

# Essential Role of Health Information Exchange in Quality Improvement



North Texas Specialty Physicians



**Tom Deas, Jr. MD, MMM**

Board Member, North Texas Specialty Physicians  
CMO, Sandlot, LLC

**Karen Van Wagner, Ph.D.**

Executive Director, North Texas Specialty  
Physicians

# Disclosures



## Thomas Deas, Jr. MD

- Board Member, North Texas Specialty Physicians
- Salary: \$225/hr as CMO, Sandlot, LLC
- Minority ownership interest (stocks, stock options or other ownership interest excluding diversified mutual funds) in Sandlot, LLC of less than 10%

## Karen Van Wagner, Ph.D.

- Executive Director, North Texas Specialty Physicians
- Board Member, Sandlot, LLC
- Minority ownership interest in Sandlot, LLC of less than 10%

# Learning Objectives



1. Examine how the independent practicing physicians use the HIE's clinical decision support application at the point of care to track care quality measures which meet the EHR meaningful use criteria
2. View examples of quality reports (e.g., PQRI, HEDIS) produced by the HIE, highlighting the advantages of reports from the interoperable HIE comprehensive EHR platform
3. Understand the pivotal role of the health information exchange in allowing physicians and patients to adhere to care guidelines and improve quality of care
4. Discover how NTSP determined strategies to leverage the HIE and lessons learned into its Accountable Care Organization design and development

# North Texas Specialty Physicians (NTSP)



- 600+ physician-driven IPA in Fort Worth, TX
- Capitation management since 1997
- **Physicians make better clinical decisions with more information at the point of care**
  - Real time patient information
  - Information from multiple sources
  - Enhanced physician communication
  - Knowledge-based decision support tools

# NTSP Goals & Methods



## Goals:

- Transform model of patient care
- Create value
  - ↑ Increase quality
  - ↓ Costs
- ACO/Health care reform ready

## Methods:

- Provide clinical information at the point of care
- Coordinate care for complex diseases
- Incent HIT adoption
- Eliminate information silos
- Incorporate evidence-based guidelines at the point of care

# ACO Positioning



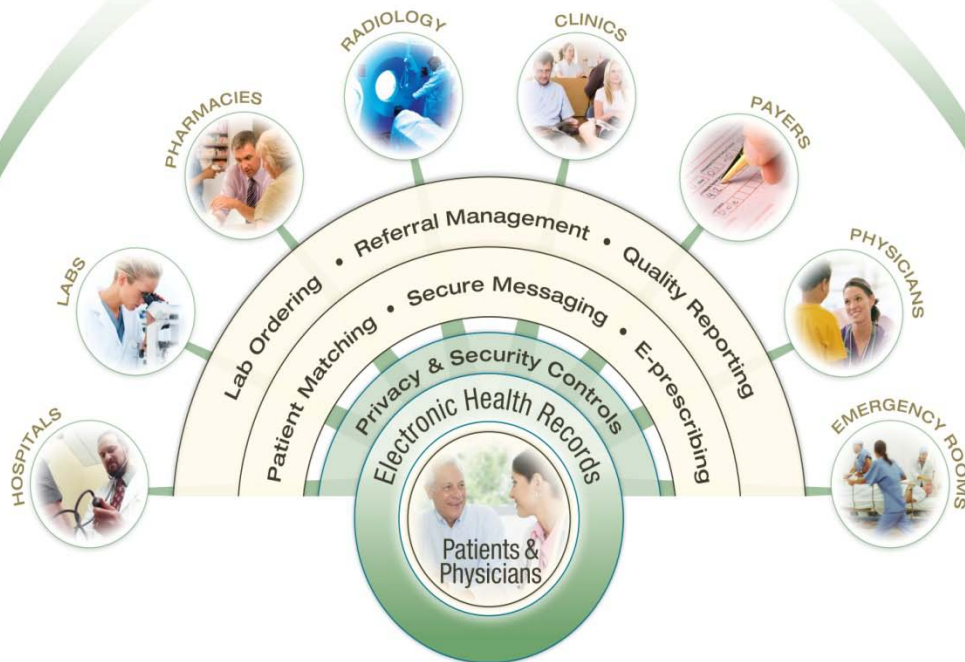
- 30,000 Traditional Medicare
- Build on current core business (i.e. risk model)
- Utilize current HIE infrastructure
- Deliver point of care clinical integration tools
- Share governance with hospital partner

# ACO Positioning



# NTSP's Health Information Exchange

## Health Information Exchange



- 1.65 million patients
- 1,700 physicians and staff trained
- 350+ physicians feeding EMR data
- 50,000 clinical transactions per day

# Clinical Case Study



- Office visit: 64 year old woman with chronic liver disease
- HIE documented 2 ER visits in the past 2 months, chemistry panels, diagnoses, abdominal US, Head CT, medications, and allergies
- HIE prevented duplicate diagnostic imaging & laboratory studies
- Alerted the use of Doxepin

**Potential savings attributed to HIE technology:**  
**2010 Medicare reimbursement: \$15,191.45**  
**Insurance reimbursement: \$24,086.48**

# Essential Technology Elements for Quality Improvement and Accountable Care Organizations



1. Continuity of Care Records (CCRs)
2. Secure web portal for non-EMR users
3. Quality Measure Reporting

# 1- Continuity of Care Record (CCR)



- CCR: provides a longitudinal healthcare record for each patient in an existing EMR by combining disparate health information – irrespective of the source.
- NTSP current vendor footprint:

NextGen	Allscripts
eClinicalWorks	Epic
LabCorp	Quest

# CCR

Type: CCR - Pulled from External

Owner: Deas, Thomas

Status: Final

		Calculated:		mmol/mkg
2010-01-01	Coagulation Testing	RESULT	Prothrombin Time (PT): 30.5 secs	12.6-15.0 secs
		RESULT	International Normalized Ratio (INR): 2.78	
2010-04-07	Hematology (LabCorp)	RESULT	WBC: 8.4 x10E3/uL	4.0-10.5 x10E3/uL
		RESULT	RBC: 3.52 x10E6/uL	4.10-5.60 x10E6/uL
		RESULT	Hemoglobin: 11.0 g/dL	12.5-17.0 g/dL
		RESULT	Hematocrit: 32.3 %	36.0-50.0 %
		RESULT	MCV: 92 fL	80-98 fL
		RESULT	MCH: 31.3 pg	27.0-34.0 pg
		RESULT	MCHC: 34.0 g/dL	32.0-36.0 g/dL
		RESULT	RDW: 14.4 %	11.7-15.0 %
		RESULT	Platelets: 203 x10E3/uL	140-415 x10E3/uL
		RESULT	Neutrophils: 72 %	40-74 %
		RESULT	Lymphs: 15 %	14-46 %
		RESULT	Monocytes: 10 %	4-13 %
		RESULT	Eos: 2 %	0-7 %
		RESULT	Basos: 1 %	0-3 %
		RESULT	Neutrophils (Absolute): 6.0 x10E3/uL	1.8-7.8 x10E3/uL
RESULT	Lymphs (Absolute): 1.3 x10E3/uL	0.7-4.5 x10E3/uL		
RESULT	Monocytes(Absolute): 0.8 x10E3/uL	0.1-1.0 x10E3/uL		
RESULT	Eos (Absolute): 0.2 x10E3/uL	0.0-0.4 x10E3/uL		
RESULT	Baso (Absolute): 0.1 x10E3/uL	0.0-0.2 x10E3/uL		
RESULT	Sedimentation Rate- 25 mm/hr	0-20 mm/hr		

# 2- Secure Web Portal Functions



- Secure physician communication
- Electronic referrals
- E-prescribe (without EMR)
- Order and receive lab and radiologic tests

# Portal



**SandlotConnect** reinventing HIE

88y Female DOB: 04/20/1922

[History of Carotid Thromboendarterectomy](#) History of Carotid Thromboendarterectomy 01 Jan 2005 2/16/20

### Allergies

Description	Reactions	Severity	Type
<a href="#">Clonidine HCl TABS</a>			Medication
<a href="#">Levaquin TABS</a>			Medication

### Meds

Drug Name	Sig	RX Date	Ordered By
<a href="#">Propoxyphene-APAP</a>	prn		
<a href="#">PEG 3350/Electrolytes</a>	TAKE AS DIRECTED.	2/16/2010	
<a href="#">Oucvite</a>	Take 1 tablet daily		
<a href="#">Nasonex</a>	prn		
<a href="#">Imodium</a>	prn		
<a href="#">Guiatuss</a>	prn		
<input checked="" type="checkbox"/> <a href="#">Furosemide</a>	Take 1 tablet daily		
<a href="#">Cilostazol</a>	Take 1 tablet daily		
<a href="#">Atenolol</a>	1/2 tablet bid		
<input checked="" type="checkbox"/> <a href="#">Aspirin</a>	Take 1 tablet daily		
<input checked="" type="checkbox"/> <a href="#">Aripcept</a>	Take 1 tablet daily		
<a href="#">Acetaminophen</a>	prn		

### Quantitative Lab...

Drawn Date	Panel Name	Test Name	Result	Ordered By	Facilit
<input checked="" type="checkbox"/> 02/20/2010 04:34 AM	Chemistry	Calciu	8.8 L	Soroush Behnam	PATHNI
<input checked="" type="checkbox"/> 02/19/2010 01:00 AM	Urinalysis	Mucus, urin	Light	JEFFREY S PEEBLES	PATHNI
02/18/2010 10:58 PM	Cardiac	BNP (B-Type Natriuretic Peptide	37	JEFFREY S PEEBLES	PATHNI

# Secure Web Portal Community Impact



- Improved decision-making with access to a robust medical history
- Enhanced communication among care providers
- Better management of chronic conditions
- Expedited care delivery

# 3- Quality Module Functions



## 1. Point of Care Decision Support

- Quality indicator dashboard
- Quality measures--PQRI, HEDIS, Meaningful Use, Ad Hoc

## 2. Population Reporting

- Population defined by diagnosis with multiple levels of aggregation
- Periodic reports to assess performance and take action

# 3- Quality Module Functions



## 3. Patient Registry

- Non-adherent patient lists
- Assessment of all quality measures
- Mining of data to assure compliance

## 4. Physician Utilization Reports

- HIE use
- Quality Module adoption and use

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

## Search Patient

Physician / Location:  ▼  
 Name:   
 Patient ID:

## Recent Patients

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

## My Patients

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

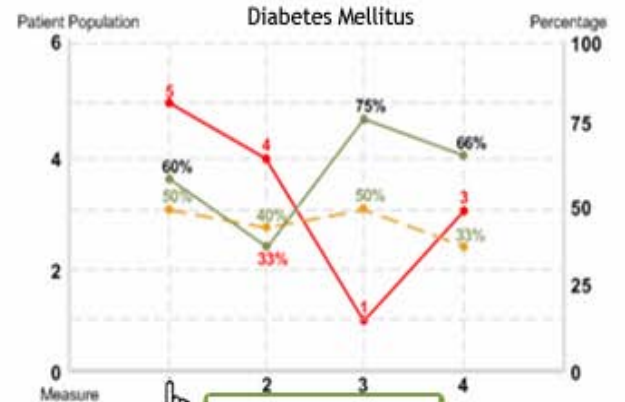
## Scorecard

Select Context  ▼ Compare Context  ▼ Search Reset

### Measure Group



- Diabetes Mellitus
- Coronary Artery Disease
- Chronic Kidney Disease
- Preventive Care
- Rheumatoid Arthritis
- Respiratory



- Action Required
- Well Controlled
- Comparison

### Group: Diabetes Mellitus

	Action Required	Ratio	%ages difference	Comparison %age
A1C Poor Control	5	10/15 (60%)	+16%	50%
Low Density Lipoprotein (LDL-C) Control	4	2/6 (33%)	-7%	40%
High Blood Pressure Control	1	3/4 (75%)	+25%	50%

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  

Name:

Patient ID:






**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

## Measure Group: Diabetes Mellitus » Measure Details - PQRI#1: Diabetes Mellitus: A1C Poor Control

POOR CONTROL	WELL CONTROL	PENDING	DISMISS
Group: Diabetes		Total Requiring Actions	Indicator
Doe John	4		
Anderson Mary	3		
Clark Lisa	2		
Wright John	6		
Mitchell Nancy	1		

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  ▼

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

Measure Group » Measure Details » **Summary**

**DOE JOHN**

DOB: 08/05/1960      Gender: Male

Phone Number: (682) 224-1618      Email: john.doe@att.net

Address: 5225 Appalachin Way      EPI ID: 1209111      [Other ID](#)  
 Fort Worth TX 76123      PCP: Rogerson Tom

PATIENT		MEASURE			
Measures	Indicator	Description	New Action	History	
<b>Actions Required (4)   Well Controlled (1)   Pending (1)   Dismissed (1)   All (7)</b>					
A1C Poor Control	◆	▲	+	🔄	
Adult BMI Assessment ABA	◆	▲	+	🔄	
Hepatitis C: Anticiral Treatment Prescribed	◆	▲	+	🔄	
Colorectal Cancer Screening	▲	▲	+	🔄	



# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  ▼

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

Measure Group » Measure Details » Summary

**DOE JOHN**

DOB: 08/05/1960      Gender: Male

Phone Number: (682) 224-1618      Email: john.doe@att.net

Address: 5225 Appalachin Way      EPI ID: 1209111      [Other ID](#)  
 Fort Worth TX 76123      PCP: Rogerson Tom

**PATIENT** | **MEASURE**

**Actions Required (4)** | Well Controlled (1) | Pending (1) | Dismissed (1) | All (7)

Measures	Indicator	Description	New Action	History
A1C Poor Control	◆			
Adult BMI Assessment ABA	◆			
Hepat...				
Colore...				


**New Action**

Action	Physician	Comments	Expected Date
Schedule <span>▼</span>	Tom Smith <span>▼</span>	Check Up done	12/30/2008

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female












**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

## Measure Group » Measure Details » Summary

### DOE JOHN


DOB: 08/05/1960      Gender: Male  
Phone Number: (682) 224-1618      Email: john.doe@att.net  
Address: 5225 Appalachin Way      EPI ID: 1209111      [Other ID](#)  
Fort Worth TX 76123      PCP: Rogerson Tom

PATIENT		MEASURE			
Actions Required (4)		Well Controlled (1)	Pending (1)	Dismissed (1)	All (7)
Measures	Indicator	Description	New Action	History	
A1C Poor Control	◆				
Adult BMI Assessment ABA	◆				
Hepatitis C: Anticiral Treatment Prescribed	◆				
Colorectal Cancer Screening	▲				

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

## Measure Group » Measure Details » Summary

### DOE JOHN

DOB: 08/05/1960      Gender: Male  
Phone Number: (682) 224-1618      Email: john.doe@att.net  
Address: 5225 Appalachin Way      EPI ID: 1209111      [Other ID](#)  
Fort Worth TX 76123      PCP: Rogerson Tom

**PATIENT**  **MEASURE**

Measures	Indicator	Description	History
Drug Therapy for Lowering LDL-Cholesterol			

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

## Measure Group » Measure Details » Summary

### DOE JOHN

DOB: 08/05/1960      Gender: Male  
Phone Number: (682) 224-1618      Email: john.doe@att.net  
Address: 5225 Appalachin Way      EPI ID: 1209111 [Other ID](#)  
Fort Worth TX 76123      PCP: Rogerson Tom


**PATIENT**      **MEASURE**

Allergies			
Date	Description	Reaction	Severity
12/10/2010	Cottonseed extract	Itching	Non Medication
12/10/2010	Cottonseed oil		Drug Allergy (HV)
12/10/2010	FEXOFENDINE HCL	Cough	Unknow Allergen Type
12/10/2010	FEXOFENDINE HCL - Oral		Drug Allergy (HV)

# Quality Module

Welcome, Test User | Last Login: Nov 01, 2010, 0700 Hrs

**Search Patient**

Physician / Location:  

Name:

Patient ID:

**Recent Patients**

Patient Name	DOB	Gender
Smith James	12/01/1972	Male
Anderson Mary	11/11/1969	Female
Clark Lisa	01/13/1972	Female
Wright John	08/07/1971	Male
Mitchell Nancy	09/07/1999	Female

**My Patients**

Patient Name	DOB	Gender
Johnson Laura	02/03/1979	Female
Thomas John	09/06/1976	Male
Williams Daniel	08/17/1963	Male

## Measure Group » Measure Details » Summary

### DOE JOHN

DOB: 08/05/1960      Gender: Male  
Phone Number: (682) 224-1618      Email: john.doe@att.net  
Address: 5225 Appalachin Way      EPI ID: 1209111 [Other ID](#)  
Fort Worth TX 76123      PCP: Rogerson Tom

**PATIENT**      **MEASURE**

**Allergies**      **Problems**      **Medications**      **Procedures**

Date	Problem Code (ICD9)	Description
7/10/2010	401.9	Hypertension NOS
7/10/2010	401.9	CHF NOS
7/10/2010	428.0	Pneumonia, organism NOS
7/10/2010	491.29	Obst chr bronc w(ac) exac

# Quality Module

Welcome, Telly Shackelford | Last Login: Nov 01, 2010, 0700 Hrs



## Configure

You may configure the measure that you wish to track on both the Quality Scorecard and the Patient Summary. Toggle a check-bok to add / remove a Measure or a Group of Measures. Suggested Measures for your speciality are shown with (Default) next to the Measure name. Suggested Measures that are currently not selected are shown in Red. When all changes are complete, click Ok to save your changes.

✓ Your changes have been saved successfully.

- PQRI
  - Diabetes Mellitus
    - 1: Hemoglobin A1C (Default)
    - 2: Low Density Lipoprotein (Default)
    - 3: High Blood Pressure Control (Default)
    - 117: Dialated Eye Exam (Default)
    - 119: Urine Screening for Microalbumin or Medical Attention for Nephropathy (Default)
    - 163: Foot Exam (Default)
- HEDIS
- Other

Save

## Reports: Management Report Selection by Category

PQRI Context My Patients 2010

- Diabetes Mellitus
  - Hemoglobin A1C
  - Low Density Lipoprotein
  - High Blood Pressure Control
  - Dialated Eye Exam
  - Urine Screening for Microalbumin or Medical Attention for Nephropathy
  - Foot Exam
  
- Chronic Kidney Disease
  - Laboratory Testing (Calcium, Phosphorus, Intact Parathyroid Hormone)
  - Blood Pressure Management
  - Plan of Care - Elevated Hemoglobin for Patients Receiving Erythropoesies
  - Influenza Immunization
  - Referral for Arteriovenous (AV) Fistula

Generate Report

# Quality Module Clinical Impact



- Improves adherence rates to quality standards (PQRS, HEDIS, Meaningful Use, Five Star, ad hoc)
- Improved adherence = lower total cost
- Achieve CMS Five Star ratings
- Achieve Risk Adjustment Factors (RAF) that accurately match the populations' disease burden

# Essential Technology Elements for Quality Improvement and Accountable Care Organizations



1. Continuity of Care Records (CCRs)
2. Secure web portal for non-EMR users
3. Quality Measure Reporting

# Future Goals for NTSP



- Reduce total health care costs
- Improve quality and safety of care through care coordination
- Evolve to an ACO based on the HIE/Quality Module infrastructure
- Provide a patient portal for better engagement and education
- Meet Meaningful Use objectives

# Questions?



North Texas Specialty Physicians



Tom Deas, Jr., MD, MMM  
North Texas Specialty Physicians  
[tmdeasjr@sandlotsolutions.com](mailto:tmdeasjr@sandlotsolutions.com)

Karen Van Wagner, Ph.D.  
North Texas Specialty Physicians  
[info@ntsp.com](mailto:info@ntsp.com)