Vermont Health Care Innovation Project
Health Data Infrastructure Meeting Agenda

January 20, 2016, 9:00-11:00am

Ash Conference Room (2nd floor above main entrance), Waterbury State Office Complex

Call-In Number: 1-877-273-4202; Passcode: 2252454

Item #	Time Frame	Topic	Presenter	Relevant Attachments	Action Needed?
1	9:00-9:10am	Welcome and Introductions; Minutes Approval	Simone Rueschemeyer & Brian Otley	Attachment 1: Draft December 16, 2015, Meeting Minutes	Approval of Minutes
2	9:10-9:50am	2015 Year in Review • 2016 HDI Work Group Workplan Review	Georgia Maheras & Sarah Kinsler	Attachment 2a: 2015 Year in Review Presentation Attachment 2b: HDI Work Group 2016 Work Plan	
3	9:50-10:10am	Updates: • VCN Data Repository • ACO Integrated Informatics Proposal • VITL-ACO Gap Remediation • DLTSS Gap Remediation • Telehealth Pilots	• Georgia Maheras • Susan Aranoff • Jim Westrich		
4	10:10-10:55am	Data Utility/Data Governance	Georgia Maheras	Attachment 4a: Data Utility and Governance Slides An article on public utility models: http://www.preservearticles.com/2012022823834/what-are-public-utilitiesand-state-its-characteristics.html Attachment 4b: Compiled Public Comments	
5	10:55-11:00am	Public Comment Next Steps, Wrap-Up and Future Meeting Schedule	Simone Rueschemeyer & Brian Otley	Next Meeting: Wednesday, February 17, 2016, 9:00-11:00am, Ash Conference Room (2nd floor above main entrance), Waterbury State Office Complex	

Additional Materials: December 2015 Status Reports – VHCIP Health Data Infrastructure Projects, available at http://healthcareinnovation.vermont.gov/sites/hcinnovation/files/HIE/VHCIP%20Status%20Reports%20for%20December%202015%20-%20HDI%20Focus%20Area.pdf

Attachment 1: Draft December 16, 2015, Meeting Minutes

Vermont Health Care Innovation Project
HDI Work Group Meeting Minutes

Pending Work Group Approval

Date of meeting: Friday, December 16, 2015, 9:00am-11:00am, GMCB Board Room, 89 Main Street, Montpelier.

Agenda Item	Discussion	Next Steps
1. Welcome and Introductions; Minutes Approval	The meeting was moved from the 4th Floor Conference Room at the Pavilion Building to the GMCB Board Room. Brian Otley and Simone Rueschemeyer called the meeting to order at 9:15am. A roll call attendance was taken and a quorum was present. Steve Maier moved to approve the November minutes by exception. Susan Aranoff seconded. The minutes were approved, with one abstention (Peggy Brozicevic).	
2. Updates	Georgia Maheras provided an update on our SIM budget and No-Cost Extension: • Last time this group met, SIM staff were working on a Year 3 Operational Plan. Just before Thanksgiving, CMMI instructed us to submit a No-Cost Extension instead of a Year 3 Operational Plan. A six month no-cost extension of Year 2 was approved last week; Year 2 will now be an 18-month year and will run through June 2016, with Year 3 starting in July 2017 and ending in June 2017. There will be very few changes to current activities that are already in place and planned for the 2016 calendar year; however, activities relying on Year 3 funds cannot begin until July 2016. • This means that the four proposals approved at our last meeting are on hold. If the Core Team approves funding for one or more of these projects, they will not be able to begin until July 2016 and will likely extend into 2017. Georgia also provided an update on the proposals this group sent to the Steering Committee in November, which were discussed at the 12/2 Steering Committee meeting: • The VITL-VCN Gap Remediation ($150,000) and DLTSS Technology Assessment Next Steps ($800,000 – support for increased HIE infrastructure at Home Health Agencies and Area Agencies on Aging) received strong support and were sent on to the Core Team.	

Agenda Item	Discussion	Next Steps
	• The VITL-ACO Gap Remediation and ACO Integrated Informatics proposals were sent back to this group for further discussion. We are waiting for VITL and the ACOs to respond with revised proposals based on the Steering Committee's conversation, and discussions will continue in the coming months. We expect to discuss the proposals at this group's January or February meeting.	
3. Health Data Inventory Findings and Recommendations	David Healy of Stone Environmental presented on the Health Data Inventory Project, focusing on key findings and recommendations (Attachment 3). The group discussed the following: • Dale Hackett noted that mandates to maintain inventories are valuable, but cost money. David replied that a clear data governance structure could support this, but that it will cost money. • Mike Gagnon commented that the recommendations are generic. David replied that these are a basis to start from. Mike agreed that this is a big job. • Susan Aranoff asked whether Stone found examples of states or counties where these recommendations are being implemented. Barbara Patterson of the Stone Environmental team replied that New York has a very thorough data inventory that is publically available. Rhode Island has an open source system that is publically available. In Colorado, de-identified claims data is publically available and can be mapped. Barb noted that Vermont's data inventory will be publically available through a web interface later this month. • David noted that Socrata is a web-based tool. DII has purchased a license but it is not currently fully built. Ongoing maintenance of this system is a challenge. Barb added that our Socrata site has a limited ability to tag data at this point, which is an important feature. Metadata allows users to understand what the data is, how it is created, and what it is used for. There are GIS metadata standards nationally, but they are not specific to health data records. • Barb commented that there are many people very engaged in this work nationally, and Vermont would benefit from tapping into that network. She attended a conference called Health Datapalooza last year, which will be streamed online this coming year. • Where data is only available through reports, those can be posted; however, this is not query-able and makes it challenging for people to use the data. Data users could be researchers, the State, data system developers, or others. • The database that Stone has produced for this project links out to dataset owners (for example, VITL, or VDH) for more information, to see reports, or to access data. • Brian Otley asked what kinds of organizations are doing this work around the country and attending conferences like the Health Datapalooza. Barb commented that it's a combination of governmental (federal, state, local), and private sector developers, data miners, provider organizations. Dale Hackett asked whether Amazon was engaged in this work. Georgia commented that Amazon is getting into the market for back-end cloud solutions (similar to Oracle), but it's unclear how far they'll go into that market. • Steve Maier noted that this is part of a larger movement toward more open/transparent data nationally. • Kate Pierce asked how this might impact the delivery system more broadly, especially with respect to	

Agenda Item	Discussion	Next Steps
	standard data formats. David commented that we already have standards, which should be the rule for future datasets; however, moving existing datasets toward these standards will take years. Georgia noted that these are recommendations, not mandates; any requirements will be thoughtful and seek not to disturb our other ongoing work to support providers and systems in developing and sharing high-quality data. • Susan Aranoff noted that this is a fast-changing market. She suggested building regular updates to this inventory into our sustainability efforts. • The Stone team, plus a public-private stakeholder group, set criteria for inclusion of datasets. The data is primarily State of Vermont data, in particular Agency of Human Services and Green Mountain Care Board. Sarah Kinsler thanked the project team for their work.	
4. Vermont HIT Plan Update	Steve Maier and Laura Kolkmann (Mosaica) provided an update on the Vermont HIT Plan (Attachment 4) The group discussed the following: • Dale Hackett asked how the plan balances privacy and confidentiality with provider communication. He also asked whether we'll eventually be able to model patient outcomes for individual patients through various models of care. Steve replied that ensuring patient understanding of privacy and confidentiality rules is a challenge; Vermont is an opt-in state for information sharing, so patients must affirmatively agree to having their information included in the VHIE (most states have an opt-out structure). He believes that privacy and confidentiality are critical values here, and he does not expect that to change. Laura added that patients can opt for some information to be excluded. Laura also replied to the question about analytics. She believes that individual predictive analytics of the type Dale described are not coming too soon, but we're moving in that direction. • Susan Aranoff noted that privacy and confidentiality are critical and can impact employment, housing, and more. Our right is for data to be shared only on a need-to-know basis; Susan noted that even clinicians treating us don't need to know some parts of our medical history. She suggested expanding upon Recommendation #12 (consent) to ensure that individuals can fully access these rights, or at least to be fully informed of what they are consenting to and to knowingly waiver their rights. Susan noted that she has requested her VHIE data from VITL repeatedly and has not yet been successful in obtaining it. • Chris Smith asked whether there is a good tool for affirmative consent. Steve commented that VITLAccess is rolling out. He added that the current consent process is effective for obtaining consent, but could be better. • The final plan will likely come back to this group in January or February; HDI Work Group approval of the plan is not required, however. • Steve and the HIT Plan will recommend extension of the HIT Fund past its current sunset date; he hopes that there will be the political appetite for this.	**Submit comments on the HIT Plan to Steven Maier *and* Richard Terriciano (Steven.Maier@vermont.gov, Richard.Terriciano@vermont.gov) by December 23rd.**

Agenda Item	Discussion	Next Steps
	Simone welcomed comments on these slides in writing. Comments should be submitted to Steven Maier ***and*** Richard Terriciano (Steven.Maier@vermont.gov and Richard.Terriciano@vermont.gov) by December 23rd.	
5. Data Utility/Data Governance	This item was tabled for the next meeting due to time constraints. Susan Aranoff asked whether we could get some information on existing data utilities through our contract with Stone Environmental. Barb Patterson indicated that there are some states with data utilities. Sarah Kinsler will work with Stone to get this information out to the group. Steve Maier commented that Stone should look at Minnesota.	
6. Public Comment, Next Steps, Wrap-Up, and Future Meeting Schedules	**Next Meeting:** Wednesday, Wednesday, January 20, 2016, 9:00-11:00am, Ash Conference Room (2nd floor above main entrance), Waterbury State Office Complex, 280 State Drive, Waterbury.	

Attachment 2a: 2015 Year in Review Presentation

Vermont Health Care Innovation Project 2015: Year in Review

January 2016

Successes: Payment Model Design and Implementation

- Medicaid and Commercial **Shared Savings Programs** (SSPs): Year 2 program implementation; Year 1 savings analyses and distribution; State Plan Amendments approved for Years 1 and 2 of Medicaid SSP; continued provider capacity development.
- Analyses to select and develop **Medicaid Episodes of Care**.
- Continued implementation of Blueprint for Health and Hub & Spoke programs.
- Research to explore and define **Accountable Communities for Health**.
- Collaboration to support development of new payment models for DLTSS providers, including a **Prospective Payment System for Home Health Agencies** and **Medicaid Value-Based Purchasing for Mental Health and Substance Abuse providers**.

Spotlight on PMDI: Counting our Beneficiaries

- Summer 2015 – Stakeholders and CMMI requested we develop unduplicated counts of Vermonters in alternatives to fee-for-service (FFS).
- VHCIP staff worked with payers and other State staff to identify this new number, and to develop a denominator of Vermonters eligible to participate in payment reforms.*
- Total number of Vermonters in an alternative to FFS: 317,922 or 55% of all eligible Vermonters (no duplicates across programs).

* Non-eligible: Medicare Advantage enrollees, Military personnel, uninsured individuals, incarcerated individuals

Successes: Practice Transformation

- **Integrated Communities Care Management Learning Collaborative** continued first cohort and launched second and third cohorts.
- **Disability Awareness Briefs** developed.
- Continued implementation of **Regional Collaboratives**.
- Continued implementation of **Sub-Grant Program**, including two well-attended symposiums.
- **Care Management Inventory** finalized.
- Contractor selected to perform **Workforce Demand Modeling** work.
- **Workforce Supply Data Collection and Analysis** is ongoing.

Spotlight on Practice Transformation: Integrated Communities Care Management Learning Collaborative

- Learning Collaborative is now statewide – expanded to 8 additional communities (11 total).
- Communities are developing processes and tools to better serve at-risk individuals, and engaging in continuous quality improvement.
- Key lessons learned identified:
  - Some of most complex individuals do not have a case manager.
  - Lead case manager may change as individual's needs change.
  - Some individuals have many community partners working with them without realizing this.
- Communities are reporting positive anecdotal results and starting to explore more formal evaluation.

Successes: Health Data Infrastructure

- **Gap Analyses** for ACO and DLTSS providers completed.
- **Gap Remediation** begun for ACO member organizations and Designated Mental Health and Specialized Service Agencies.
- **ACO Gateways** for OneCare and CHAC completed.
- **Data Quality** improvement efforts launched for ACO providers and Designated Agencies.
- **Telehealth Strategic Plan** finalized; RFP for **Telehealth Pilots** released and vendors selected.
- **EMRs acquired** for five Specialized Services Agencies (SSAs) and for the Dept. of Mental Health/State Psychiatric Hospital.
- Contract executed for **Vermont Care Network Data Repository**.
- Business and technical requirements developed for **Universal Transfer Protocol** and **Shared Care Plan** solutions.
- **Event Notification System** contractor selected.
- **Health Data Inventory** completed.

Spotlight on HDI: Shared Care Plans

- Business requirements gathering through the Shared Care Plan/Universal Transfer Protocol project uncovered significant community enthusiasm for a solution:
  - Says one team member: “It not only turned up the pressure on the team to provide a useful tool but really energized us to deliver a high performing solution that would change the way health care was being delivered in those communities.”
- The project completed initial requirement-gathering (both business requirements and technical requirements) and is currently developing a proposal for a solution, to be piloted in 2016.

Successes: Evaluation and Project Management

Evaluation

- **Self-Evaluation Plan** draft submitted to CMMI.
- New **Self-Evaluation Contractor** selected based on revised self-evaluation scope.

Project Management and Reporting

- Launched **Outreach and Engagement** activities, including work toward website redesign.
- Successfully overhauled **Project Governance** structure to support robust stakeholder engagement and expedited decision-making.

Challenges

- Delayed Year 2 budget approval.
- Shift to new governance structure.

Looking Ahead: 2016

- **Payment Model Design and Implementation:**
  - Final year of Shared Savings Programs.
  - Discussion with CMMI regarding launch of 3 Medicaid Episodes of Care.
  - Peer learning opportunity to develop Accountable Communities for Health.
  - Continued work to launch new payment models for Home Health Agencies and mental health/substance abuse providers.

- **Practice Transformation:**
  - Core Competency Trainings focused on general care management skills and DLTSS-specific competencies.
  - Wrap up Integrated Communities Care Management Learning Collaboratives.
  - Wrap up Sub-Grant program.
  - Workforce Demand Modeling, Supply Data Collection and Analysis.

Looking Ahead: 2016 (Continued)

- **Health Data Infrastructure**:
  - Continue Data Quality efforts for DAs.
  - Launch Telehealth pilots.
  - Continue work on DA/SSA Data Warehousing solution, and begin to implement cohesive strategy for developing data systems to support analytics.
  - Launch Shared Care Plan solution pilot, launch Universal Transfer Protocol solution.

- **Evaluation**:
  - Launch of new self-evaluation contract.
  - Implementation of Self-Evaluation Plan.

Looking Ahead: 2016 (Continued)

- Also: **Population Health Plan** development;
- **Sustainability Planning**;
- Launch of final **suite of HDI projects** that could include additional gap remediation (all pending Core Team approval).
- Gathering **lessons learned** from across the project.

Attachment 2b: HDI Work Group 2016 Work Plan

Vermont Health Care Innovation Project
2016 Health Data Infrastructure Work Group Workplan

	VHCIP Objectives	Work Group Supporting Activities	Target Date	Endorsements/ Dependencies	Approving Entities	Status of Activity	Measures of Success
	Expand Connectivity to HIE						
1	*Gap Remediation* Remediate data gaps that support new payment and care models, as well as quality measurement needed to support those models, as identified in gap analyses (ACO and LTSS Gap Analyses).	If funds approved by Steering Committee and Core Team, support continued data connectivity technical support to ACO member organizations; receive regular reports on progress.	Ongoing		Steering Committee; Core Team	In progress, additional work proposed.	Connections of ACO Member Health Care Organizations increased.
2		If funds approved by Core Team, develop data remediation plan for gaps identified in LTSS technical assessment. Launch Data Gap Remediation for non-MU providers, including LTSS providers (dependent on funding approval by Core Team); receive regular reports on progress and provide input to support incorporation of these activities into VHCIP Sustainability Plan.	January 2016/ Ongoing		Core Team	Proposed.	LTSS organization connections to the VHIE improved.
	Improve Quality of Data Flowing into HIE						
3	Engage in work flow improvement activities at provider practices to improve the quality of the data flowing into the VHIE. These will be identified in gap analyses and analytics, including the LTSS gap analysis.	If funds approved by the Steering Committee and Core Team, support continued workflow improvement activities at provider practices to improve the quality of the data flowing into the VHIE as identified in gap analyses; receive regular reports on progress.	January-December 2016			In progress.	ACO Member data quality improved. DLTSS provider data quality improved.
4	Continue data quality initiatives with the DAs/SSAs.	If funds approved by Core Team, support continued workflow improvement activities at Designated Mental Health Agencies (DAs) as identified in gap analyses; receive regular reports on progress.	January-December 2016			In progress.	DA/SSA data quality improved.
	Telehealth						
5	*Telehealth Implementation* Launch a fully accessible telehealth program as defined in Telehealth Strategic Plan.	Support implementation of 12-month telehealth pilots; receive regular reports on progress.	January-December 2016	Release of telehealth RFP, select pilot projects, launch pilots.		Ongoing.	Technical assistance provided.
6		Collect telehealth program lessons learned for incorporation into VHCIP Sustainability Plan.	December 2016				

	VHCIP Objectives	Work Group Supporting Activities	Target Date	Endorsements/ Dependencies	Approving Entities	Status of Activity	Measures of Success
	Data Warehousing						
7	Research data warehousing needs; develop cohesive strategy for warehousing solutions supporting practices in care transformation; identify solutions for data registry and warehousing needs; implement solutions.	*DA/SSA Data Repository:* Support improved integration of the DA/SSA data through the development and implementation of the VCN Data Repository.	Ongoing			In progress.	DA/SSA Data Repository developed and deployed.
8		Support development of a cohesive strategy for warehousing/data analytics systems, selection of solutions, and implementation of solutions.	January-April 2016			In progress.	Project plan developed and initiation of the project begun.
9		*Clinical Registry:* Support migration of the DocSite to the VITL infrastructure.	January 2016			In progress.	DocSite license migrated and implementation beginning.
	Care Management Tools						
10	Engage in discovery, design and testing of shared care plan IT solutions, an event notification system, and uniform transfer protocol. Create project plans for each of these projects and implement as appropriate, following SOV procedure for IT development.	*Shared Care Plan:* As appropriate, support procurement and implementation of an electronic solution to create and maintain shared care plans across community providers.	January-December 2016			In progress.	Shared Care Plan solution identified and potentially deployed depending on the identified outcomes.
11		*Uniform Transfer Protocol:* As appropriate, support procurement and implementation of an electronic solution to share uniform transfer protocols during care transitions.	January-December 2016			In progress.	Universal Transfer protocol solution identified and deployed.
12		*Event Notification System:* As appropriate, support procurement of a system to improve communication in the transition of care process among providers. Provide information on clinical events such as hospitalizations or discharges to providers.	November 2015-December 2016			In progress.	Communications during care transitions improved through ENS.
	General Health Data						
13	*HIE Planning* Identify HIE connectivity targets; provide input into HIT Plan.	Provide comment on HIT Plan.	January-March 2016			In progress.	Comments provided.
14		Discuss connectivity targets for 2016-2019 and make a recommendation to the Steering Committee and Core Team.	January-June 2016			Proposed.	Connectivity targets identified, documented, and recommended.
15		Discuss a) Informed Consent and general confidentiality issues and b) Federal rules contained in 42 CFR Part 2 Confidentiality Protections.	January-December 2016			Not yet started.	Informed Consent and 42 CFR Part 2 discussed.

	VHCIP Objectives	Work Group Supporting Activities	Target Date	Endorsements/ Dependencies	Approving Entities	Status of Activity	Measures of Success
	Ongoing Updates, Education, and Collaboration						
16	Reporting on all milestones in the Health Data Infrastructure focus area; review DLTSS and Population Health activities and recommendations.	Review one-page monthly status updates for all Health Data Infrastructure work streams.	Monthly			Ongoing.	Written and verbal monthly updates on all payment models.
17	Review 2016 Health Data Infrastructure Work Group Workplan.	Review and discuss draft workplan, developed with DLTSS and Population Health staff and co-chair input.	January 2016				Workplan finalized.
18	Coordinate and collaborate with other VHCIP Work Groups on other activities of interest.	Identify activities of interest and establish mechanisms for regular coordination and communication with other work groups.	Ongoing	Coordinate to identify activities of interest and establish regular communication (Other VHCIP Work Groups).		Mechanisms established for monthly co-chair meetings and work group reports to Steering Committee.	Well-coordinated and aligned activities across VHCIP.
19		Provide updates to other work groups on Health Data Infrastructure Work Group activities.	Ongoing			Ongoing.	
20		Obtain regular updates from other work groups.	Monthly	Obtain regular updates on work groups' progress as appropriate.		Ongoing.	
21	Provide input into VHCIP Population Health Plan and Sustainability Plan.	Review and comment on VHCIP Population Health Plan Draft.	Late 2016	Plan outline or draft developed by Population Health Work Group.	Population Health Work Group; Steering Committee; Core Team	Not yet started.	Work Group input incorporated into VHCIP Population Health and Sustainability Plans.
22		Review and comment on VHCIP Sustainability Plan Draft.	Late 2016	Plan outline or draft developed by project leadership.	Core Team	Not yet started.	
23	Contribute to VHCIP Webinar Series.	Contribute topic, speaker, and moderator suggestions for VHCIP's optional monthly educational webinars for staff and participants.	Ongoing			Not yet started.	Monthly webinars conducted on staff- and participant-developed topics.

Attachment 4a: Data Utility and Governance Slides

Feedback Requested: Data Utility and Governance

Georgia Maheras, Esq.
Project Director
November 18, 2015

BACKGROUND

- Request from Lawrence Miller to develop recommendations for:
  - Support of a state ‘data utility’
  - Statewide HIE Governance structure

Data Utility – Brainstorm

- Scope of the utility: What functions would be under regulation and therefore positioned as non-competitive? Should the utility also be able to engage in non-regulated activities where there is competition?
- Regulatory model: Who plays the role of consumer advocate to balance utility priorities?
- Planning process: How do utility plans and budgets get set, approved, monitored, and verified?
- Funding: How do the budgets get funded? On what timeframes? What is the funding source?
- Cost: How much cost does regulation create?

Statewide HIE Governance

- Part of HIT Strategic Plan
- Create an entity that has appropriate authority, accountability, and expertise to ensure the effective, efficient use of resources for public and private HIT/HIE efforts in support of health care and payment reform across the state of Vermont.

Brainstorm: What would make good governance?

- Key consideration:
  - About the processes for making and implementing decisions. Not about making ‘correct’ decisions, but about the best possible process for making those decisions.

Attachment 4b: Compiled Public Comments

Health Data Inventory Work Group
December 16, 2015
Public Comment – Data Governance and Data Utility

Comments from Chris Smith, MVP Health Care

I love a short slide deck! I reviewed attachment 7 – Data Utility and Governance slide and the article on public utilities.

A couple of comments on the article – and this may be just out of a different point of view/concept. I'm a firm believer in keep it simple and the concept of the utility as described by the article bothered me because what we are talking about – setting the rules – can't be delegated. Implementing the rules can but if that's all we are after then we don't need a utility – we need an integrator and a funding model.

1. The article indicates that public utilities trade the benefits of competition for those of stability. For a well understood field with very large capital investments that makes sense – i.e.: laying power lines and transmission stations.
2. The utility model brakes down in the face of change and attempts to

    a. Restrict technology improvements – i.e.: only one cable company granted a right to handle cable in your area and they aren't going to drop prices or innovate – they own your area. They won't change pricing in any way to rock the boat.
    b. Artificially keeps the price of playing high as choice is never introduced. The disruption model we are seeing at play here is internet service providers supplanting cable providers as they offer choice cracking the monopoly that the cable providers had.
    c. Creates more waste as the entrenched players attempt to retain their exclusive right to "the old way" (See Taxi Drivers vs. Uber - http://www.newyorker.com/magazine/2015/08/03/revving-up)

3. If the capital investment isn't as large – in today's terms not in the many millions or billions of dollars – why would we support a single dominant player? Utilities bring with them long term overhead.
4. Creating a utility gives the utility the right to collect money and become self-sufficient. It creates a monopoly player. Do we really need one with the overhead required (politically, structurally) if the capital investment is modest?

I would propose that we only consider a utility when we require infrastructure where massive investment of long term capital is required

1. Think rails for a railway all being the same gauge. Traffic management allows the sharing of the infrastructure – the rails.
2. Roads following standards for building and maintenance. Traffic management and end user licensing creates an environment that supports general use of the utility.

3. Electrical wiring infrastructure required to be standardized and supported. Grid management becomes the key factor to keeping power flowing and ensuring we have adequate power for peaks and valleys in demand and generation.
4. Cellular towers built out in standard ways to create the best coverage and redundancy. The cellular companies can then sell services in a competitive environment – i.e.: charge for usage time and bandwidth consumption.

I would also propose that we aren't making a large capital investment.

But at the same time use capitalism for what it does best – as a servant and not a master – competition within bounds is very efficient. The bounds are provided by the utilities.

1. Trains can be run by any shipping company with locomotives from more than one source and rates set by the shippers. Use of the rails is contracted with the traffic management/rail owners.
2. Drivers can buy a car/truck from anywhere (within standards) and drive on the roads which they support through taxes, fees and tolls.
3. Consumers can buy their power from multiple utilities paying a transaction fee for line usage – enabling the infrastructure to be supported but allowing consumer choice to help change the way power is generated and sold. The introduction of consumers generating their own power has helped to force changes in this industry.
4. You can buy cellular service from dozens of companies – and they use the cellular towers built out by a handful creating competition in the cellular market so much so that in urban areas prices dropped and service increased dramatically. Usage fees are used to support rural areas infrastructure.

Enough of the academic. For this data hub/utility a better way that might work:

1. Regulate and govern – create and require standardized transaction sets. The regulator

    a. Sets the standards
    b. <u>Owns</u> the data – and contracts for someone to implement on their behalf for the

        i. Aggregation
        ii. Storage
        iii. Dissemination of the data
        iv. Portability to ensure the process and data set can be moved from one implementer to another
        v. DO NOT LET SOMEONE ELSE OWN THE DATA. It's the asset that allows you to gain value and insight.

    c. Modifies the standards
    d. Set's the utilization model

        vi. Who provides, what they provide, how they must provide it
        vii. Who can consume, what they can consume and how they must consume it.

e. Fund it at this level – as close to the top of the pyramid as possible.

2. Aggregator role – could be the regulator/governing group but could also be a hosted/outsourced solution. The role of the aggregator of the data is to implement –

    f. Collecting the data as submitted (either direct or by clearing house).
    g. Implement the rules the regulatory/governance group specifies.
    h. The aggregator is not a utility – the buildout to meet the rules in today's information technology world should be modest and scale over time.

Funding model – the real question we are dancing about here is how do we fund such a model for the short term and long term. Why create a utility that is incented in the middle to collect fees and pay for things and give it life? The overhead isn't worth it when the buildout is modest. Consider instead funding the regulatory/governing body and having it contract for the implementation.

1. We can charge the data submitters a per transaction fee – if more convenient we could call it a fee or tax as appropriate. Wait – this is insane. Why would you charge data submitters?

    a. This fee would be paid by the health care provider, practice or facility in many cases. The data goes beyond normal claims data for payment of a claim and the payers add no value in the middle of the relationship.
    b. Charging them a fee per transaction can be used as an inducement to ensure the data providers provide accurate data – each wrong transaction costs them.
    c. With no fee what model do you have to drive compliance? A modest per transaction fee will ensure that the data providers become very compliant very quickly.
    d. If charging a fee doesn't work consider paying the data submitters a fee – based on non-duplicate accurate, complete and timely transactions only and audit them for compliance where the risk they are at is higher than the reward in fee's they could gain.

2. A fee for data consumption can be considered.
3. Central funding – i.e.: a grant or annual budget for the regulatory/governing model allows for central repository of the money and spending oversight. The central funding model allows the fees for data consumption to be kept small to encourage appropriate use.
4. The fees can be administered by the aggregators on behalf of the regulator/governing body but don't move ownership of those fees to the aggregator.

Data quality –

1. Regulators set the standard for the transaction format. This isn't the quality of the data it's the consistency of the transaction.
2. It is the responsibility of data providers to provide accurate, timely and complete data sets. For this a carrot and stick may be necessary (accuracy and complete – cost per transactions can be an incentive. For timely you may need an audit function.)
3. The aggregator can and should reject the data set of a data provider if it isn't complete, accurate and timely. This is the quality of the data. This needs to be set up front so the data providers aren't

surprised and it needs to be monitored daily so your data set is kept clean. This is essentially the adjudication of a series of business rules – is the patient accurate, is the provider accurate, are the services mentioned relevant to the patient (you can't remove an appendix twice from the same person), etc. This is probably the area of most cost – it's also a commodity service and not a utility service. No one dies if the system goes down for a day. Commerce is not negatively affected. Consumption of this data set is usually much more leisurely. If we need real time data to flow through this system to make it in-band and an alert system adding that overhead is possible and an incremental cost away to add the redundancy to keep the systems and processes available.

4. The data consumers will pull the data from the aggregator's system to consume. The data is guaranteed by the aggregator to meet the regulator's required level of accuracy and completeness.

I think that is all I have for today!

Chris Smith
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