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Advancing Excellence in Health Care

## Billings Clinic

# Improving Care Transitions for the Medically Complex Patient in Rural Montana

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**June 2, 2010**

# Value to the Customer

## Customer: Regional PCPs

- Value: Receive information regarding patients discharged from hospital.
  - Example: PCPs of patients discharged by Hospitalists receive a faxed/emailed clinical note on their patients.

## Customer: Patients from Rural Montana Communities

- Value: Improved Discharge Process
  - Example: Receive standardized patient information; high-risk patients receive follow-up phone



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# Current State

- 20% (Medicare) patients re-hospitalized  $\leq$  30d<sup>1</sup>
- 50% without medical follow-up<sup>1</sup>
- Cost to Medicare in 2004: \$17.4 billion<sup>1</sup>
- 19-23% of Dc'd patients suffer and adverse event<sup>2</sup>
- 36% Dc'd patients do not know names or purpose of new medications<sup>3</sup>

<sup>1</sup>Jencks 2009, <sup>2</sup>Kripalani 2007, <sup>3</sup>Maniaci 2008

## Current State (cont.)

### Communication<sup>3</sup>:

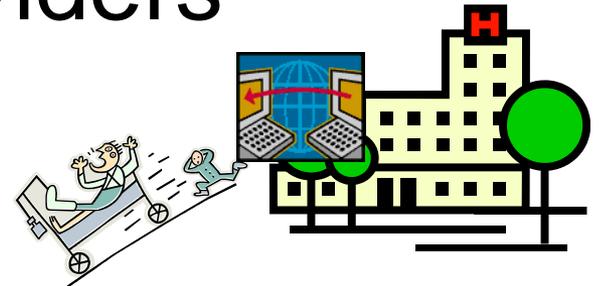
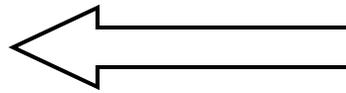
- Discharging Provider & PCP = 3-20%
- Discharge summary available at first post-discharge visit = 12-34%
- Follow-up adversely affected in ¼ cases<sup>4</sup>

### When DC summary available:<sup>3</sup>

- 33-63% missing dx test results
- 65% missing pending test results
- 2-40% missing DC meds
- 2-43% missing f/u plans

# The PITSTOP Project

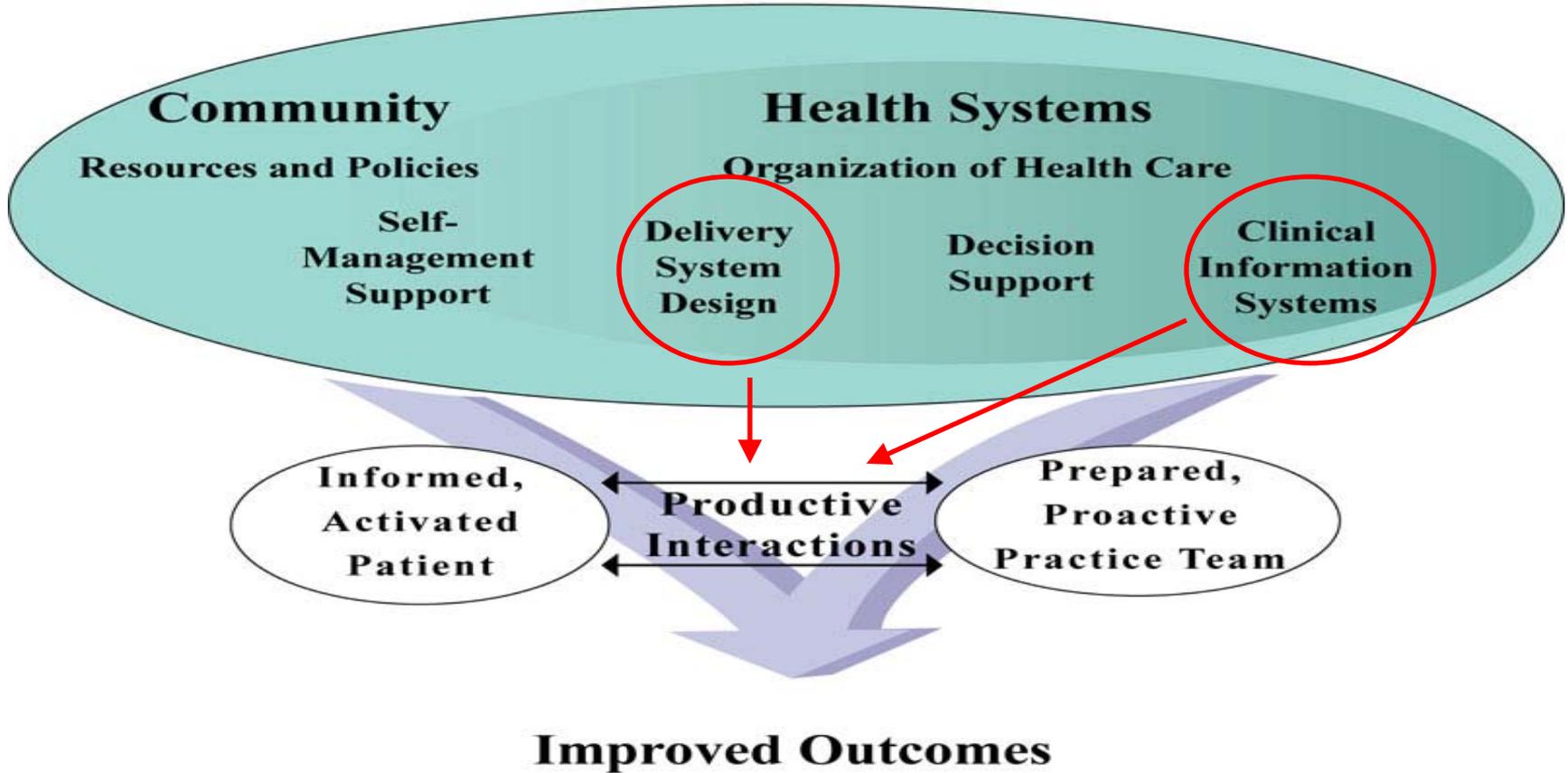
## Patient Information Transfer System to Outpatient Providers



# Project Objective

- Improve health information transfer process at hospital discharge through:
  - Improved communication
    - IP/OP Provider ↔ Patient
    - IP Provider ↔ OP Provider
- To achieve, especially at care transitions:
  - Improved quality of care
  - Improved patient safety
  - Efficient use of healthcare services

## The Chronic Care Model





# Study Design

- 18-month prospective controlled intervention study
- 3-year project period
  - Sept 30, 2008 – Sept 29, 2011
- 1200 study participants



- Billings Clinic Hospital
- Regional Clinics



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# Study Design: Inclusion Criteria

- Medically Complex Patients:
  - Discharge Dx (>1): DM, HF, CVA, TIA, COPD, CAD, HTN, DEPR
- 21 years +
- Discharged from Billings Clinic Hospital
- Live in a rural Montana community



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# Intervention

- Provider: PCP Discharge Notification
  - Who, What, Where, Why
  - For more information....
  - Faxed, Emailed
- Nurse: Housewide Discharge Process
  - EHR Tool
  - Discharge Checklist
  - Standardized Patient Information



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## Intervention (cont.)

- Providers and Nurses: Patient Call Backs
  - High-risk patients
- Hospitalists: Teach Back
  - High-risk patients, Project BOOST
- All Staff: Targeted Discharge



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# Outcomes

- Clinical:
  - Improve accuracy of reconciled patient-friendly medication lists
  - Improve patients' accuracy in taking medications
  - Decrease 30-day hospital readmissions
  - Decrease 30-day emergent care visits
- System:
  - Increase 5-7d post-discharge follow-up appointments
  - Improve communication with PCPs
  - Improve workflow processes
- Satisfaction:
  - IP and rural OP provider
  - Rural patient

# Baseline Results: Demographic

- 400 Patients
  - 47 Rural Clinics
  - Age (mean) 68
  - Top 4 Dx:
    - HTN (57%)
    - Dyslipidemia (43%)
    - CAD (42%)
    - DM (40%)



# Baseline Results: Utilization

## PITSTOP Patient Health Services Utilization

	CHART		PATIENT	
	n	%	n	%
Number Patients	400	100%	260	100%
Reason for hospitalization addressed?	21	91%	NA	NA
7-day PCP Visit	23	6%	60	23%
30-day ED Visit	15	4%	18	7%
30-day Hospitalization	13	3%	14	5%



# Baseline Results: Education

<b>Received Education on Meds during Hospitalization</b>	114	71%
Physician	29	25%
Nurse	50	44%
Don't Know/Can't Remember	35	31%
<b>Received Education on Meds during Hospitalization Per Chart</b>	390	98%
<b>Received Education on Meds <u>by phone</u> after Hospitalization</b>	43	27%
Pharmacist	22	51%
Hospital Nurse	14	33%
Home Nurse	1	2%
Don't Know/Can't Remember	6	14%
<b>Received Education on Meds <u>by phone</u> after Hospitalization Per Chart</b>	55	34%



## Baseline Results: Education (cont.)

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<b>Received Education on Meds during F/U visit</b>	81	50%
Physician	68	84%
Pharmacist	1	1%
Clinic Nurse	8	10%
Don't Know/Can't Remember	4	5%
<b>Received Education on Meds during F/U visit Per Chart</b>	34	21%

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# Baseline Results: Provider Satisfaction

## Provider Satisfaction with Discharge Process (n=72)

	Always	Usually	Sometimes	Never	No Opinion
The care transition process for patients discharged from the hospital to the rural outpatient setting is efficient and reliable and results in quality patient care.	2.8%	36.1%	<b>48.6%</b>	2.8%	9.7%
Outpatient providers receive <i>sufficient</i> information from the hospital regarding their patients after discharge.	7.0%	22.5%	<b>50.7%</b>	4.2%	15.5%
Outpatient providers receive <i>timely</i> information from the hospital regarding their patients after discharge.	5.6%	25.4%	<b>53.5%</b>	2.8%	12.7%
I believe my patients are getting adequate information regarding their medications, including a patient-friendly reconciled medication list, at time of hospital discharge	15.3%	<b>43.1%</b>	30.6%	0.0%	11.1%
Outpatient providers usually receive a reconciled patient medication list for their patients discharged from the hospital before patients attend a follow up visit.	4.2%	<b>38.0%</b>	28.2%	18.3%	11.3%



# Baseline Results: Patient Satisfaction

## Patient Satisfaction with Discharge Process (n=306)

	Strongly Agree	Agree	Disagree	Strongly Disagree
When I left the hospital, I clearly understood the purpose for taking each of my medications.	41.4%	53.1%	3.8%	1.7%
When I left the hospital, I clearly understood how to take each of my medications, including how much I should take and when.	43.1%	51.4%	3.8%	1.7%
When I left the hospital, I had a readable and easily understood written list of the appointments or tests I needed to complete within the next several weeks.	44.2%	47.9%	5.5%	2.4%
When I left the hospital, I clearly understood the warning signs and symptoms I should watch for to monitor my health condition.	41.8%	49.0%	6.8%	2.4%
When I left the hospital I was confident that I knew what to do to manage my health.	39.3%	52.9%	6.1%	2.0%



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## Medication Reviews Baseline Results

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### By Medication (n=439):

Proportion Medications Incorrect by Patient Report	9.9%
Proportion Medications Unreconciled on Patient Discharge List	15.1%
Proportion Medications Unreconciled on EHR	30.5%
Proportion Medications Incorrect Across the Board	38.5%

### Per Patient (n=37):

Mean Number Medications per patient	13 (range 1-23)
Proportion Medications Incorrect by Patient Report (per patient)	13.0%
Proportion Medications Unreconciled on Patient Discharge List (per patient)	17.0%
Proportion Medications Unreconciled on EHR (per patient)	30.4%
Proportion Medications Incorrect Across the Board (per patient)	39.0%

### By Patient (n=37):

Proportion Patients Incorrect by Patient Report	65.0%
Proportion Patients Unreconciled on Patient Discharge List	85.0%
Proportion Patients Unreconciled on EHR	100.0%
Proportion Patients Incorrect Across the Board	100.0%

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## Mitigating Factors to Medication Reconciliation (n=458)

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	n	%
Self-Prescribed Medication	35	8%
Visit with Non-System Provider Since DC	6	1%
Visit System Provider; No EHR Update	78	17%
Incorrect Information at Admission	45	10%
EHR Not Updated at DC	56	12%
Unclear/Incomplete Patient DC List	10	2%

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# Questions?

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