and across agencies at the same level of government (23%).

- Almost 70% of the initiatives' goals focused on building general capability for the agency or agencies involved, in contrast to solving a specific problem.

- The majority of initiatives (87%) were primarily coordinated by either state or local government agencies. However funding for the initiatives most commonly came from federal or state government agencies.

- More than two-thirds of the respondents (68%) reported that their initiatives resulted in effective work relationships across organizational boundaries to a considerable or great extent. In addition, responses show that their initiatives provided opportunities to share formal and informal knowledge across organizational boundaries. While nearly half of the respondents (48%) reported that their initiatives provided substantial sharing of written and codified knowledge across organizational boundaries to a great or considerable extent, slightly more than half of respondents (52%) reported that their initiatives resulted in substantial sharing of skill and unwritten practical knowledge across organizational boundaries.

- Related to questions about interoperable technical infrastructure, more than 42% of the respondents stated that their initiatives resulted in interoperable computer systems and networks to a considerable or great extent, over half of the respondents (57%) said that their initiatives provided information systems that can communicate with each other.

- More than a half of the respondents (58%) reported that their initiative resulted in improvements in the day-to-day operation of government. More than two thirds (68%) stated that their initiative resulted in benefits directly to persons, organizations, or groups to a considerable or great extent.

- The initiatives were also judged to increase efficiency and effectiveness. 41% of the respondents said that their initiatives resulted in cost savings to a considerable or great extent and more than two-thirds (69%) reported that their initiatives improved efficiency to a considerable or great extent. Similarly, about 40% stated that their initiatives resulted in greater policy effectiveness to a considerable or great extent. However, more than half of the respondents (52%) stated that their initiatives resulted in increased public participation to a minimal extent or not at all.

- According to more than two-thirds of the respondents (68%), their initiative was successful to a considerable or great extent. Likewise, more than two-thirds of the respondents (67%) said that their initiative met their stated policy objectives and goals.

Comparisons between Different Groups of Respondents

The research team identified several items of interest when comparing the different groups among survey respondents. For example, while all respondents tended to characterize their initiatives as successful, those responses identified as criminal justice, state level, fully implemented, and aimed at building general capability tended to indicate the highest levels of success.

- Participants from the criminal justice area reported a higher level of success than public health participants. Criminal justice responses also have higher scores than public health responses in regards to participants' knowledge about relevant business processes, information technologies, and management practices in their organizations.

- Comparing state versus local initiatives, state initiatives reported a higher level of success than local ones. In addition, participants in state initiatives gave higher scores than participants in local initiatives about their knowledge related to information needs, management practices of their own organizations, the broader environment of the initiative and their communication and collaboration skills. Lastly, strategies developed by participants in local initiatives were judged less appropriate and effective than state ones.

- Our analysis comparing the current status of the initiatives indicated that implemented initiatives received higher scores than those still in development, especially in regards to questions about the success of the initiative, which can be expected. Moreover, when we looked at the results of t-tests between implemented initiatives versus defunct initiatives, we see that implemented initiatives reported a higher level of executive support, better leadership, and more willingness of participants than defunct initiatives. These results suggest some success factors in cross-boundary information sharing initiatives.

- Initiatives that aimed at building general capability received higher scores than initiatives which sought to solve a specific need or problem in questions related to the success of initiatives. Moreover, respondents who participated in initiatives that aimed at building general capability reported more satisfaction with addressing concerns or issues in the initiative than respondents who participated in the initiatives that aimed at solving a specific need or problem.

Factors Affecting the Initiative

The primary purpose of our survey was to identify a generalizable set of policy, organizational, social, and technical factors that influence government CBI initiatives. The survey tested for generalizability of 41 such factors, all of which were pre-identified based on the research and analysis conducted by CTG during earlier phases of the project (See Appendix II for the list of survey factors). The survey questions focused on the existence and nature of these factors as they related to the CBI initiative that the respondents were reporting on.

As mentioned at the beginning of this report, the majority of respondents indicated that most of the 41 factors represented in the survey questions were present to some extent in the participants' CBI initiatives of interest. See Appendix III for the complete list of survey items and their mean scores on a scale of 1 – 7. While considering the existence of many of these factors, there were some interesting finding that emerged from the preliminary analysis of the data. By identifying those survey responses with the highest and lowest means as our measure, Figure 1 below shows the top 10 factors that respondents said existed in their initiative and the top 10 that did not. The following paragraphs will discuss in greater detail our findings based on these two sets of survey items.

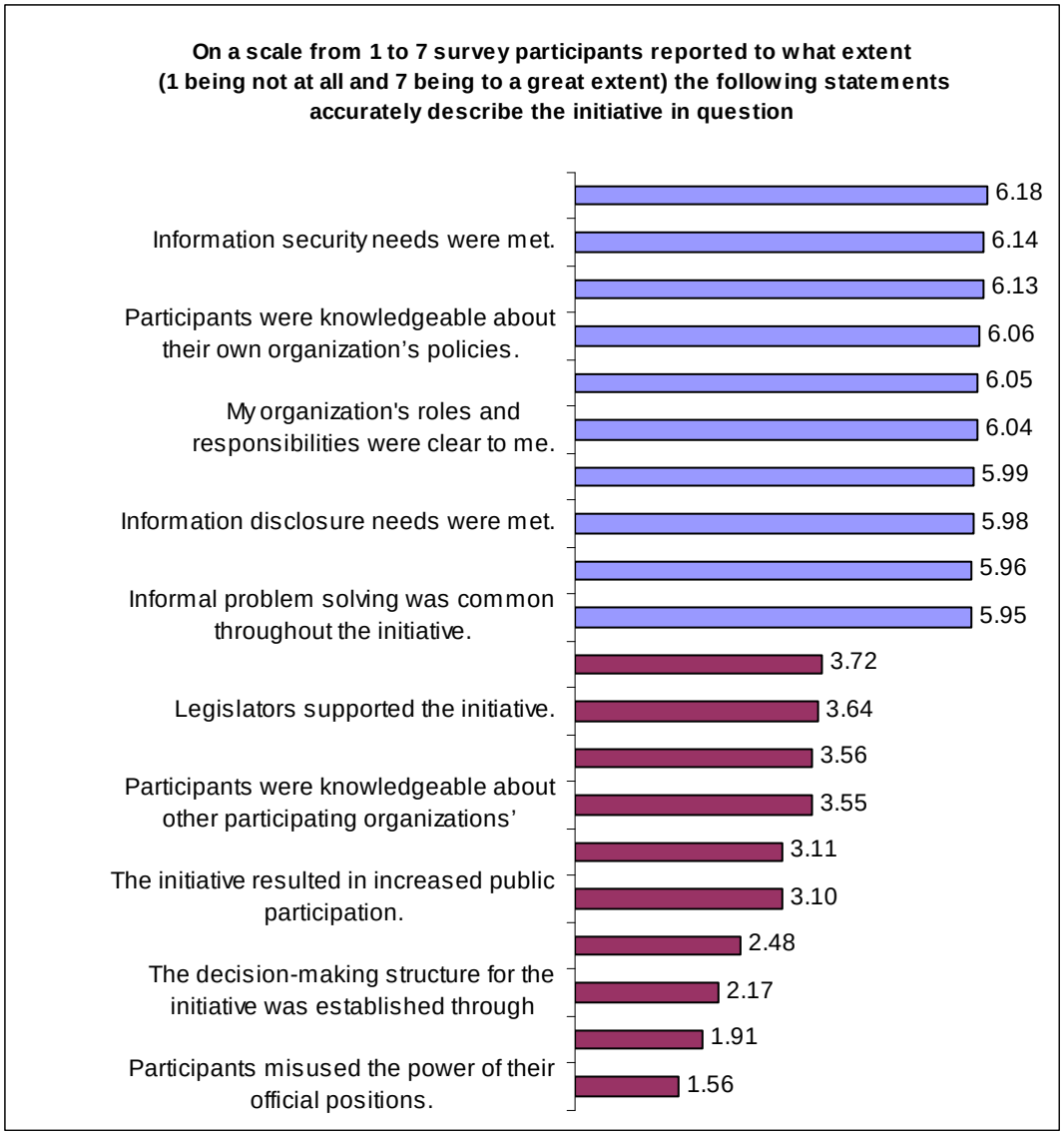

Figure 1. Questions with the highest and lowest means

The majority of respondents indicated that information privacy, disclosure, and confidentiality were issues in their initiative and an even higher percentage of respondents indicated that concerns and needs about each of these issues were met in the course of the initiative. When we look in detail, more than two-thirds of the respondents (68%) stated that to a considerable or great extent information privacy was an issue in their initiative; the majority of respondents (83%) said that to a considerable or great extent information privacy needs were met. Similarly, while nearly two-thirds of respondents (66%) reported that to a considerable or great extent information confidentiality was an issue in the initiative, the majority of the respondents (82%) said that to a considerable or great extent information confidentiality needs were met.

Likewise, whereas more than 70% of the respondents stated that to a considerable or great extent information security was an issue in their initiative, the majority of them (84%) reported that to a considerable or great extent information security needs were met. Similar to the responses about security concerns, nearly two-thirds of the respondents (64%) stated that information disclosure was an issue in their initiative. However, more than three-fourths (76%) said that information disclosure needs were met to a considerable or great extent. In addition, according to the majority of respondents (79%), concerns or issues raised by participants were addressed in their initiative to a considerable or great extent. These results indicate that although respondents had several concerns at the beginning of their initiative, their concerns were met during the initiative. We plan on exploring through additional analyses what specific factors influenced these concerns being addressed and then how they influenced the overall success of the initiatives.

In response to a series of questions about the existence of knowledge of participants' own organizations in the context of the CBI initiatives, many of the survey participants indicated that these factors existed to large extent and more than most of the other factors. Specifically, more than three-fourths of the respondents (77%) reported that to a considerable or great extent participants were knowledgeable about their own organization's policies. Similarly, 62% stated that to a considerable or great extent participants were knowledgeable about their own organization's information technologies. Moreover, three-fourths of the respondents reported that to a considerable or great extent their organization's roles and responsibilities were clear to them. The fact that initiative participants were so knowledgeable about their own organizations is not a surprise, but what is of interest to us is how this knowledge influenced other factors in our model and then in turn influenced the success of the initiatives. In addition, we are very interested in whether there were factors that influenced these examples of organizational knowledge during the initiatives.

According to a majority of respondents, appropriate and effective strategies were used to a great extent during their initiatives. In addition, the existence of informal problem solving also was a high scoring factor. We believe this is worth further analysis. Looking in detail, 70% of the respondents stated that to a considerable or great extent strategies developed by participants to support the initiative were appropriate and three-fourths found that strategies developed by participants to support the initiative were effective. Similarly, nearly two-thirds of the respondents (64%) reported that to a considerable or great extent informal problem solving was common throughout the initiative. Based on the earlier analysis of our qualitative data, "informal problem solving" was not only common, but essential to the success of the CBI initiatives. In a number of instances it involved initiative participants representing several different government

agencies from various levels of government having to come up with new and innovative ways of addressing barriers to improved information sharing. The informality of this problem solving had to do with the fact that there were no established rules or procedures to help guide this cross-boundary decision making. In many cases, the problems they were addressing were how to overcome information sharing barriers that were being caused by traditional bureaucratic policies and rules as well as differing—and sometimes conflicting—organizational cultures. Additional research in this area of informal problem solving seems warranted.

The survey statements with the lowest mean score represent those factors that appear to have existed the least in the respondents' CBI initiatives (See Appendix III). For example, all of the statements related to factors about initiative participants' knowledge of other organizations (i.e., their organizational policies, information technologies, and management practices) appear to existed to a much lesser extent than the majority of other factors. In the survey, only 10% of the respondents reported that to a considerable or great extent participants were knowledgeable about management practices, information technologies, and policies of the other participating organizations. When respondents answered the question to what extent participants were knowledgeable about the information needs of other participating organizations, 29% indicated to a considerable or great extent. In addition, only 18% stated that participants were knowledgeable about the relevant business processes of the other participating organizations to a considerable or great extent. We find this result very interesting and worthy of additional investigation. Based on our earlier analysis of the qualitative data and general consensus in the information sharing literature that successful collaboration with new partners requires increased knowledge sharing, we were surprised to see that these factors did not exist to a greater extent. However, as mentioned above, we are interested in conducting further analysis of our data to better understand how all of our "knowledge" related factors influenced and were influenced by other factors within the context of the CBI initiatives.

In term of the remaining factors that we find at the lower end of our scale, the existence and influence of legislation and legislative support was overwhelmingly not a factor in the initiatives. In addition, very few respondents indicated that the decision-making structure for their initiative was established through legislation or executive mandate. Overall, respondents consistently stated that existing legislation neither interfered with nor made their initiative possible. When we look at the responses to questions about the role of legislation, more than three-fourths of the respondents (76%) stated that existing legislation did not interfere with their initiative to a considerable or great extent. Nearly 20% of respondents reported that legislators supported their initiative to a considerable or great extent, but more than one-fourth of the respondents (26%) said legislators supported their initiative to a minimal extent or not at all. In addition, half of the respondents stated that existing legislation did not make their initiative possible to a considerable or great extent, while 21% reported that existing legislation made their initiative possible to a minimal extent or not at all. Based again on the earlier analysis of our qualitative data, we find these results interesting and worth additional study. From our qualitative data, some form of legislation was cited as a trigger for starting a CBI initiative. We also found that existing legislation hampered cross-boundary collaboration by making it difficult to extend authority and share resources across agencies and levels of government.

Concluding Remarks

In conclusion, this report summarizes the results of a survey which aimed to understand what factors and issues come into play in cross-boundary information sharing initiatives in the public sector. We propose that the results of this survey support the existence of a comprehensive set of factors that influence government CBI initiatives. In addition, the results of our preliminary analysis of this survey highlight a number of factors that we believe are worthy of further study. Overall, the identification of these factors contributes to the information sharing literature and provides useful ideas for the practitioner world.

Acknowledgements

The authors want to thank Sharon Dawes and Anthony Cresswell for their valuable comments on previous versions of this report and helping focus the analysis and presentation of the survey findings. The authors would also like to thank Sara Berg and Fiona Thompson for the crucial role they played in the development and administration of the national survey. We would like to thank Anna Raup-Kounovsky and Alison Heaphy for their work in the final editing, formatting, and publication of this report. Finally, this research and findings would not have been possible without the commitment of the government professionals throughout the country who actively participated in our project. This work was partially supported by the National Science Foundation under Grant No. ITR-0205152. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Appendix I. Survey Methodology, Sample, and Response Rate

The survey sample included a mix of local and state government professionals from criminal justice and public health agencies across the 50 states and Washington, DC. The population is unidentified and therefore we did not use random sampling strategies to identify our potential respondents. These participants were identified either by their involvement in past or current government CBI initiatives or by their positions in government agencies responsible for providing criminal justice or public health related services. In order to have a common understanding in the minds of the survey respondents, cross-boundary was defined at the beginning of the survey as several possible kinds of boundaries, including across different units or departments within a single organization; across different agencies; across different levels of government; and across public, private, non-profit, and academic sectors. An information sharing initiative was defined as a government led-effort to develop the necessary institutional, organizational, and technological policies, processes, and systems that allow organizations or multiple units within a single organization to share and use both internal and external information. Survey respondents were asked their opinions about a mix of policy, organizational, social, and technical factors that relate to one specific, U.S.-based government CBI initiative that they personally participated in within the last five years. Respondents were asked to choose the initiative they knew the best, regardless of its current status (e.g., still in development, defunct, or implemented) or level of success or effectiveness.

The full administration of the survey began by e-mailing invitations to 815 government contacts: 361 individuals in criminal justice agencies and 454 individuals in public health agencies. It contained a description of the survey project and background about the previous research leading up to the survey. Members of our sample were informed that the link to the survey itself would be mailed the following week and they were given the opportunity to opt-out prior to receiving the survey. In addition, the invitation asked for contact information of individuals who could replace the invitees if they chose to opt-out; suggestions for additional survey participants were also welcomed. In total, we had 15 opt-outs from criminal justice agencies, 7 of whom were replaced by alternate contacts, and 36 opt-outs from public health agencies, 4 of whom were replaced by alternate contacts. The invitation also allowed us to check for working e-mail addresses, resulting in 36 non-contacts from criminal justice agencies and 42 non-contacts from public health agencies. A follow-up e-mail containing an individual's unique survey link was sent approximately one week later and reminders were sent to non-respondents two, four, five, and six weeks after the first survey link e-mail was sent.

Our final sample size was 617 individuals. There were 71 opt-outs without replacements, for a rate of 11.5%. We had 173 completed surveys, for a rate of 28%. The remaining 373 individuals did not complete the survey. The final representation of the sample make-up was satisfactory for doing a statistical analysis. We received responses from 48 states and they were well-distributed across the United States. Breaking down the percentages across policy domain and level of government to compare respondents who completed the survey with the non-respondents and individuals who opted-out, the results were very similar by policy domain; this similarity was also true when we compared the respondents who completed the survey with the entire sample.

However, across all comparisons, we found that the percentages were different by level of government. Therefore, our results are not necessarily representative by level of government.

Appendix II. Survey Factors

Factors influencing government cross-boundary information sharing initiatives	
1	Focusing Event
2	Enabling Legislation
3	Institutional Framework
4	Support from the Legislature
5	Executive Involvement
6	Executive Leadership
7	Formally Assigned Project Manager(s)
8	Informal Leaders
9	Respect for Autonomy of Participating Organizations
10	Exercise of Authority
11	Availability of Financial Resources
12	Technical Infrastructure
13	Use of External Consultants
14	Governance Structure
15	Common Standards
16	Diversity of Participating Organizations and their Goals
17	Group Past Experiences
18	Individual Past Experiences
19	Knowledge of Information Needs - Individual organizations
20	Knowledge of Information Needs - Participating organizations
21	Knowledge of Information Needs - Cross-boundary initiative
22	Knowledge of Intra and Inter-organizational Business Processes – Own Organization, Other Organizations and Across Organizations
23	Knowledge of Own Organization - Policies, Technologies and Management Practices
24	Knowledge of Participating Organizations - Policies, Technologies and Management Practices
25	Knowledge of Initiative -Policies, Technologies and Management Practices
26	Knowledge of Environment
27	Knowledge of Current and Emerging Technologies
28	Technical Skills
29	Collaboration Skills - Communication, Coordination, Collaboration and Effectiveness
30	Boundary Object Use
31	Clarity of Roles and Responsibilities of Participating Organizations
32	Confidentiality and Privacy Concerns
33	Security Concerns
34	Political Concerns about Information Disclosure
35	Confidentiality and Privacy Concerns

Factors influencing government cross-boundary information sharing initiatives	
36	Unmet Concerns
37	Incentives
38	Trust among Key Participants
39	Willingness to Participate
40	Localized, Episodic Problem Solving
41	Appropriate and Effective Strategies

Appendix III. Survey Items from Highest means to Lowest Means

Survey item: *Participants were asked, on a scale from 1 to 7, to what extent the following conditions applied to the CBI initiatives they were reporting on* (The ten survey items with highest and the ten survey items with the lowest means are shaded).	**Mean**
Information confidentiality needs were met.	6.18
Information security needs were met.	6.14
Information privacy needs were met.	6.13
Participants were knowledgeable about their own organization's policies.	6.06
Concerns or issues raised by participants were addressed in the initiative.	6.05
My organization's roles and responsibilities were clear to me.	6.04
Participants were knowledgeable about the information needs of their own organizations.	5.99
Information disclosure needs were met.	5.98
Strategies developed by participants to support the initiative were appropriate.	5.96
Informal problem solving was common throughout the initiative.	5.95
Participants were knowledgeable about their own organization's management practices.	5.91
The initiative resulted in effective work relationships across organizational boundaries.	5.85
Strategies developed by participants to support the initiative were effective.	5.82
The initiative resulted in benefits directly to persons, organizations, or groups.	5.82
Taken as a whole, the initiative was a success.	5.78
During the initiative, many problems were solved without involving top management.	5.75
Individuals took on coordination or problem-solving responsibility beyond their official duties.	5.74
The initiative met its stated policy objectives and goals.	5.73
Relevant individual executives were highly supportive of the initiative.	5.72
A collective decision-making process was frequently used in the initiative.	5.70
Participants worked on the initiative willingly.	5.68
Individuals successfully assumed leadership responsibility beyond their official duties.	5.68
Participants were knowledgeable about their own organization's information technologies.	5.67
Participants were knowledgeable about the relevant business processes within their own organizations.	5.65
Participants had effective communication skills.	5.61
The initiative resulted in improved efficiency.	5.61
Information security was an issue in the initiative.	5.58
The roles and responsibilities of other participating organizations were clear to me.	5.57
The initiative included assigned project managers.	5.57
Assigned project managers were effective at their jobs.	5.56
The organizations participating in the initiative were diverse in terms of level of government,	5.56

Survey item: *Participants were asked, on a scale from 1 to 7, to what extent the following conditions applied to the CBI initiatives they were reporting on* (The ten survey items with highest and the ten survey items with the lowest means are shaded).	**Mean**
mission, or resources.	
Participants had effective collaboration skills.	5.56
The initiative benefited from high-level executive sponsorship.	5.56
Participants had effective coordination skills.	5.55
Communication within the initiative was effective.	5.55
Participants trusted each other.	5.53
Participating organizations shared the same goals in terms of the initiative.	5.50
Participants were knowledgeable about the broader environment of the initiative.	5.48
Information privacy was an issue in the initiative.	5.46
Information disclosure was an issue in the initiative.	5.38
Common technical standards were used in the initiative.	5.36
Information confidentiality was an issue in the initiative.	5.33
Common technical standards were established for use in the initiative..	5.33
Participants were knowledgeable about the information needs of the initiative as a whole.	5.33
The specific needs of my organization were respected by others.	5.29
The specific limitations of my organization were respected by others.	5.29
Participants were knowledgeable about policies relevant to the initiative..	5.28
The initiative resulted in substantial sharing of skills and unwritten practical knowledge across organizational boundaries.	5.24
The initiative resulted in improvements to the day-to-day operation of government.	5.24
Common policies were established for use in the initiative.	5.23
My organization was able to do its job without interference from others.	5.19
Common policies were used in the initiative.	5.18
The initiative resulted in substantial sharing of written and codified knowledge across organizational boundaries.	5.18
The decision-making structure for the initiative was established by the participants themselves.	5.12
The initiative resulted in information systems that can communicate with each other.	5.09
The initiative depended on the unique experience of some participants.	5.08
Participants had adequate technical skills.	5.00
The participants had incentives to participate in the initiative.	4.99
Participants were knowledgeable about management practices used in the initiative.	4.99
Meeting minutes, planning documents, and draft materials were valuable to the initiative.	4.98
Participants were knowledgeable about information technologies used in the initiative.	4.96
Participants were knowledgeable about the relevant business processes of the overall initiative.	4.95
Prototypes and process descriptions were valuable to the initiative.	4.91
The initiative resulted in greater policy effectiveness.	4.87

Survey item: *Participants were asked, on a scale from 1 to 7, to what extent the following conditions applied to the CBI initiatives they were reporting on* (The ten survey items with highest and the ten survey items with the lowest means are shaded).	**Mean**
Regulations or formal agreements were relevant to the initiative.	4.83
Participants were knowledgeable about current technologies.	4.82
The initiative resulted in cost savings.	4.77
The technical infrastructure was adequate for the initiative.	4.74
Stories and personal experiences were valuable to the initiative.	4.74
Participants were knowledgeable about the information needs of other participating organizations.	4.73
Regulations or formal agreements were essential to the initiative.	4.65
Financial resources were adequate for the initiative.	4.56
The decision-making structure for the initiative was documented.	4.51
The initiative resulted in interoperable computer systems and networks.	4.47
The initiative resulted in an integration of disparate databases into new data resources.	4.46
I personally had positive experiences with past similar initiatives.	4.42
Participants were knowledgeable about emerging technologies.	4.41
Participants had positive previous experience working together as a group.	4.33
Relevant individual executives displayed a charismatic leadership style.	4.27
Elected officials (other than legislators) supported the initiative.	4.27
Participants had previous experience working together as a group.	4.23
Participants were knowledgeable about the relevant business processes of the other participating organizations.	4.10
The initiative started because of a specific event such as new legislation, a crisis, or an election.	3.99
Many participants had positive experiences with previous similar initiatives.	3.99
External consultants played an important role in the initiative.	3.99
Charters or formal authorizations were valuable to the initiative.	3.98
Relevant individual executives focused more on the participants in the initiative than on the data or information systems.	3.95
Participants were knowledgeable about other participating organizations' policies.	3.72
Legislators supported the initiative.	3.64
Participants were knowledgeable about other participating organizations' information technologies.	3.56
Participants were knowledgeable about other participating organizations' management practices.	3.55
Existing legislation made the initiative possible.	3.11
The initiative resulted in increased public participation.	3.10
Participants had negative previous experience working together as a group.	2.48
The decision-making structure for the initiative was established through legislation or executive mandate.	2.17
Existing legislation interfered with the initiative.	1.91
Participants misused the power of their official positions.	1.56

Center for Technology in Government
187 Wolf Road, Suite 301
Albany, NY 12205
Phone: (518) 442-3892
Fax: (518) 442-3886
E-mail: info@ctg.albany.edu
www.ctg.albany.edu

UNIVERSITY AT ALBANY
State University of New York