Lessons Learned from Creating a Clinical Informatics Collaborative (CLIC) : A STARNet Study

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CLIC Clinical Informatics Collaborative

Clinician (Family Physician and Pediatrician) Perspectives

Challenges:

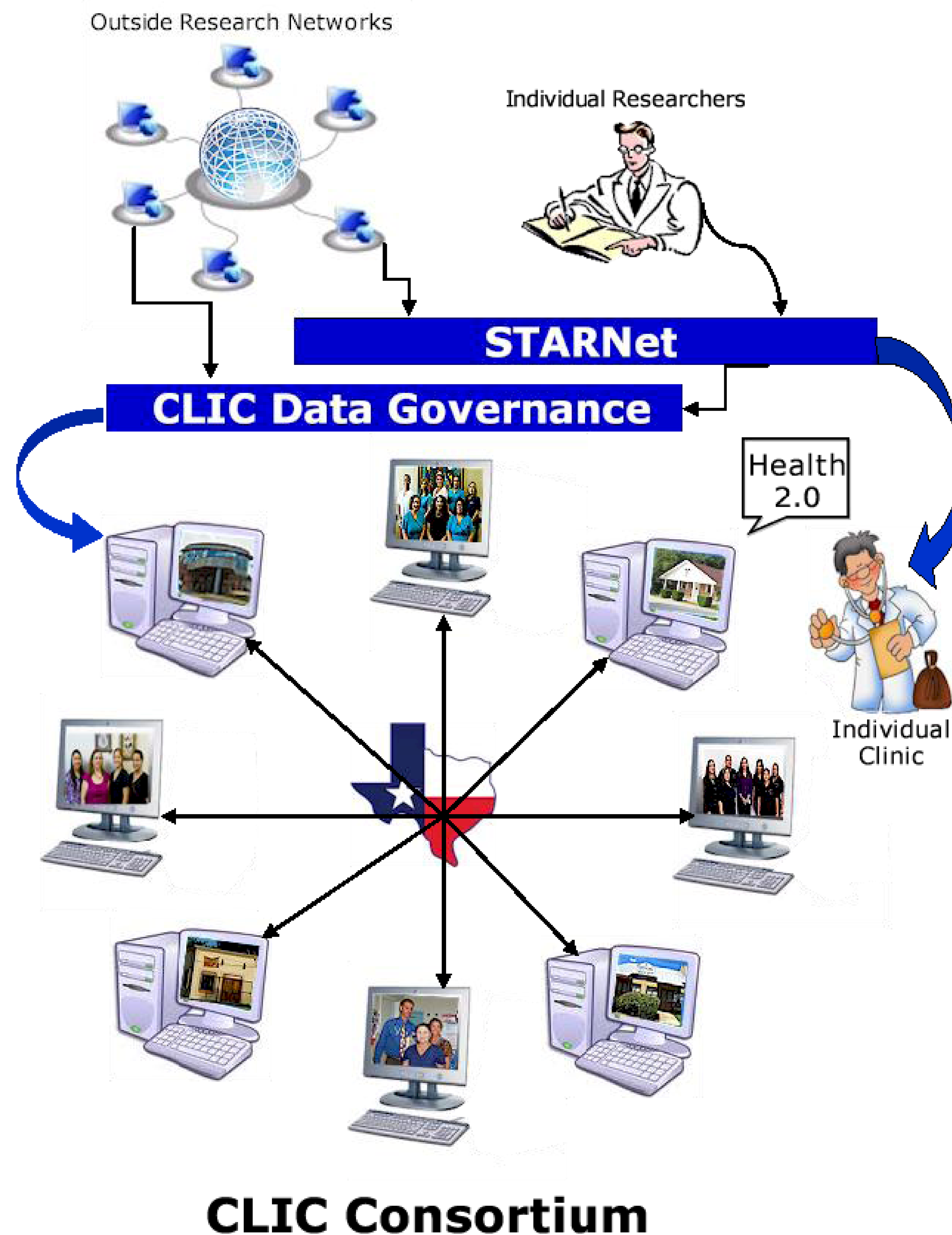
- Lack of experienced clinic IT support needed for installation, multiple and non-standard clinic networking environments, and unresponsive EHR vendors
- Poor understanding of security legalities necessary to sign the CINA license agreement
- Competing clinical demands, EHR and server upgrades, adequate time to "tweak & trust" the Point of Care Reports
- Multi-site clinics with multiple administrative levels needed to connect all providers within a specified timeframe.

Results:

- CLIC Participants revealed a positive overall response to the CINA Point of Care Reports (see figure)
- Claims that the reports initiate both clinicians and staff to move towards an optimization of acute visits for addressing preventative health items and long since overlooked lab items
- Refining the point of care reports resulted in broader use and acceptance of the tool.
- Clinicians concerned the Reports as a valuable tool to give to patients, or family members of their elderly patients, as a broad overall health summary on a single page.
- Reports seemed to prompt patients to become more proactive and accountable with their own health.
- Workflow changes occurred related to the nursing staff in which the doctors seem to be leveraging their nurse or MA's time
- Return on investment is being reported through increased immunizations and labs. Enhanced overall documentation of visit items will hopefully leverage the clinics relationships with the insurance companies in a pay for performance type scenario.
- Participants stated that plan to participate in Bridges to Excellence and other PQRI opportunities. The clinicians have always planned on doing it, but this collaboration makes them feel more comfortable in achieving their goals.

Background: What is CLIC?

To accelerate the translation of clinical research into practice, STARNet established new partnerships with over 20 non-academic primary care office/clinic sites across South Texas through a CTSA Supplement (UL1 RR 025767-02S1). The three specific aims of this two year project included: 1) Establish connections between electronic health records in 20 STARNet clinics with the Academic Health Center; 2) Use an electronic infrastructure to capture eligibility criteria for 3 clinical trials through a distributed, secure search of electronic health records across all 20 STARNet practices in order to identify eligible participants; and 3) Conduct one mock clinical trial across all 20 STARNet practices.



Point of Care Report

CINA SAMPLE

Patient Recommendation Report

33705   DOB:12/14/1927   Age:81   Sex: F   Seen By:N/A

Appointment Date: N/A   Report Date:7/20/2009   PCP:DOCTOR, CHARLES E M

Active Diagnoses

ESSENTIAL HYPERTENSION, BRIEF (401.
HYPERCHOLESTEROLEMIA (272.0)
SENILE OSTEOPOROSIS (733.01)
ANX/DEP MIXED (300.4)
CERVICAL DISC DISORDER (722.91)
CONSTIPATION, UNSPECIFIED (564.00)
DEGENERATIVE ARTHRITIS, NOS (715.9
FATIGUE (780.7)
GASTROESOPHAGEAL REFLUX DISEASE
IRRITABLE BOWEL SYNDROME (564.1)
LOWER OBSTRUCTIVE UROPATHY (599.
RESTLESS LEGS (333.99)
SYMPTOM, NAUSEA ALONE (787.02)
VERTIGO, BENIGN (386.11)
MORE

Risk Factors

CHD 10Yr Risk < 10%
CHD Risk Factors: 2+
HTN Risk: CoMorbid Dx (DM, Renal Dz or Decr Renal Function)
DM Risk: Mod (Metabolic Syndrome)
Pneumonia (Age > 64 OR Risk Dx)
Osteoporosis or Osteoporosis Risk

Goals

Goal not met: CrCl < 60
Goal not met: BP >/= 130/80
Goal not met: Bld Glucose > 125 (Check Fasting Status)
Goal met: BMI < 30
Goal met: LDL < 130
Nonsmoker

Active Meds

Zocor 20 MG	QD	02/04/09
Bayer Aspirin 325 MG	PRN	09/13/07
Calcium + D 600-200 MG		06/05/06
Calcium-Vitamin D 250-1	QD	07/26/05
Diazepam 10 MG	hs	10/15/08
Lortab 5 5-500 MG	Q 4hr/P	04/21/09
Reglan 10 MG	AC TID	04/21/09

Action Items

____Document Advanced Directives status	PREV
____Document last Bone Mineral Density test (DXA), if applicable	PREV
____Document / administer Tetanus vaccine, if applicable	PREV
DOC: Consider evaluation for Diabetes due to Blood glucose > 125	GLUC
DOC: Consider adding Metabolic Syndrome Dx (Dysmetabolic Syndrome X) to Problem List due to 3/5 criteria met (see criteria below)	GLUC
MED: Start ACE or ARB for BP goal not met due to CoMorbid Dx (DM or Renal Dz).	HTN
PROC: Order or Discuss obtaining Bone Mineral Density test (DXA) (q 2 yrs) for Osteoporosis Dx or Osteoporosis Risk, unless documented today	PREV
VAC: Consider Zoster vaccination, unless contraindicated	PREV

Labs

Trig	132	mg/dL	7/15/09
Chol	209	mg/dL	7/15/09
LDL	126	mg/dL	7/15/09
LDL Direct	134	mg/dL	4/05/05
HDL	57	mg/dL	7/15/09
Gluc, Fasting			
Gluc, Random	131	mg/dL	7/15/09
HbA1c	6		2/24/09
MicroAlb/Cr			
INR			

Measures / Calculations

BP	134/82	7/15/09
	154/80	4/21/09
CHD Risk	8%	
BMI (Wt)	29 (153lb)	7/15/09
Ideal Wt.	102-138	
Est. CrCl	37.26	7/15/09

Diagnostic Testing

Bone Density	6/06/06
Colonoscopy	7/01/08
Mammogram	4/20/05
PAP	4/20/05
Chlamydia	

Vaccine

Tetanus	5/11/94
Tdap	
Pneumococal	9/25/95
Flu	11/19/08
HPV	
Herpes Zoster	

Insurance:
RURAL HEALTH CLINIC I
AARP

Routine Visits:
Next Visit: 11/04/2009
Last Visit: 07/15/2009

Comp. Exam Visits:
Next Visit:
Last Visit:

Suggested Next Visit:

12 mos	CHOL
1-3 mos	HTN
3-6 mos	GLUC

Metabolic Syndrome Criteria
- BP > 130/85, OR Dx: Hypertension, OR AntiHTN Med
- Triglycerides > 150
- HDL < 40 Men, < 50 Women
- Glucose > 100
- BMI > 26

*--Unless contraindicated

Investigator/ Academic Health Center Perspectives

Challenges:

- Important to give deadlines in large practices when there is a staggered implementation period. Several license agreements went unused for greater than 6 months, which cost valuable grant dollars.
- Creating a generic Data Use Agreement for the clinicians to sign took significantly longer than anticipated when working with the University Compliance Officer
- Was not aware that additional agreements are required for each individual query detailing what specific data elements would be pulled (data will not be pulled until complete documentation is in place)
- Difficult to meet investigator needs with tight grant deadlines and be able to sufficiently understand their data needs as well as the IT needs (extraction, aggregation and data scrubbing)
- Detailed meetings (time consuming) had to be held with each clinic to launch the clinical reminder system to recruit patients to a clinical trial
- Difficult to coordinate the priorities and needs of the investigator, clinician and CINA due to a growing number of competing demands

Results:

- CLIC successfully connected the offices of 20 non-academic primary care community clinicians to not only one another but also to the academic and research resources through informatics.
- We selected a STARNet NIH/NIA-funded randomized double-blind, placebo-controlled trial of aspirin as our first proof-of-concept study. Through our HIPAA-compliant connection via CINA we have implemented a clinical reminder to clinicians identifying eligible patients, informing them that they meet initial screening criteria for this trial.
- In addition, we are currently in the process of querying the Integrated Data Repository for three different studies related to: pediatric obesity, hypertension and the management of warfarin.
- Meetings are being held with other investigators to provide pilot data for grant submissions. Additional queries are being made.

Keys for Sustained Success:

1.) Selecting an IT vendor with excellent customer service and has an understanding of the clinic and investigator needs 2.) Establishing trust, 3.) Creating a data governance structure to protect the clinics and the University and 4.) Providing Point of Care reports to clinicians – tangible benefit