Systems for Action
National Coordinating Center
Systems and Services Research to Build a Culture of Health

Strategies to Achieve Alignment, Collaboration, and Synergy across Delivery and Financing Systems

The Comprehensive Care, Community, and Culture Program

Research In Progress Webinar
Wednesday, October 11, 2017   12:00-1:00pm ET/ 11:00am-12:00pm CT

UK College of Public Health
Center for Public Health Systems and Services Research

Funded by the Robert Wood Johnson Foundation

Agenda

Welcome: **CB Mamaril, PhD,** RWJF [Systems for Action](#) National Coordinating Center, University of Kentucky College of Public Health

The Comprehensive Care, Community, and Culture Program

Presenter: **David Meltzer, MD, PhD**, Director of the Center for Health and the Social Sciences, The University of Chicago
dmeltzer@medicine.bsd.uchicago.edu

Commentary: **William J. Riley, PhD,** Professor, School for the Science of Health Care Delivery, Arizona State University
William.J.Riley@asu.edu

Questions and Discussion

Presenter

David Meltzer, MD, PhD
Fanny L. Pritzker Professor
Department of Medicine, Harris School of Public
 Policy Studies and Department of Economics

Director, Health Lab and Center for Health and the
 Social Sciences

The University of Chicago
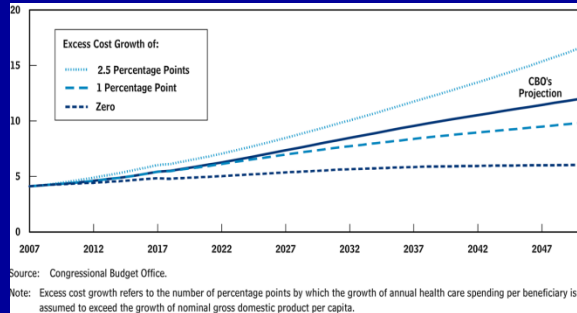*dmeltzer@medicine.bsd.uchicago.edu*

Improving Care for Patients at Increased Risk of Hospitalization: The Comprehensive Care Physician (CCP) Program and The Comprehensive Care Community and Culture Program (C4P)

David Meltzer M.D., Ph.D.
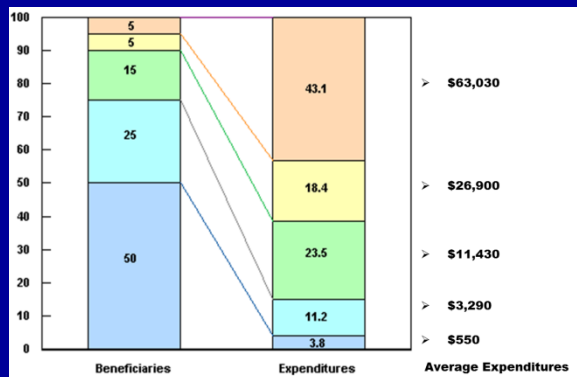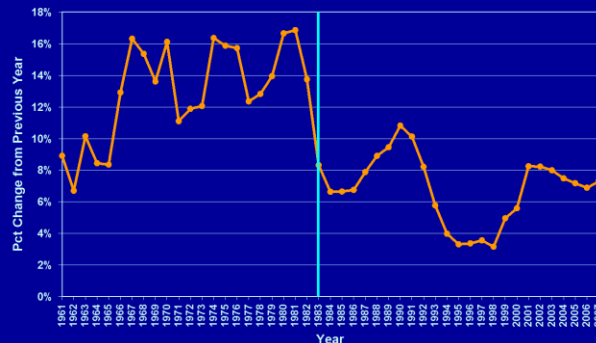The University of Chicago

October 11, 2017

Health Care Costs and the ACA

- Affordable Care Act (ACA)
  - Insurance Market Reform
  - Payment and Delivery System Reform
   - Prevention
    - Comparative effectiveness research (PCORI)
    - Care integration (PCMH)
    - Bundling, capitation, and ACOs
    - CMMI
      - $1 Billion per year for 10 years
      - Ability of HHS Secretary to implement what works
  - Reinvestment in primary care
    - Growth of specialists in US
    - Evidence specialization raises costs and impairs outcomes

Growth of Hospital Medicine

- Traditionally in US, primary care doctor cares for patient in clinic and in the hospital for general medical problems
  - AM hospital rounds and then clinic
  - Emphasis on continuity of care & doctor/patient relationship

- Since 1990s, rapid growth of "hospitalists" ($\geq$ 25% inpatient)

- Is this change in specialization a desirable one?
  - Advantages: Inpatient focus, expertise, presence
  - Disadvantages: Loss of the doctor-patient relationship
  - Optimal specialization balances benefits and costs
    - Economic Theory: Adam Smith
    - Medical Theory: Francis Peabody
    - TV Theory: Marcus Welby

  - Adjust model
    - Improve handoffs, reduce handoffs
    - Adaptive Organizations Perspective (Dessain and Santos, JPE, 2006): When high returns to specialization and high coordination costs, focus product to reduce needs for coordination (Solution Shop, Clay Christensen)
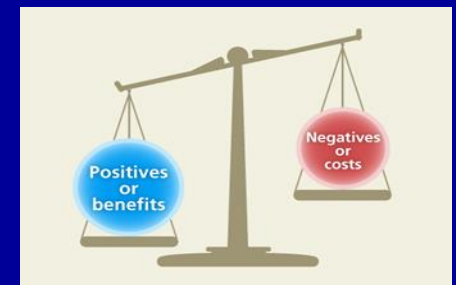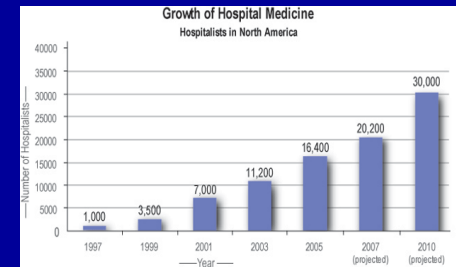
Growth of Hospitalist vs. Traditional Model: Two Theories

- ## Needs of hospital care
  - Incentive and ability to reduce hospital costs and improve outcomes
  - Limited evidence of benefits in costs or outcomes

- ## Needs of ambulatory care
  - Declining hospital vs. ambulatory use decreased PCP incentives to see patients in both settings
    - Declining hospital use with shift from hospitalization to ambulatory care
    - Increased ambulatory use with growth of preventive care
  - Organization of physicians into groups encouraged specialization

Meltzer, Chung JGIM 2010
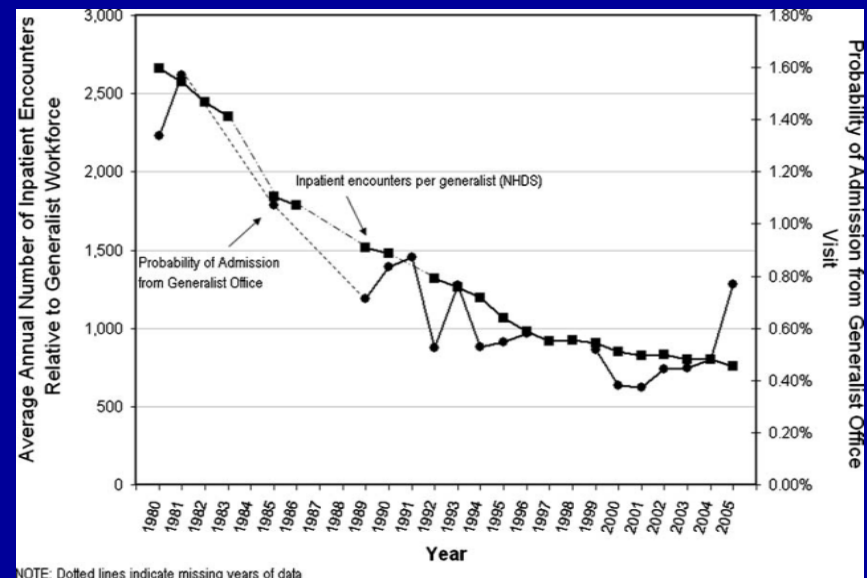
Ambulatory Economics Theory of Hospitalist Growth

- Compare time costs of two models:
  - Traditional model:
    - Internist time to see patients in hospital, clinic, transport
  - Hospitalist/PCP model
    - Hospitalist time to see patient in hospital, communicate with PCP
    - PCP time to see patient in clinic, communicate with hospitalist
  - Cost of PCP/Hospitalist vs. traditional model driven by per capita communication costs relative to transport costs for a traditional internist

$$\Delta Cost_{PCP/Hospitalist\ vs.\ Traditional} = 2\pi t_C - t_T \frac{(t_A + \pi t_H)}{(T_I - t_T)} = 2\pi t_C - \frac{t_T}{N_{IA}}$$

- Cost of PCP/Hospitalist Model vs. Traditional Model falls when:
  - Admissions (π) fall relative to ambulatory visits
  - Communication costs (t_c) decline
  - Transport costs (t_T) rise
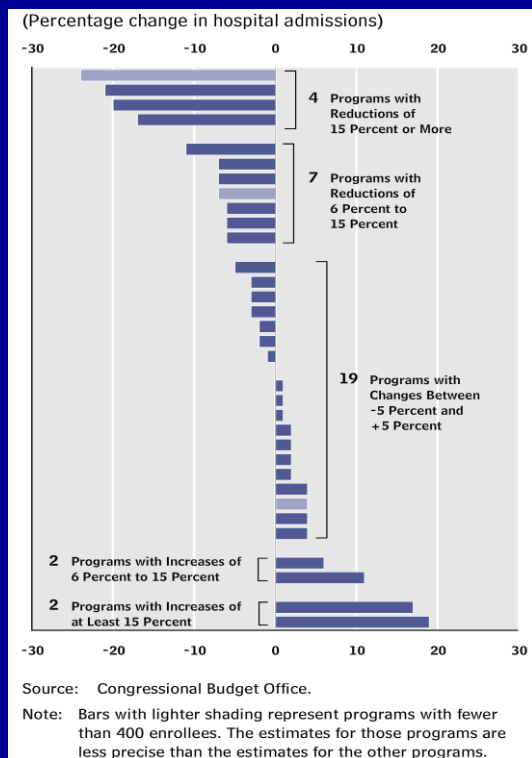 - Physician work hours (T_I) decline
- Confirm with data on PCP use of hospitalists from Community Tracking Study
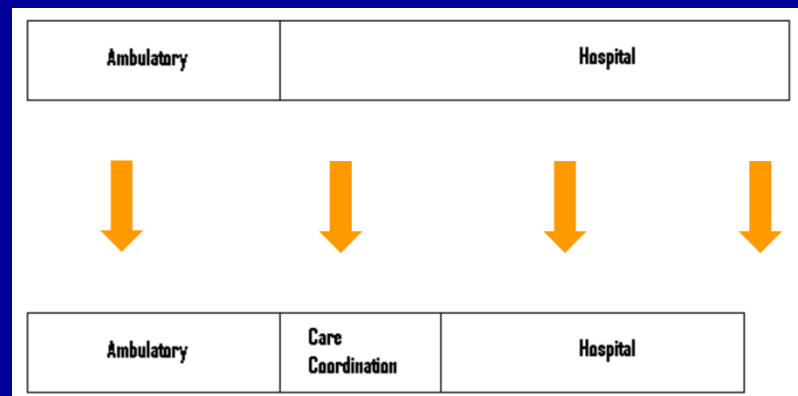
What is the Value of the Doctor-Patient Relationship for the Hospital Setting? And for Whom does it Matter?

- Rich literature on the value of the doctor-patient relationship
  - Trust, interpersonal relationship, communication btw. doctor/patient, knowledge of the patient
- Patients value seeing their own doctor in the hospital
  - But willingness to pay is not so high
- Observational studies show lower costs, better outcomes with continuity of care
  - Care by PCP for > 10 years: 15% lower Medicare costs (Weiss et al AJPH 1996)
  - Lung CA patients cared for by own doctor in terminal hospitalization have 25% lower (OR=0.74, $p<0.01$) odds ICU use (Sharma et al, Annals, 2009)
- One experimental study
  - Wasson et al (JAMA, 1984) randomized 776 complex VA patients to see same physician vs. different physician in each primary care visit. Continuous care group:
    - 49% lower emergent hospitalizations (20% vs. 39%, $p<0.002$)
    - 38% lower hospital days (6.6 vs. 9.1, $p<0.02$)
    - 74% lower ICU days (0.4 vs. 1.4, $p<0.01$)

→ Discontinuity harmful/costly, esp. for complex, frequently hospitalized patients

→ Can better coordination of inpatient and outpatient care improve outcomes?

Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination, and Value-Based Payment (CBO, January 2012)
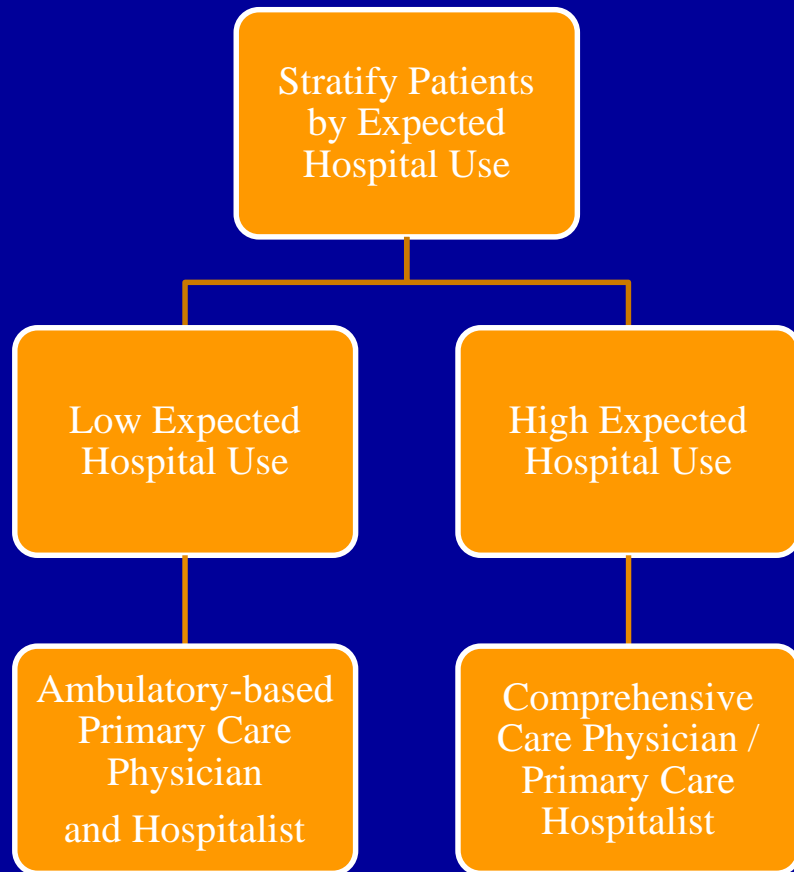
(Percentage change in hospital admissions)

4 Programs with Reductions of 15 Percent or More

7 Programs with Reductions of 6 Percent to 15 Percent

19 Programs with Changes Between –5 Percent and +5 Percent

2 Programs with Increases of 6 Percent to 15 Percent

2 Programs with Increases of at Least 15 Percent

Source: Congressional Budget Office.

Note: Bars with lighter shading represent programs with fewer than 400 enrollees. The estimates for those programs are less precise than the estimates for the other programs.

Design Feature	Number of Programs	Average Effects (Percent)		Change in Regular Medicare Spending Needed to Offset Programs' Fees[b] (Percent)
		Hospital Admissions	Regular Medicare Spending[a]	
Program Fees Put at Risk				
Yes	18	0	-1	-11
No	16	-2	1	-13
Substantial Direct Interaction Between Care Managers and Physicians				
Yes	7	-7	-6	-13
No	27	0	0	-11
Interaction Between Care Managers and Patients[c]				
By telephone and in person	8	-7	-3	-13
Primarily by telephone	23	1	0	-11
All Programs	34	-1	0	-11

Other Lessons:
1. Target interventions to high-risk enrollees
2. Gather timely data on use of care, esp. hospital admissions
3. Focus on transitions in care settings
4. Use team-based care
5. Limit the costs of intervention

Ambulatory	Hospital

Ambulatory	Care Coordination	Hospital

Tailored Approach to General Medical Care

Stratify Patients by Expected Hospital Use

- **Low Expected Hospital Use**
  - **Ambulatory-based Primary Care Physician and Hospitalist**
- **High Expected Hospital Use**
  - **Comprehensive Care Physician / Primary Care Hospitalist**

- Advantages?
  - Most frequently hospitalized patients get own doctor in both settings. Continuity:
    - Is valued by patients
    - Decreases unneeded testing/treatment, errors
    - Lowers doctor costs (travel, history taking)
  - All hospitalized patients get doctors with significant hospital experience and presence
    - Physicians can be specialists
  - Patient choice restored
  - CCP model can work for physician
  - Patient-centered medical home / bundling / readmission penalties
  - Smaller primary care base can fill hospital

- Challenges?
  - Are enough patients willing to switch?
  - Will doctors let patients switch?
  - Will doctors do this job?
 - Can it be economically viable?

- CMMI Study (2012-)
  - Medicare, ~ 1/2 duals, median family income<25K

Key CMMI Design Elements

Lessons from Literature	Program Element
Focus on High-Cost Patients	Patients expected to spend >10 days in hospital in next year; up to 40% of general medicine days, annual Medicare costs $100,000 per year; diverse recruitment sources, including resident clinics
Maximize Direct Interaction with CCP/PCH	Panel size: 200. AM on wards. Midday buffer. PM in clinic.
Build Interdisciplinary Team	5 CCPs = 1000 patients. Organize CCP, 0.1 APN, RN, LPN, LCSW, clinic coordinator around common patient medical and psychosocial needs
Minimize costs (esp. coordination costs)	Small, well-connected teams, provider continuity, daily multidisciplinary rounds
Focus on care transitions	Post-discharge calls, Health IT
Financial incentives	Prepare for shared savings (randomized internal controls)
Sustainable roles and training for care team	Support the team members (group to spread weekend coverage, night coverage, psychosocial support, relevant clinical training (e.g., communication, palliative care), academic development, recognition).
Rapid cycle innovation	Frequent, data-driven meetings that seek to engage relevant leaders
Rigorous evaluation	2,000 person RCT, Triple Aim (Better Care Better Health, Lower Costs), survey and Medicare claims data, external and internal evaluators

Future

- Completing 1-yr follow-up (June 2017), 3-yr follow-up planned (Donaghue)
- Address longer-term issues
  - Financial model for expansion/sustainability
    - Fee for service (revenue maximization, clinical volumes, CCM codes)
    - Risk-based arrangements (cost management, UCM MSSP/ACO, UCM MA, City of Chicago, CMS Physician Focused Payment Model)
    - Specific high need populations (e.g., sickle cell disease)
- Partnerships with others interested in CCP
  - Villages/USF, Vanderbilt, VA/Wash U, Kaiser, Medical College Wisconsin, National University Singapore
  - Learning Collaborative supported by Medicare TCPI (GLPTN) with Project Echo
  - Interest:
    - >10 hospitals nationally and internationally (Manipal)
    - Opportunity for CCP-connected network?
      - Patient-centered clinical integration
      - Provider autonomy/competition
      - Rounder model extend to lower risk patients?
    - Ingalls
      - Help interested PCPs develop CCP panels
      - Discussing with Ingalls leadership and key stakeholders
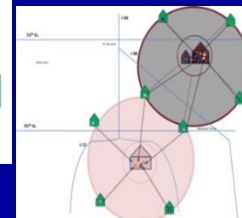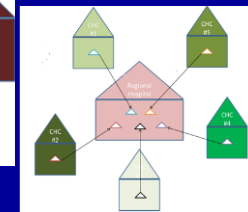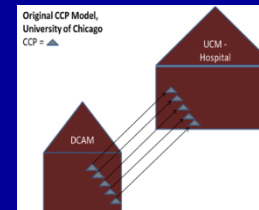
Needs for Improved Engagement

- ~30% patients randomized to CCP do not engage fully
  - No appointments
  - Make but not keep appointments
  - Other forms of low engagement add to this
- All forms of engagement create opportunity to benefit patients, lower costs, provide efficient care
  - Frequently admitted, average costs ~$75-100K/year
- Why do they not engage?
  - No single predictor, but little social support and history of low engagement
  - Patient perspective (obtained in ER, hospital)

Patient Perspectives on Engagement

Barriers

- Transportation
  - Too costly
  - Unreliable
  - Not know how to negotiate system
  - Safety
- Mood
  - "Just not feel up to it"
- Childcare

What would help?

- Better transport
  - Free parking
  - *"If I had transportation, I wouldn't have a problem getting up… I don't know if it's just depression or what but a lot of times, I just don't want to be bothered. It's been like that a lot."*
- Family friendly environment
- Reminders
- Other
  - *"Nothing really, its nothing you guys are doing. I just have to get in the right mindset and come in when I need to. I really would prefer to go out and walk or do something different other than spend my time at the doctor."*

Comprehensive Care, Community and Culture Program (C4P)

- Systematic assessment of unmet social needs
- Community Health Worker (CHW) Program
  - Seek to engage patient in community/home to deepen understanding of and address unmet social needs (navigate system, connect to economic and other resources, reminders, assess home environment, engage psychologically), pull out of home, connect to clinical team
  - Community members, not disease-focused, tightly linked to clinical team
  - Working with Sinai Health System
- Artful Living Program (ALP)
  - Engage patients with others and clinical team
    - Music, arts, theater, movies, books, speakers
  - Promote self-efficacy
    - Exercise, cooking, crafts, addressing social determinants
  - Explore and share values that enhance life, health
    - Narrative (e.g., Stanford Letter Project, photovoice)
- Goals
  - Establish program
  - Pilot/perform RCT to assess effects of SC/CCP/C4P on engagement, triple aim (better care, better health, lower cost), goal attainment

Assessment for Unmet Needs

(A Lot, Some A Little, No, DK, Refuse)

1. Food
2. Housing
3. Money to pay for basic needs, like utilities, coats and shoes, other household needs
4. Employment, education or job training
5. Help applying for public benefits, like food stamps or disability
6. Child care or activities for children you care for
7. Issues with school for children you care for
8. Legal assistance
9. Health insurance or dental insurance for you or your family
10. Transportation
11. Personal safety
12. Mental health or substance abuse treatment
13. Budgeting or financial planning
14. Companionship or social support
15. Engaging in activities you enjoy
16. Healthy eating and physical activity
17. Spiritual or religious support

Domains based on instrument used by Health Leads

Distribution of Unmet Needs

# of Unmet Needs	# of Respondents	Cumulative % Respondents	Cumulative % Unmet Needs
0	47	24%	0%
1	33	41%	5%
2	17	50%	10%
3	25	63%	22%
4	16	71%	32%
5	12	77%	41%
6	17	86%	57%
7	3	87%	60%
8	6	90%	68%
9	2	91%	71%
10	8	95%	83%
11	5	98%	92%
12	1	98%	93%
13	1	99%	95%
14	1	99%	98%
15	1	100%	100%

50% of respondents have only 0-2 unmet needs, accounting for only 10% of unmet needs

other 50% of respondents account for 90% of unmet needs

29% have 5+ needs, accounting for 68% of unmet needs

Prevalence of Specific Needs

Rank	Need	Definition (Per Survey)	All Respondents (N = 195)		Respondents with >2 Unmet Needs (N=98)	
			Number	Percent	Number	Percent
#1	Health Insurance	"For health insurance or dental insurance for you or your family"	72	37%	60	61%
#2	Healthy Eating / Phys Activities	"For healthy eating and physical activity"	69	35%	60	61%
#3	Money	"For money to pay for basic needs, like utilities, coats and shoes, other househould needs"	64	33%	58	59%
#4	Engaging in Enjoyable Activities	"For engaging in activities you enjoy"	62	32%	56	57%
#5	Transportation	"For transportation"	57	29%	47	48%
#6	Food	"For food"	44	23%	41	42%
#7	Legal	"For legal assistance"	42	22%	41	42%
#8	Applying for Public Benefits	"For help applying for public benefits, like food stamps or disability"	38	19%	36	37%
#9	Housing	"For housing"	32	16%	26	27%
#10	Companionship	"For companionship or social support"	32	16%	32	33%
#11	Safety	"For personal safety"	27	14%	24	24%
#12	Budgeting	"For budgeting or financial planning"	27	14%	25	26%
#13	Employment or Training	"For employment, education, or job training"	25	13%	23	23%
#14	Spiritual/Religious Support	"For spiritual/religious support"	21	11%	20	36%
#15	Treatment for MentHlth or SA	"For mental health or substance abuse treatment"	15	8%	12	12%
#16	Child Care or Activities	"For child care or activities for children you care for"	9	5%	8	8%
#17	Children School Issues	"For issues with school for children you care for"	8	4%	8	8%

If we solve top 5 needs, address 50% of all unmet needs

Co-Occurrence (% of Top Row Variable)

	Health Insurance	Healthy Eating / Phys Activities	Money	Engaging in Enjoyable Activities	Transportation	Food	Legal	Applying for Public Benefits	Housing	Companionship	Safety	Budgeting	Employment or Training	Spiritual/Religious Support*	Treatment for MentHlth or SA	Child Care or Activities	Children School Issues
Respondents w/ unmet need	72	69	64	62	57	44	42	38	32	32	27	27	25	21	15	9	8
Health Insurance		51%	64%	50%	51%	55%	62%	76%	63%	56%	70%	59%	76%	48%	33%	56%	50%
Healthy Eating / Phys Activities	49%		53%	77%	47%	59%	60%	53%	44%	81%	56%	70%	52%	71%	67%	56%	50%
Money	57%	49%		48%	51%	68%	62%	71%	72%	66%	59%	67%	84%	48%	53%	89%	75%
Engaging in Enjoyable Activities	43%	70%	47%		51%	43%	62%	50%	38%	84%	56%	70%	36%	71%	67%	56%	50%
Transportation	40%	39%	45%	47%		55%	64%	66%	53%	69%	67%	52%	40%	52%	60%	78%	88%
Food	33%	38%	47%	31%	42%		31%	58%	56%	47%	41%	48%	52%	33%	40%	44%	38%
Legal	36%	36%	41%	42%	47%	30%		50%	31%	56%	56%	56%	52%	33%	53%	78%	88%
Applying for Public Benefits	40%	29%	42%	31%	44%	50%	45%		47%	41%	48%	48%	44%	43%	33%	44%	50%
Housing	28%	20%	36%	19%	30%	41%	24%	39%		38%	41%	33%	40%	33%	27%	33%	38%
Companionship	25%	38%	33%	44%	39%	34%	43%	34%	38%		41%	63%	28%	48%	60%	33%	25%
Safety	26%	22%	25%	24%	32%	25%	36%	34%	34%	34%		41%	24%	24%	40%	33%	63%
Budgeting	22%	28%	28%	31%	25%	30%	36%	34%	28%	53%	41%		20%	29%	47%	22%	25%
Employment or Training	26%	19%	33%	15%	18%	30%	31%	29%	31%	22%	22%	19%		10%	13%	67%	50%
Spiritual/Religious Support*	14%	22%	16%	24%	19%	16%	17%	24%	22%	31%	19%	22%	8%		33%	11%	13%
Treatment for MentHlth or SA	7%	14%	13%	16%	16%	14%	19%	13%	13%	28%	22%	26%	8%	24%		11%	13%
Child Care or Activities	7%	7%	13%	8%	12%	9%	17%	11%	9%	9%	11%	7%	24%	5%	7%		75%
Children School Issues	6%	6%	9%	6%	12%	7%	17%	11%	9%	6%	19%	7%	16%	5%	7%	67%	

Clusters: e.g., **Healthy Eating and Physical Activity** and **Engaging in Enjoyable Activities** (+ **Companionship**, 67% of persons with need for **Treatment for Mental Health or Substance Abuse**), Financial Cluster

Patient centered approaches: 1) build programming based on clusters, 2) mobilize CHW/SW to address needs jointly at patient level, 3) work to defragment social service support when possible when referral necessary

Changes in Unmet Needs over Time

- Outcome measure
  - e.g., compare changes in unmet needs (number, resolution, development) over time in C4P/CCP/SC (sample size still too small)

- Guidance for program design
  - e.g., development of new needs substantial so need monitoring

- Lessons about causes of unmet needs
  - e.g., persons with more unmet needs less likely to solve needs and more likely to develop new ones

Unmet Needs after 3 months				
		Unmet Needs at Baseline		
	Overall	< 2	2+	p-value
Needs Unmet at Baseline	45%	39%	46%	0.50
Needs Met at Baseline	8%	6%	11%	<0.05

ALP Design Process

- Iterative experimentation

- Faculty and Patient Advisory Groups

- Directly ask patients, esp. least engaged ones
  - "We are also developing new activities that we hope will enrich the lives people in our program and their families, and connect them with new people and experiences they may enjoy. We would love your ideas on what sort activities might interest you enough to attend them. Some suggestions we have gotten from others include.."

- Areas of Interest
  - Family friendly, opportunities to socialize, music / performance (theater, dance), story telling / narrative (life stories, photos), arts / crafts, sports (men), cooking (all)

- Barriers
  - Parking, busy, lack of family interest, psychological
  - *"Me. …I have an issue with overthinking things too much. The majority of times, I'm always in my head. I noticed it's pretty much like that when I'm to myself or alone. I really want to try and get help with that. Also, transportation might make it difficult."*

First Events

- Activities
  - Social/Arts Activities (e.g., cooking class, crafts, Bingo)
  - Social Determinants Lunch and Learns (e.g., transportation, financial planning)
- Participation
  - Up to 20% express interest in a specific event
  - 25-50% show rate (health, weather, transport)
  - Events during clinic day a help
  - Often bring family, friend, children (days off from school)
  - Building core of attendees
  - Positive feedback: enjoyed, learned, connected to others
- Continue iterative experimentation and wait for program to grow critical mass and CHWs to engage less engaged participants
  - ~20% of patients in C4P attended recent CCP BBQ

Sustainability

- Patient engagement
  - Identification of desired activities/services
  - Maximize convenience and social connection
  - Promote patient self-efficacy

- Use of community resources
  - UC, broader community, patients, neighbors, available social services (e.g., PACE)
  - Keeps costs low, promote integrated delivery by social service organizations (UChicago Civic Leadership Academy)

- Sustainable philanthropy
  - Multiple small donors, arts foundations
  - Micro philanthropy (grateful patients and families, friends of the program)

- Build business case to payers/health systems
  - Optimize use of existing resources (PACE, navigation)
  - RCT to show cost savings, efficiencies (no shows)
  - Compare to established care management programs (e.g., Partners/Ferris)

Thank You

- RWJF and other funders

- CCP clinical team

- Research team

- Hospitalists and UCM colleagues

- Community partners

- Patients and their families

Project Updates

go to: http://systemsforaction.org/projects/comprehensive-care-community-and-culture-program

Commentary

William Riley, PhD
Professor, School for the Science of
Health Care Delivery, College of Health
Solutions
Director of the National Safety Net
Advancement Center
Arizona State University
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Questions and Discussion

Webinar Archives

http://systemsforaction.org/research-progress-webinars

Upcoming Webinars

Wednesday, October 18, 12-1pm ET/ 9-10am PT

FINANCING AND SERVICE DELIVERY INTEGRATION FOR MENTAL ILLNESS & SUBSTANCE ABUSE
William Riley, PhD, College of Health Solutions, and Michael Shafer, PhD, College of Public Service and Community Solutions, Arizona State University

Thursday, November 2, 12-1pm ET/ 9-10am PT

**TESTING A COMMUNITY COMPLEX CARE RESPONSE TEAM TO IMPROVE GERIATRIC PUBLIC HEALTH OUTCOMES**
Carolyn E. Ziminski Pickering, PhD, MSN, BSN, University of Texas Health Science Center, San Antonio; and Christopher Maxwell, PhD, School of Criminal Justice, Michigan State University

Wednesday, November 15, 12-1pm ET/ 9-10am PT

IMPLEMENTING A CULTURE OF HEALTH AMONG DELAWARE'S PROBATION POPULATION
Daniel J. O'Connell, PhD, and Christy Visher, PhD, Department of Criminal Justice, Center for Drug & Health Studies, University of Delaware

Thank you for participating in today's webinar!
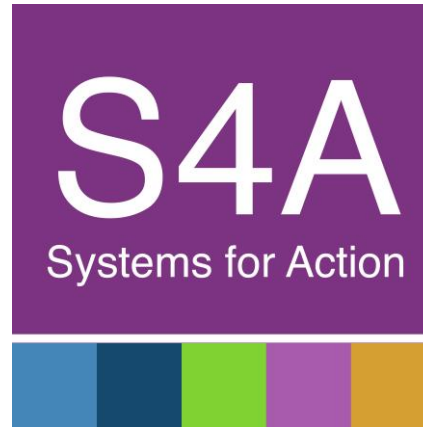
For more information about the webinars, contact:

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Speaker Bios

David Meltzer, MD, PhD, is Chief of the Section of Hospital Medicine, Director of the Center for Health and the Social Sciences and the U. Chicago Urban Health Lab, and Chair of the Committee on Clinical and Translational Science (CTSA) at The University of Chicago (UC). He is also the Fanny L. Pritzker Professor in the Department of Medicine, the Harris School of Public Policy Studies and the Department of Economics at UC. Dr. Meltzer's research explores problems in health economics and public policy with a focus on the theoretical foundations of medical cost-effectiveness analysis and the cost and quality of hospital care. His work on the effects of improved continuity in the doctor-patient relationship between the inpatient and outpatient settings on Medicare patient costs and outcomes led to the creation of the Comprehensive Care, Community, and Culture Program (C4P), which addresses social determinants of health within a coordinated care model. He helps lead a CTSA-funded Chicago learning research network and a PCORI-funded Chicago area patient centered outcomes research project. He also has received numerous research and mentoring awards and is a member of the National Academy of Medicine.

Dr. William Riley, PhD, is a Professor in the School for the Science of Health Care Delivery at Arizona State University, where he teaches process engineering, health finance, and health care quality and safety design. He previously served as the Associate Dean for the School of Public Health at the University of Minnesota and currently serves as the Director of the National Safety Net Advancement Center. Dr. Riley brings 25 years of senior executive experience in health care organizations, including serving as President and CEO of Pacific Medical Center in Seattle, Washington; CEO of Aspen Medical Group in St. Paul, Minnesota; Senior Vice President at Blue Cross Blue Shield of Minnesota in St. Paul; and Senior Vice President of St. Paul-Ramsey Medical Center/Ramsey Clinic. Dr. Riley is the author of more than 60 articles related to quality management, patient safety and health care management, has co-authored two books on performance improvement in health care, and is a past chair of the Public Health Accreditation Board.