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INTEROPERABILITY: A NEW TERM, AN OLD CONCEPT, AND A BRIGHT FUTURE

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ABSTRACT After a decade of rapid advancing, interoperability is touted today as an essential element of change for those government institutions that plan not only to prosper but also to survive. Federal, state, and local government agencies, leading academic institutions, small and large consulting firms, and information technology companies wave the flag of interoperability and act as if their spirit of innovation allowed them to recognize the immense value of this recent discovery. The importance of this allegedly new way of organizational interaction grew far enough to be cited in the American Recovery and Reinvestment Act of 2009. The truth is that interoperability is a concept that is almost as old as human race, the concept that simply donned a new linguistic mask, having worn before the masks of cooperation, collaboration, working together, joint effort, and many others, all the way back to hunting mammoths by creating loose assemblies of able members of a “band”. Interoperability is a new image of an old idea whose time seems to have come, again. But why now and why with such vigor? Why do government entities claim their willingness to embrace the thought of breaking silos that lived through many attempts of reorganization? Why is there excitement about information sharing when we were told for many years that exchange was impossible for the reasons of privacy and confidentiality? Why do public agencies promise to invite private for-profit companies to the discussion table even in such industries as public welfare where profitability has been an anathema word for what seems forever? Why is the government no longer afraid of making substantial budget allocations for the acquisition of information technology solutions that are deemed administrative expenditures thus diverting limited funds from care delivery? Why do some of us sense a cold-breathing void recognizing that interoperability is much too often reduced to information technology initiatives, thus omitting such issues as communication barriers, complexity and cost of required organizational change, the need to introduce new models of program and system administration, etc.? This paper attempts to offer non-technical-language answers to these and other related questions.

Key Words: Interoperability; integration; human services; health electronic records

1. Introduction

Necessity is the mother of invention, it is true -- but it's father is creativity, and knowledge is the midwife. – Jonathan Schattke

The relative newness of the term interoperability can be gleaned from such simple fact that its definition does not exist in the online Unabridged Merriam-Webster Dictionaryⁱ while Wikipedia devotes to it an entry which volume exceeds 3,000 wordsⁱⁱ. In its general use, the term refers to the ability of multiple entities to work together. This implies that in order for such joint efforts to be considered successful, the following basic conditions must be met:

- The cooperating entities must establish, and define clearly using terminology understandable equally well by all participants, goals of their collaboration and metrics that would be used to quantify the level, to which these goals have been achieved;
- The cooperating entities must agree and commit that, within the framework of the joint initiative, their common interests would take precedence above the interests of individual participants;
- The participating entities must implement an initiative governance structure that would have the capacity to be competent and functional and the authority to enforce its decisions; and
- The participants must have the means to make their communications effective, unambiguous, and meaningful without threatening the autonomy of individual entities

Anyone who had to operate as a member of a team should recognize immediately that the task of satisfying the conditions above is daunting, to say the least. Nevertheless, interoperability is on the minds of many forward-looking professionals of public and private sectors and is seen as the key to the future health care systemⁱⁱⁱ. It would be unreasonable to assume that those who promote the concept do not recognize how complex, expensive, disruptive,

long-term, and potentially politically perilous its implementations could be. What motivates bright and experienced people in the position of responsibility to advertize initiatives that have a relatively high probability of failing, claiming in the process much attention and much funding during the times of a major financial crisis? This paper examines the subject of interoperability on the background of health and human services industries.

2. Commitment to Working Together

No matter what are the target and the scope of an interoperability initiative, it cannot be successful without meaningful and responsible cooperation among participants. As the popularity of the concept interoperable systems grows, the chorus of those who promote or support the joining of hands becomes more numerous and increasingly louder. The question is how many members in this company mean what they sing and how many of those who do are prepared to follow their words with actions? Those of us who invested years of their lives and professional careers to encouraging and facilitating cooperation in public health and human services (whatever the term referring to it could have been at the time), know the frustration of seeing the ranks of project participants dwindle to but very few (and possible the same ones) after the initial excitement evaporates and exchanged promises to contribute and to see the initiative to its ultimate success are somehow forgotten. "In the last decade, greater coordination and integration of human service programs have been addressed through legislation, local innovations made possible by radical changes in welfare administration, and pilot studies undertaken with private foundation support. Yet too often, gains have been small in scale or ephemeral, and real integration a goal stubbornly out of reach."^{iv}

There exists an opinion that "human services leaders have always dreamed of systems in which services are planned, coordinated, delivered, monitored and evaluated in an integrated and efficient manner, maximizing positive outcomes for children, families and communities"^v. There is no reason to deny strong interest that many professionals in the human services industry have in coordinating care management. Nevertheless, in our opinion, it is equally unreasonable to believe that had industry leaders truly dreamt about integration, they would not have had the capacity to effectuate it, given years of effort and investment of substantial resources. Furthermore, it is no secret that coordination and collaboration have been a matter of practice at the case level (when front-line staff find ways to communicate across program and bureaucracy boundaries if it promises advantages to the consumer), despite remaining an unreachable outcome at the level of systems and agencies.

One of the major advantages of the term interoperability over the term integration is in that the former sounds like it does not jeopardize the independent functioning of participating entities, while the latter sounds like participating entities are going to be combined into an integral whole, thus losing their independence and potentially their identity. In this light, commitment of working together can be made on one of the following backgrounds:

- Honest and responsible desire to see the initiative through (whether or not the participant recognizes the complexity of the undertaking);
- Directive from the supervisor or guideline from the agency of a higher level;
- Fear of being stuck at the station after the train leaves;
- Feeling of necessity to be around to "protect the turf"; and
- Curiosity (regardless whether idle or not)

The perceived danger of losing one's power base or of seeing one's comfortably familiar environment disappear is a strong motivator, especially considering that what is offered in exchange is uncustomary, difficult to understand, requiring a leap of faith, and mandating substantial effort over and above an already busy and hectic schedule. Many initiatives that set as their goal establishment of a cooperative environment do not realize their potential or abort, because they fail to secure meaningful and responsible commitment of the participants. The reality is that any movement from operational isolation to an interoperable system is bound to bring a change that will be perceived and that may be, in fact, invasive. The benefits of cooperating and sharing come at the price of the responsibility to coordinate and to communicate, the protocols for which will never be equally convenient to and welcome by all participants. Those collaborative initiatives that attempt to please everyone all of the time are bound to face a fiasco.

If the complexities of implementing an interoperability initiative are relatively easy to recognize, why do only but a few champions of these initiatives bring to light intrinsic risks of the project instead of downplaying them or being silent about them, altogether? The reasons are painfully human, which means that the answers are and will remain to rest with participants, almost unaffected by targeted industries and the use of technologies.

Because an interoperability initiative brings to the cooperative table separate and independent systems, it is usually accompanied by high visibility, which, in turn, often demands approval and support of officials of higher levels of responsibility. This introduces political sensitivity, especially when applied to the field of public welfare. Not every participating system shares sincerely the excitement, belief, and commitment of those who champion the project; and off-site brainstorming sessions and retreats are employed to strengthen team spirit. Quite customarily

and to secure universal buy-in, consultants are invited, full of optimism, effective engagement techniques, and blueprints that promise to lead to success. In this environment, focus on such negative aspects as potential difficulties, risks, controversies, and the need to be realistic about and committed to timely delivery would be unwelcome and politically unwise. By the time the initiative is approved for funding and implementation, it is too late to have a public discussion of the potential pitfalls. The responsibility to address these pitfalls falls on the implementation team that but rarely has the authority to handle this responsibility in a meaningful fashion.

Recommendation

At the very onset of an initiative that strives toward interoperability, its leadership group must advise all participants that the new environment will bring a change, which is expected to reduce encapsulation of individual existing systems; which will necessitate new forms of collaborative decision making; which is bound to enforce new protocols for information sharing; and which has the potential of making the existing systems more transparent and accountable. In return and as early, as during the process of its design and implementation, the initiative should improve the quality of output of interoperable systems and should increase the combined efficiency of operations among the participants.

3. Interoperability: the Substance and the Appearance

Reviewing the avalanche of information on the theme of interoperability in the public sector^{vi} one cannot help but notice how much this subject favors introduction and use of information technology^{vii}. A common logical pattern is interoperability→information←technology, thus seeing interoperability as an enabler of information sharing and seeing technology as a means to make such sharing possible. The value of an interoperable system implemented following this logic “is realized through better coordination of government agency programs and services and through opportunities for information to be shared among, and used by, networks of government, private sector, and other key actors to serve the priorities of society and its institutions^{viii}”. The original European Interoperability Framework (EIF) published in 2004 defined interoperability to mean “the ability of information and communication technology (ICT) systems and of the business processes they support to exchange data and to enable the sharing of information and knowledge^{ix}”.

In more recent years, there is a growing number of voices that advise us to recognize that “there are several level of interoperability, and technical is just one: the toughest ones are semantic (do data have the same meaning?), organizational (are processes compatible?), legal (do similar laws apply to the same issues?)”^x. The work accomplished by European Communities between 2004 (publishing of the original EIF) and 2008 (release of the second version of EIF) brought forth the appreciation of additional, to technological, aspects of interoperability that encompass more than just the ability of ICT systems to exchange data and that demanded that consideration be given to “a more general view of interoperability as the ability of disparate and diverse organizations and systems to work together efficiently towards mutually beneficial common goals”^{ix}. UKOLN defines the following key set of interoperability foci: technical, semantic, political/human, inter-community, and international^{xi}. It is worth noting that UKOLN and Andrea DiMaio quoted earlier, while in concert as to the complexity of interoperability, do not concur as to categorization of its different “flavors”.

Our long-term experience agrees with the proposition advancing the existence of numerous aspects of interoperability. We believe that, when applied to the field of public health and human services, semantic and organizational aspects acquire greater importance than the technical aspect, because the ability to communicate without being misunderstood and the ability to function in a manner that supports both internal and external (interoperable) needs are deemed the priority in the continuum of problem resolution within the framework of an interoperability initiative.

A case in point is the use and exchange of information about names among a children, youth, and families (CYF) agency working with dependent children, a juvenile probation (JP) agency working with delinquent children, and a healthcare provider. The benefit of exchanging information about a child who is in care in more than one system is contested rarely. Yet, those with relatively little experience in the field are often surprised by the attention to aliases that JP agencies pay when identifying a juvenile. While a CYF agency would limit its interest in knowing and using one (usually full legal) name for the child supplemented with the information about various family relations, a JP agency would attempt to record all known aliases that might have been coined to identify the child, because of the tendency for using monikers by the adolescents, especially those in trouble with the law. Furthermore, a healthcare provider customarily would collect individual demographic data for children and adults in a uniform manner and might not even have the ability to collect alias information, which reflects its lack of interest in this matter. Despite these differences, a CYF agency, a JP agency, and a healthcare provider would employ the same term ‘name’, albeit it may reflect substantially diverse requirements and expectations.

If the multi-faceted nature of interoperability has been recognized, why is the technological aspect of it favored so staunchly? Why do many interoperability initiatives look, sound, and smell like information technology projects, with implementation responsibilities divested to chief information officers rather than chief executive officers or chief operations officers? The reasons are embedded in the dominant operational models, guidelines for funding of public projects, existing administrative protocols, and political realities, which means that the answers will require far-reaching structural changes in the public sector as well as changes in the way we measure openness, transparency, and accountability.

Because the complexity of an interoperability initiative is usually not recognized or downplayed, when the initiative is formulated, funded, and slated for development and implementation, its customary image of an information technology project is consistent with its publicly promoted concept. Even when non-technological aspects of interoperability are acknowledged, it is much more expedient to divest the need to address them to the implementation team instead of engaging high-level decision makers and project monitoring committees or boards in difficult matters of semantics, operational protocols, legal validity, etc. Furthermore, an ICT project can be encapsulated to be seen as an undertaking external to all participants, thus creating something like a safety valve prepared for the eventuality of a fiasco. Admittedly, there is also an element of naiveté and wishful thinking, because many people of “older generation” who hold a position of responsibility believe that people are mistake prone but computers can do everything. Finally, ICT projects are easier to price and fund, because they include relatively many tangible items that can be labeled deliverables associated with release of payments, thus making the project environment look fiscally responsible, from the perspective of the funder.

Recommendation

An interoperability initiative in the public sector that involves a number of autonomous agencies and programs must be recognized and advertized first and foremost as a system change that will require modifications to the ways, means, and outcomes of agency operations, interagency and intra-agency communications, and multi-agency governance. Such aspects of interoperability as technological and legal must be seen as subservient but necessary to secure successful implementation of the project and efficient functioning of the environment that it is anticipated to establish.

4. Interoperability Governance: Who Is in Charge?

As any other undertaking, an interoperability initiative must be managed toward its implementation and during the lifecycle of its operations. The European Public Administration Network (EPAN) defines interoperability governance as “the ownership, definition, development, maintenance, monitoring and promotion of standards, protocols, policies and technologies” of the government interoperability framework (GIF)^{xii}. In its e-Government Interoperability document^{xiii}, UNDP notes the EPAN recommendation that a single agency be “responsible for two of three aspects of the GIF, such as technical and semantic aspects”. According to EPAN, this agency should have the following characteristics:

- ▶ “Separate from all sectoral domains to ensure independence;
- ▶ Seen as expert in the field of interoperability to engender trust;
- ▶ Capable of working as a collaborative partner with fulfillment agencies and sectors;
- ▶ Pro-active in the promotion and promulgation of standards and their use;
- ▶ Responsible for monitoring usage of and policing adherence to standards, guidelines, policies and protocols;
- ▶ Singularly focused on standardizing and providing interoperability on a pan-public service basis; and
- ▶ An advisory body to fulfillment agencies in developing strategies and implementing solutions, to fulfillment agencies in coordinating cross agency aggregated services and to communities of practice in setting and publishing standards.”^{xiv}

The recommendations of EPAN are quite clear and may appear to be easy to follow. Nevertheless, when applied to the public health and human services industry, this appearance quickly disappears. In order to understand the complexity of the issue, let us review an example of a department of health and human services (DHHS) of a local unit of government functioning independently in a state that uses a county-administration model.

While not responsible for a particular program management, DHHS serves an important role of coordinating the efforts of independently functioning departments and agencies, such as:

- Aging and Adult Services;
- Behavioral Health/Developmental Disabilities;
- Child Day Care Services;
- Children and Youth;

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- Drug and Alcohol; and
- Health

Despite its responsibility for guiding the work of the six entities in the above list, DHHS does not have resources to support these entities financially and does not fund directly any of the public health and human services programs in the county. Individual program budgets represent a combination of federal, state, and local funding complemented, whenever possible, by grants and resources received through special initiatives. Furthermore, the six entities whose efforts are coordinated by DHHS are controlled by different state bureaucracies that impose their idiosyncratic guidelines for program administration, reporting, and fiscal accountability. In certain instances, the same entity is funded by two related but independent state agencies that demand that funds that they provide be used solely to offer benefits approved by these agencies. For example, state office of Medicaid programs funds, under a carve-out managed care model, behavioral health care for county residents, while the state office of mental health (as a unit of state department of public welfare) provides funding for mental health consumers who are not Medicaid eligible and while the state office of drug and alcohol programs (as a unit of state department of health) provides funding for substance abuse service recipients who also are not Medicaid eligible. It may require a few readings and a piece of paper to draw the web of bureaucratic relationships to assure comprehension of interaction among state agencies, DHHS, and county health and human services departments.

When DHHS initiates efforts toward enhanced cooperation among its individual departments having selected children and adolescents as target population, this undertaking is met with readiness and support. However, after a few months of planning labors, the representatives of the participating departments raise such difficult-to-resolve matters, as:

- What existing department or what new entity is in charge of the project?
- What existing department or what new entity will be responsible for the functioning of the interoperable system, once it is implemented?
- What individual, group of individuals, or entity has the right to arbitrate disagreements among the participants and their conflicts of interests?
- Is there an exit strategy for a department or departments that prove to derive no anticipated benefits from the interoperability initiative?
- How will the existing departments be reimbursed for their administrative efforts toward the design, development, and implementation of the interoperable system?
- How will the existing departments be reimbursed for the development and implementation of policies and procedures toward their effective ongoing interaction with the interoperable system once it is established and functioning?

It may appear that a logical solution would be to vest DHHS with the rights and responsibilities of acting as an administrator of the interoperable system. Unfortunately, this approach meets often with much resistance, because DHHS acts both as a higher authority discharging its “traditional” duties and as a coordinator with respect to the new system. Having one of the existing departments act in the role of coordinator is bound, almost certainly, to cause dissatisfaction and complaints, as it seems to “elevate” one department above its peers.

Recommendation

Recognizing that, in the field of public health and human services, an interoperability initiative almost always is bound to be an undertaking of large scope, it is appropriate to assign the responsibility for its implementation and operations to an independent entity. It should be expected that such entity be newly created and quite possibly have a governing structure of a not-for-profit corporation with a board of directors that follows a pattern of a community board. In the above example, DHHS would be responsible for quotidian oversight of the newly created corporation, while administrators of the six existing departments would be the members of its board of directors.

5. Measures of Success or Failure

According to the United Nations Development Programme (UNDP)^{xv}, e-government interoperability should be expected to accomplish better decisions, better public services, and better governance. The *e-Government Interoperability: Overview* document published by UNDP offers a brief explanation of how interoperability would achieve the three goals above maintaining focus on information and its use. The explanation of how interoperability would lead to better public services is worth citing in its entirety:

“An important goal of governance is to enable the citizenry to have easier and faster access to government information and services. The seamless flow of data from one government office to another provides the policy maker with the information needed to draft sound policy and deliver better services.”**Error!**

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Here, better public services are equated with easier and faster access by the citizenry to government information and services, as well as with the ability of a policy maker to draft sound policy and deliver better services. In our opinion, this exemplifies one of the principle deficiencies of many interoperability initiatives, in general, and the field of public health and human services, in particular.

The fact that interoperability is difficult to measure has been acknowledged by many researches and can be exemplified by the following quote:

“True interoperability is much more than just connectivity. It is also a function of operational concepts and scenarios, policies, processes, and procedures. For this reason, developing and applying precise measurements in an area as multidimensional and complex as interoperability is difficult.”^{xvi}

If we agree that the primary objective of public health and human services agencies is the timely and responsible delivery of quality care to eligible populations, then all efforts of these agencies should be measured through their impact on care delivery, also accounting for consumer satisfaction. For example, the behavioral health system in the United States uses National Outcome Measures (NOMs)—developed jointly by SAMHSA, the states, and the District of Columbia—to track and quantify real-life outcomes for people in recovery from mental health and substance abuse disorders^{xvii}. Whatever the metrics, the efforts of a public welfare program must be expressed and evaluated through the benefits that these programs deliver to those who use them. Evaluation of the effectiveness of program functioning, albeit very important, should be seen as secondary to consumer-centered outcomes.

While highly complex and often controversial within the scope of an individual public health and human services program, consumer-centered outcome measures become substantially more labyrinthine when one considers a cross-program initiative. For example, a Children, Youth, and Families (CYS) system would address the needs of a neglected teenager, while the matters of substance abuse by the same teenager would be addressed by a Drug and Alcohol (D&A) system. Currently, the goals for intervention and treatment established by the two systems would not have a common denominator, despite the fact that the recipient of care (the teenager) is an essential common element, on whose behalf care is planned, delivered, monitored, and measured.

The complexity of assessing performance of a public system through its benefits to consumer populations is a practical reason why UNDP, as well as the predominant majority of others, prefers to focus on information exchange and information accessibility to ascertain the accomplishment of an interoperability initiative. Unfortunately, this approach to gauging success or failure of a project is misleading and selfish, because it focuses on metrics intrinsic to the participating agencies and often immaterial for consumers of services offered by these agencies.

The tendency to express objectives of an interoperability initiative using parameters that measure efficiencies of the participants (for example, their ability to collect, process, and exchange information) is more appropriate for program isolation than for its interest in cooperating with others. A closed system, if it can exist, is more efficient, from its own perspective, than the same system open to external stimuli and interaction. If given a freedom of choice, a participant in an interoperability project would prefer to exchange information on its idiosyncratic terms, because such exchange would be the most convenient and the least costly to the participant. In these terms, an interoperability initiative can establish as its goal creation of the least possible cumulative imposition on its participants. Clearly, this is not what is in the minds of interoperability champions.

Recommendation

An interoperability initiative in the public sector that involves a number of autonomous agencies and programs must establish quantifiable measures of its success that reflect the benefits of the initiative to target populations. These metrics must be common for all participants, whether or not they are fully compatible with program performance assessment parameters used by individual participants.

6. Privacy, Security, and Data Confidentiality

The importance of the subject of privacy, security, and data confidentiality can be judged by the mere fact that the American Recovery and Reinvestment Act of 2009 (ARRA) dedicates 5% of its 407-page volume to the discussion of privacy and security in the health information technology alone. Title II of the Health Insurance Portability and Accountability Act (HIPAA) enabled by the U.S. Congress in 1996, requires the establishment of national standards for electronic health care transactions and national identifiers for providers, health insurance plans, and employers with the goal of keeping their information private. This Title, known as Administrative Simplification (AS) provisions, also addresses the security and privacy of health data, which is reflective of the attention paid by the federal government to this subject.

For many years, the matters of data confidentiality have been seen as a substantial barrier on the road to cooperation, integration, and, now, interoperability, in the field of public health and human services. Whether real

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or not, concerns about inappropriate disclosure of information often precipitate decisions to reduce the scope of data interchange or to abandon it completely. Particularly sensitive are the issues of person identification that reveal potential association between the individual and a system of care and the information about abuse or neglect of children and the elderly.

One of the most common mistakes made when discussing and planning interaction between independent systems of care or agencies is definition of requirements and data interchange rules based on perceptions of participants and their assumptions as to what information beneficial for them may be in possession of their project counterparts. What often appears to be the most practical approach to the initial definition of information exchange is to ask recipients what they want to receive and to ask submitters what they can provide. In response and when acting as a recipient, every participant identifies its needs as “as much as I can get”, while when acting as a submitter, every participant commits to “as little as I can get away with”. This very practical approach should not be seen as reflecting the lack of cooperative spirit, because it is the most reasonable answer in the environment of many unknowns (for example, the information capacity of one participant is usually not known to others). What is often overlooked is the fact that information exchange in support of an interoperability initiative is defined to address processes, protocols, and conditions that have not yet come into existence. Asking representatives of currently functioning systems to outline data interchange requirements is impractical and unfair, because there is neither a semantic nor an administrative foundation upon which they could build their responses.

Another issue that is almost always overlooked is that more than one agency participating in the interoperability project has the same data elements that nevertheless are collected and maintained using different methods and technologies. A few examples demonstrating this concept are:

- Person identifiers are specific to system of care and funding authorities;
- Race and ethnicity information may be captured based on coding schemes that are prescribed by different regulatory authorities and are not compatible;
- Address information may mean family residence in one system and current residence (e.g., foster home) in another;
- Diagnostic data may be captured using different coding systems;
- Case management means something quite different in mental health systems than it means in substance abuse systems; and
- Independent living is understood differently in developmental disabilities system than in children and youth system

In summary, data interchange matters within the interoperability initiative encounter the following four major difficulties:

- Participating agencies experience difficulties defining their needs in information and their abilities to share information;
- Certain information may be a subject for privacy and confidentiality restrictions;
- There is the lack of common understanding as to the meaning and value of certain data elements; and
- Some information is collected and may be made available by multiple systems, yet with different accuracy, timeliness, and coding standards

One of the co-authors of this paper had an opportunity to serve as an advisor and a consultant for a group of independent agencies that assembled around a table in what would have been known as an interoperability project had the term been used at the time. The participants included, among others, Family Court, the office of District Attorney, the office of Public Defender, Children and Youth Agency, Juvenile Probation, and Department of Criminology of a leading university. The tasks of establishing a cooperative environment and achieving certain outcomes for concurrently dependent and delinquent youths were mandated by a consent decree and, therefore, the designated entities had little choice but to cooperate. Nevertheless, initially the process was slow and contentious, with numerous citations of regulations prohibiting release of information and references to confidentiality matters. The environment improved substantially when it was recommended that the information be exchanged solely on the basis of the need and the right to know and that recommendations for exchange be tested by dedicated staff in the pretrial services unit. The two professionals assigned to the task executed appropriate legal documents, upon which they were provided with stand-alone direct access to individual and independent information systems operated by agencies and jurisdictions participating in the project. Those agencies or jurisdictions whose systems could not be accessed from a remote location communicated with the pretrial services unit by phone. The responsibility of the two assigned staff included complete documentation (using a computer system designed specifically for the project) of the information that was exchanged along with the patterns of use of this information, its accuracy, timeliness, readability, and usability. The project was an astounding success.

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One of the most important lessons served by the implemented solution was in that it revealed numerous misconceptions of the participants as to what constituted information that was actually needed and information that truly could not be exchanged. The implementation of the system in the pretrial services unit served also the goal of developing a common dictionary of terms for the initiative and the goal of establishing understanding among participants as to information being exchanged. Finally, the project permitted collaborating agencies and jurisdictions to develop practical approaches toward resolution of data confidentiality, privacy, and security matters, because the issues could be focused always on very specific information elements, which simplified drafting of legal documents.

Recommendation

An interoperability initiative in the public sector should be allotted the time necessary to test the perceptions of what information should be collected and exchanged, as well as what legal barriers may need to be overcome to effectuate the exchange. Restricting information sharing to those elements that satisfy the concept of the need and the right to know would simplify coping with privacy, security, and data confidentiality matters.

7. A Peek into the Future

The complexity of interoperability initiatives in the field of public health and human services does not mean that such initiatives are impossible to conceptualize, impractical to promote, unfeasible to develop, or prohibitive to fund. Moreover, current environment seems to be particularly favorable for chasing interoperability and for launching projects toward its realization.

Today, traditional approach to administration of public systems and traditional methods employed to seek and implement system-level efficiencies and improvements are only marginally cost-effective, if at all. Increasing demand for public services and the environment of cost containment and actual or perceived lack of funding produce critical mass when government bureaucracies become willing to consider innovative models and investment into infrastructure. The health care debate and the commitment of the current administration to reform our healthcare system bring into focus use of information technologies (IT) toward broader electronic data interchange and sharable electronic health records. Vast amounts of funding allocated in ARRA for health IT encourage growing numbers of public and private organizations to adapt their budget development activities and marketing and sales efforts to become competitive in their pursuit of new opportunities, among which interoperability is rapidly rising in priority.

As if trying to prove the accuracy of the saying *when it rains, it pours*, the U.S. government embarked with vigilance on the task of leading, coordinating, facilitating, and promoting interoperability matters that usually accompany and often are intertwined and confused with healthcare informatics. To demonstrate this proposition, we present below a very partial list of recently created offices, commissions, and like entities, which charters include interoperability of a priority or one of priority issues.

- Commission on Systemic Interoperability authorized by the Medicare Modernization Act and established by the Secretary of Health and Human Services. The members of the commission were appointed by the President of the United States of America and the leaders of the 108th United States Congress. It held its first meeting on January 10, 2005.
- Federal Health Architecture (FHA). According to Kathleen Heuer, the deputy assistant secretary, Budget, Technology and Finance, at the Department of Health and Human Services (HHS), the “Federal Health Architecture (FHA) is a methodology for developing health information interoperability standards and an initiative that will explore ways to implement and support health IT for public health”^{xxviii}.
- Multidisciplinary Centers for Health Care Information Enterprise Integration that shall be established by the “Director of the National Institute of Standards and Technology, in consultation with the Director of the National Science Foundation and other appropriate Federal agencies”^{xxix}.
- American Health Information Community (AHIC), a federally-chartered advisory committee formed in 2005-2008 to advance efforts on the development of a Nationwide Health Information Network. The AHIC successfully concluded its operations at the final meeting on November 12, 2008. According to the original intent of the Secretary of the U.S. Department of Health and Human Services Leavitt, the AHIC was transitioned from a Federal Advisory Committee to a private-public organization, the National eHealth Collaborative (NeHC).
- National eHealth Collaborative (NeHC) that “is developing a National Prioritization Process to advance interoperability initiatives around health IT”^{xxx}.
- Healthcare Information Technology Standards Panel (HITSP), whose mission “is to serve as a cooperative partnership between the public and private sectors for the purpose of achieving a widely accepted and useful set of standards specifically to enable and support widespread interoperability among

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healthcare software applications, as they will interact in a local, regional and national health information network for the United States. The Panel is sponsored by the American National Standards Institute (ANSI) in cooperation with HIMSS, ATI and Booz Allen Hamilton. Funding is provided via a contract from the U.S. Department of Health and Human Services.^{xxxi}

- Certification Commission for Health Information Technology (CCHIT), “an independent, 501(c)3 nonprofit organization recognized as certification body for electronic health records”, whose “mission is to accelerate the adoption of robust, interoperable health information technology by creating a credible, efficient certification process. Initially developing its programs under a 3-year, \$7.5M contract from the Department of Health and Human Services, CCHIT® is the Federally recognized authority for certification of electronic health records (EHRs). Over 200 volunteers serve on the Commission and its work groups.”^{xxii}

The heavy accent on information technology necessitates inclusion of private organizations and their willing or unwilling acceptance in the field of public health and human services that is traditionally averse to partnering with for-profit companies that are believed to divert large amounts of funds from service delivery. Nevertheless, the complexity of interoperability matters, the widespread use of technologies in support of interoperability, and the potential availability (whether temporary or not) of funds for interoperability initiatives facilitate the establishment of public-private partnerships and attracts numerous institutional volunteers.

On the background of strong interest and seeming commitment to interoperability in the U.S. and internationally, one may predict that it has a bright future. This prediction, nevertheless, is made with certain presentiment, in recognition of the long average period for design, development, and implementation of interoperability projects that make them somewhat unattractive for politicians and high-level bureaucrats, whose term in the office is usually restricted. We believe that the most successful will be those initiatives that will fulfill the need of defining and delivering tangible short-term benefits that would help sustain positive and supportive environment throughout the long-term implementation cycle.

References

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- i As of July 31, 2009
- ii See <http://en.wikipedia.org/wiki/Interoperability>, last accessed August 1, 2009.
- iii David J. Brailer, *Interoperability: The Key To The Future Health Care System*, Health Affairs, The Policy Journal of the Health Sphere, January 19, 2005, <http://content.healthaffairs.org/cgi/content/full/hlthaff.w5.19/DC1>, last accessed August 1, 2009.
- iv Jodi Sandfort, Why is human services integration so difficult to achieve?, <http://www.irp.wisc.edu/publications/focus/pdfs/foc232g.pdf> last accessed August 2, 2009
- v *A Framework for Interoperable Human Services Systems*, Stewards of Change, Fourth annual SOC conference, January 19-21, 2009
- vi On August 1, 2009, a Google search using keywords *interoperability* and *government* yielded more than 3,000,000 results.
- vii While not considered a scientific method, a Google search of August 1, 2009 using keywords *interoperability* + *government* and expressly excluding the keyword *technology* yielded 505,000 results or less than 17% of the search results on *interoperability* + *government*.
- viii Theresa A. Pardo and G. Brian Burke, Government Worth Having: A briefing on interoperability for government leaders, Center for Technology in Government University at Albany, SUNY, October 2008, www.ctg.albany.edu/publications/reports/government_worth_having last accessed August 2, 2009
- ix EUROPEAN INTEROPERABILITY FRAMEWORK FOR PAN-EUROPEAN eGOVERNMENT SERVICES, DRAFT FOR PUBLIC COMMENTS – AS BASIS FOR EIF 2.0 - 15/07/2008, p.4, <http://ec.europa.eu/idabc/servlets/Doc?id=31597>, last accessed August 2, 2009
- x Andrea DiMaio, The Death of Government Interoperability, November 28th, 2008, http://blogs.gartner.com/andrea_dimαιο/2008/11/28/the-death-of-government-interoperability/ last accessed August 2, 2009
- xi *Interoperability Focus: About*, UKOLN, <http://www.ukoln.ac.uk/interop-focus/about/>, last accessed August 6, 2009
- xii EPAN, *Key Principles of an Interoperability Architecture*, p. 11

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- xiii e-Government Interoperability, United Nations Development Programme, e-Primers for the Information Economy, Society and Polity, <http://unpan1.un.org/intradoc/groups/public/documents/UN-OTHER/UNPAN032094.pdf>, p. 9, last accessed August 12, 2009
- xiv EPAN, *Key Principles of an Interoperability Architecture*, p. 31
- xv See *e-Government Interoperability: Overview*, UNDP, ISBN: 978-974-13-1610-6, p.1
- xvi John Hamilton, Jerome Rosen, Paul Summers, *Developing Interoperability Matrix*, http://www.eng.auburn.edu/users/hamilton/security/spawar/6_Developing_Interoperability_Metrics.pdf, last accessed August 13, 2009
- xvii SAMHSA News, March/April 2007, Volume 15, Number 2, http://www.samhsa.gov/SAMHSA_NEWS/VolumeXV_2/article10.htm, last accessed August 12, 2009
- xviii Mike Klein, *Federal Health Architecture: An Interview with Kathleen Heuer*, Patient Safety & Quality of Care, July/September 2004, <http://www.psqh.com/julsep04/ga.html>, last accessed August 14, 2009
- xix American Recovery and Reinvestment Act of 2009, Section 13202, paragraph (a)(1), p. 131
- xx Website of NeHC, <http://www.nationalehealth.org/>, last accessed August 14, 2009
- xxi Website of the American National Standards Institute, http://www.ansi.org/standards_activities/standards_boards_panels/hisb/hitsp.aspx?menuid=3, last accessed August 14, 2009
- xxii Website of HHCIT, <http://www.cchit.org/>, last accessed August 14, 2009