

# TEAMS IN CANCER CARE

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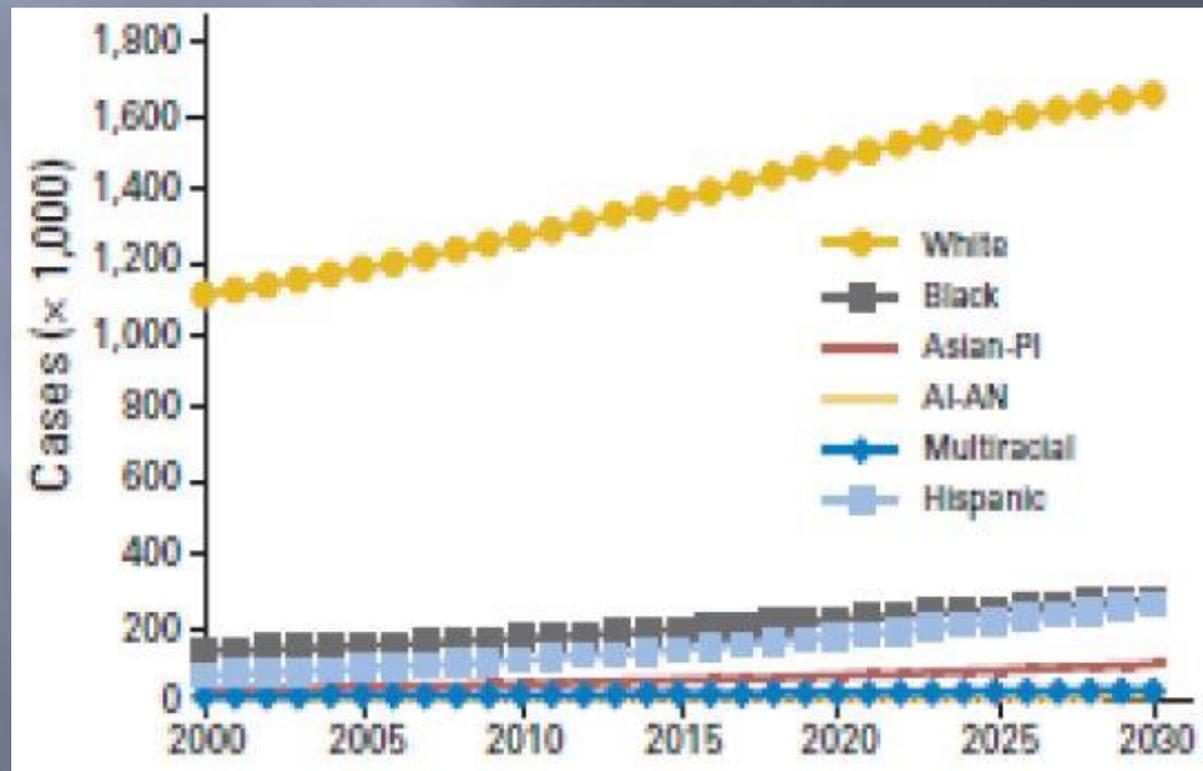


# Goals

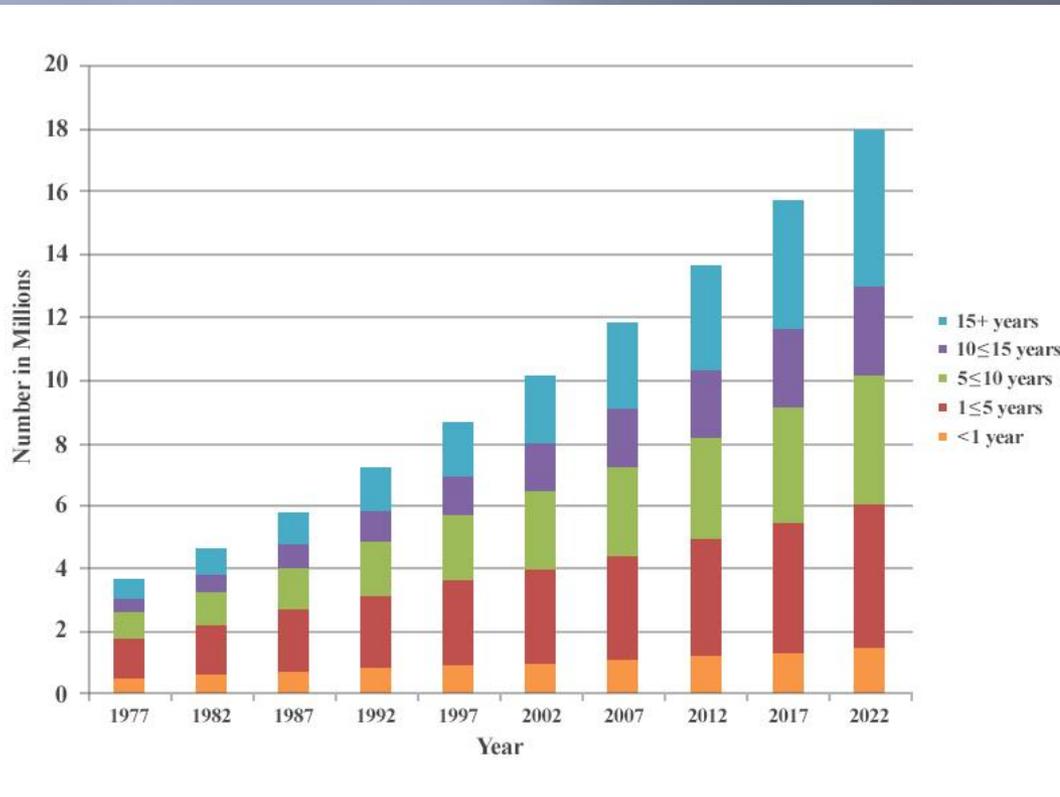
- To articulate the challenges and opportunities in cancer care
- To review the multilevel context of care
  - Individuals, groups, organizations, communities – a conceptual model
- To move beyond the rhetoric about teamwork and consider necessary research

# We live in challenging & exciting times in cancer care

- The burden of cancer is growing



# The population of survivors is growing



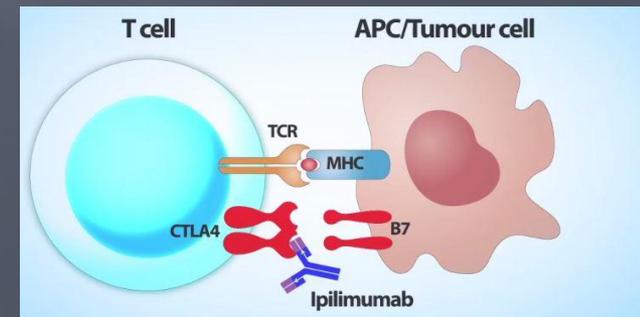
- Because of aging and the technical success of screening and treatment
- Forcing a reappraisal of how we deliver care
- Creating a constituency who are advocating for their care

# And there are new exciting therapies

- ▣ FDA approved 10 new drugs in 2014
- ▣ There are 771 new therapies in the pipeline
- ▣ Precision medicine is a major NIH focus

# The new therapies build on our expanding understanding ...

- ▣ Adoptive cellular immunotherapy
  - Isolation of lymphocytes with high affinity for tumor antigen
  - Patient preparation by total body irradiation or chemotherapy
    - ▣ 3 trials in patients with metastatic melanoma
      - 49,52,73% regression respectively
      - Chemo alone, Chemo  $\pm$  radiation
- ▣ Genetic modification of T cells
- ▣ Combinations
  - Cancer vaccines to generate TIL
  - Immune checkpoint blockade



# But there is a disquieting other side to cancer care



# And what do they say?

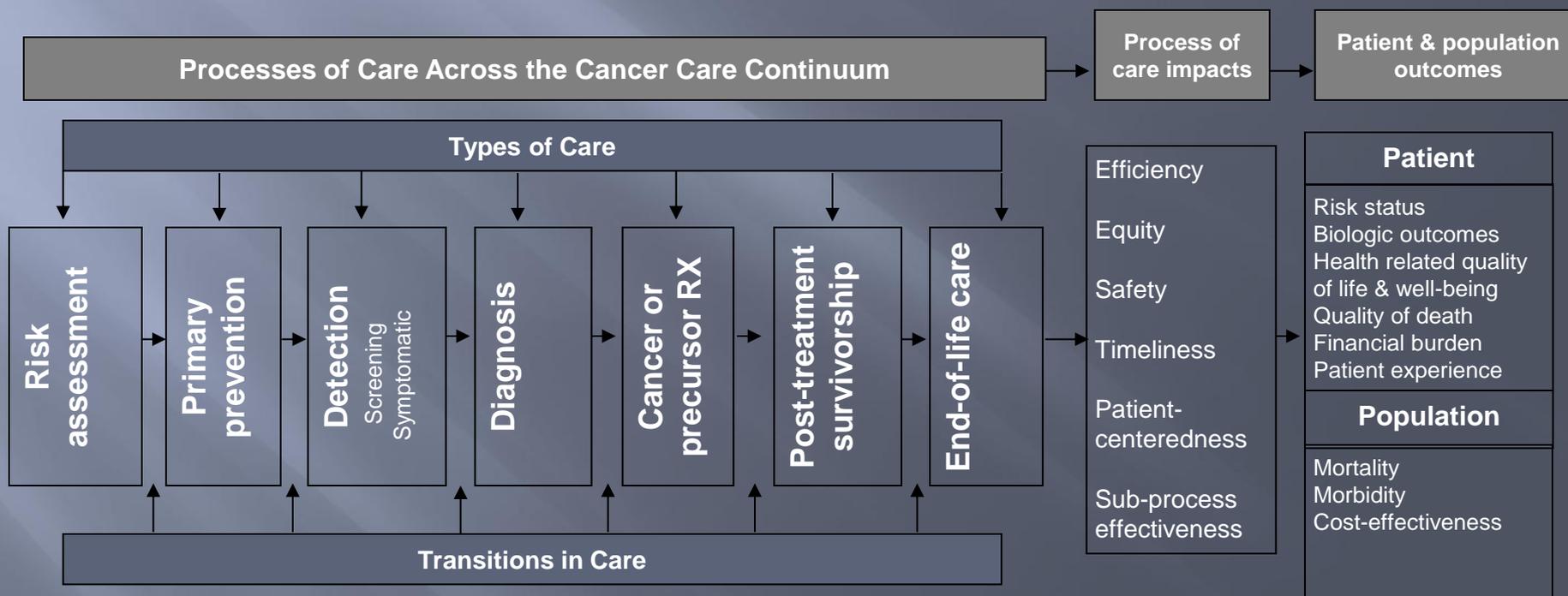
- 1999: “...For many Americans with cancer, there is a wide gulf between what could be construed as the ideal and the reality of their experience with cancer care”

.....and 14 years later

2013: There is a large gap between what we know and what we do ....we have a system in crisis

# Part of the challenges is that care is a complex process

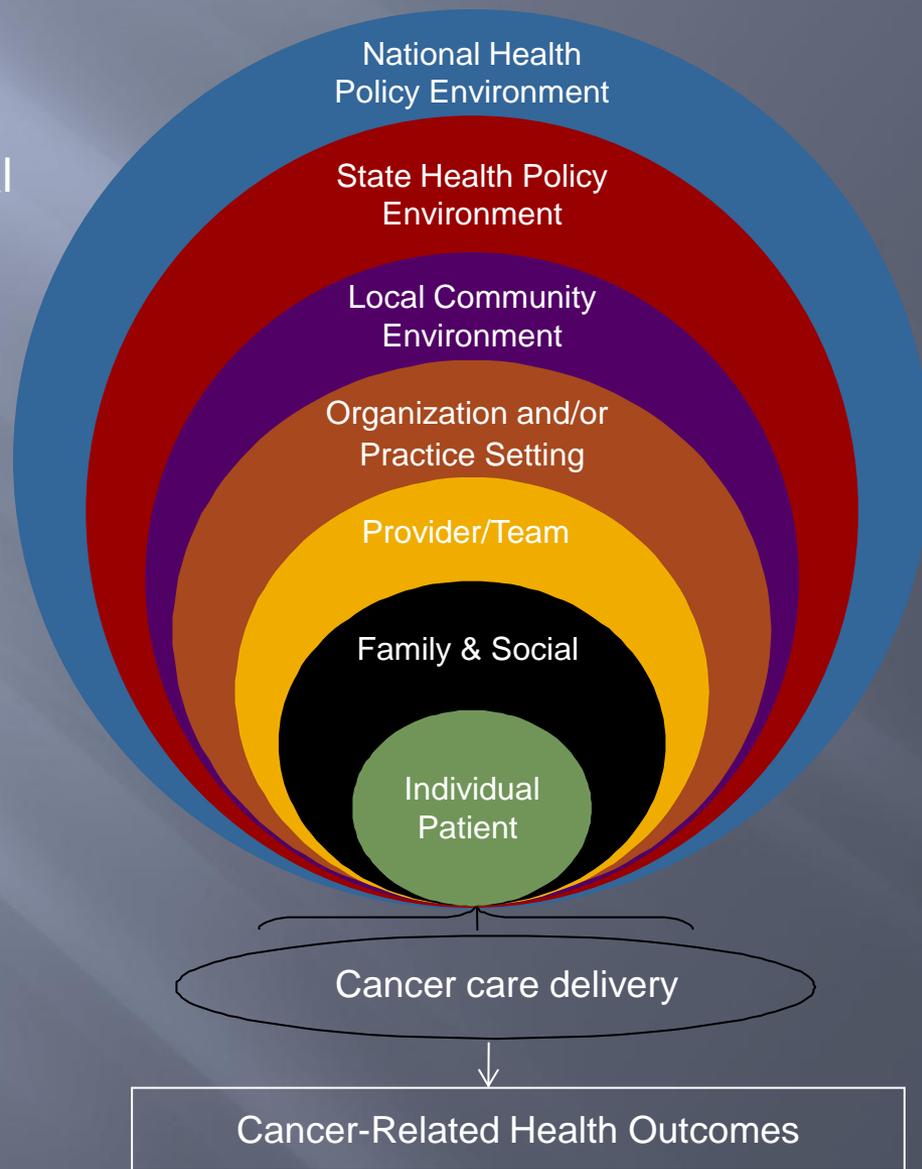
- ▣ Opportunities for action are immense...



Each type and transition in care offers opportunities for improvement. Some have been identified in the figure, but within and between types of care there are interfaces and steps which may be articulated to identify more opportunities.

# And this care occurs in a multilevel context

A set of bidirectional interactions



# Factors at each level affect the other levels and care delivery

## Local Community

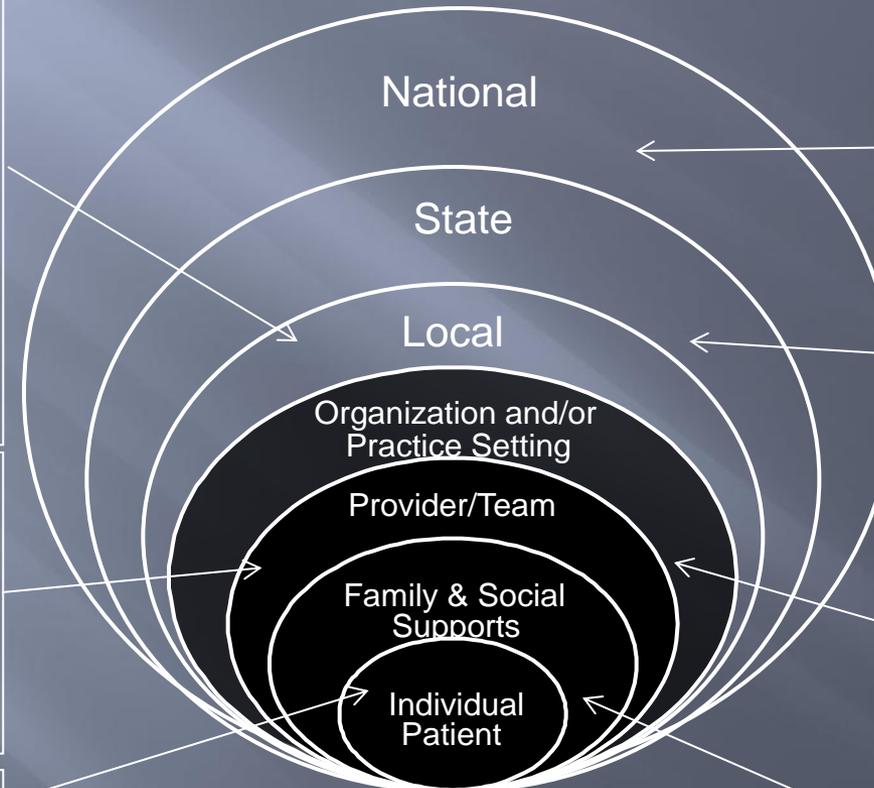
Community Level Resources  
 Medical care offerings  
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 Specialty mix  
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 MD practice organizations  
 Use of guidelines  
 Practice patterns

## Provider / Team

Knowledge, communication skills  
 Perceived barriers, norms, test efficacy  
 Cultural competency  
 Staffing mix & turnover  
 Role definition  
 Teamwork

## Individual Patient

Biological factors  
 Socio-demographics  
 Insurance coverage  
 Risk status  
 Co-morbidities  
 Knowledge, attitudes, beliefs  
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 Psychological reaction/coping



## National

Policy – Affordable Care Act  
 Structure – Financial, Political  
 Culture - Expectations

## State

Policy - Medicaid  
 Structure - Provider Mix  
 Culture  
 advocacy groups  
 attitude/expectations

## Organization / Practice Setting

Leadership  
 Organizational structure, policies & incentives  
 Delivery system design  
 Clinical decision support  
 Clinical information systems  
 Patient education & navigation

## Family / Social Supports

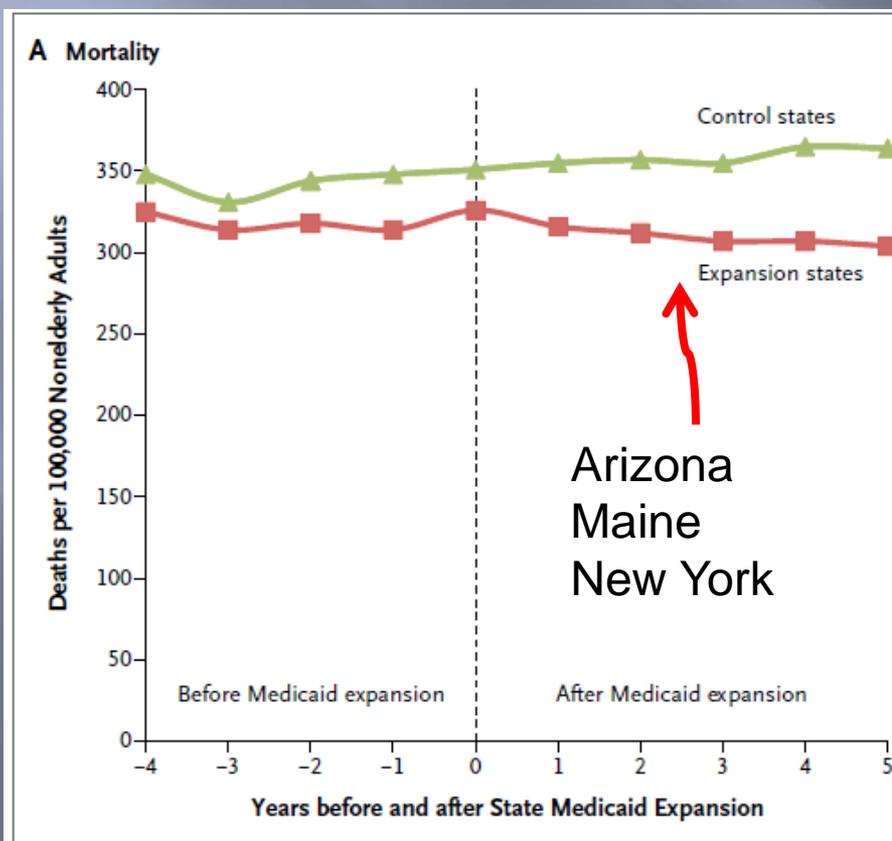
Family dynamics  
 Friends, network support

Improved Quality of Cancer Care

Improved Cancer-Related Health Outcomes

# Levels affect each other....

- ▣ Federal Policy affects State Policy
- ▣ Sommers et al – Pre/Post



- Controls from the surrounding states without expansion

- -19.6% mortality in expansion state

- Relative reduction 6%  
P= 0.001,

Sommers et al NEJM 2012

# State leadership affects communities

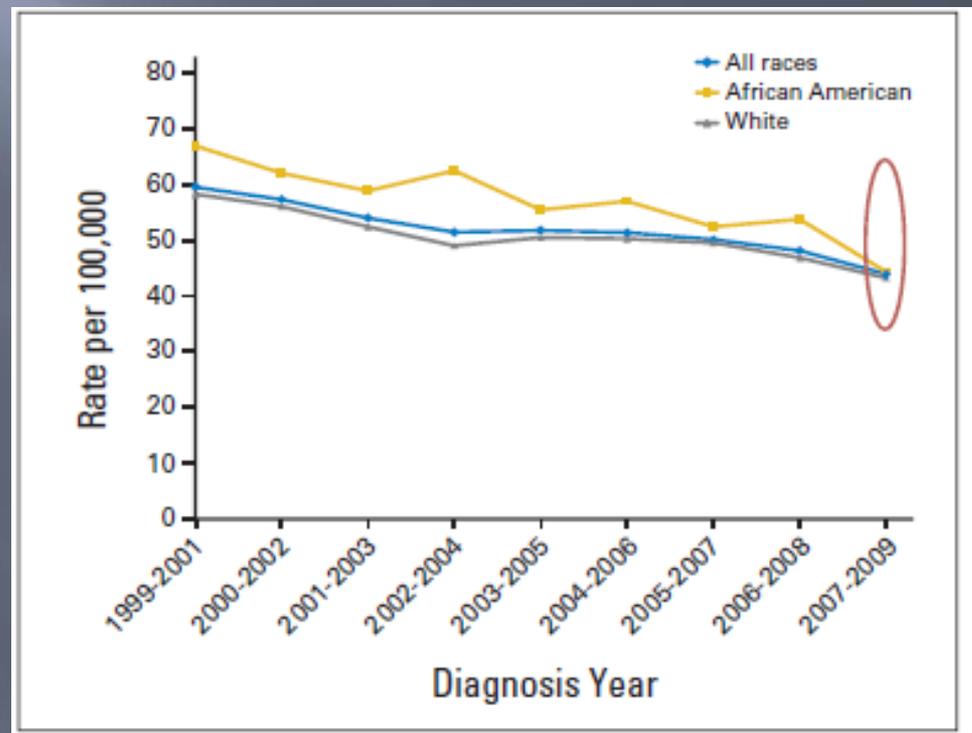
## ▣ Delaware initiative to reduce disparities in colorectal cancer mortality

- Governor's initiates Cancer Control Program – 2001

- Funded CRC screening & treatment for uninsured

- Emphasized reaching African Americans

	2002	2009
Caucasian	57%	74%
African American	48%	74%



# Communities affect organizations

- ▣ Organizations needed to align to distribute follow-up evaluations
  - Follow-up to abnormal FOBT/FIT screening eventually became covered in Delaware

# Organizations affect teams

- ▣ Single greatest predictor of a reduction in medication errors when teams are trained
  - The culture of the organization
    - ▣ Leadership support
    - ▣ Expectations of safety and open communication

Delivering High-Quality Cancer Care: Charting a New Course for a system in Crisis, pge 256



# But do teams affect care?

- ▣ There has been talk of teams in healthcare since the early 1900s when medicine began spawning specialization
  - Teams addressed the challenge of mastering the knowledge base
- ▣ Affordable Care Act
  - Establishes that organizations can create Patient Centered Medical Home teams for evaluation
- ▣ “Despite the pervasiveness of people working together in health care, the explicit uptake of interprofessional team-based care has been limited” – Mitchell et al 2012

# What *is* a team?

- ▣ Teams defined in organizations
  - Two or more individuals who share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units.

# The medical care challenge lends itself to team work

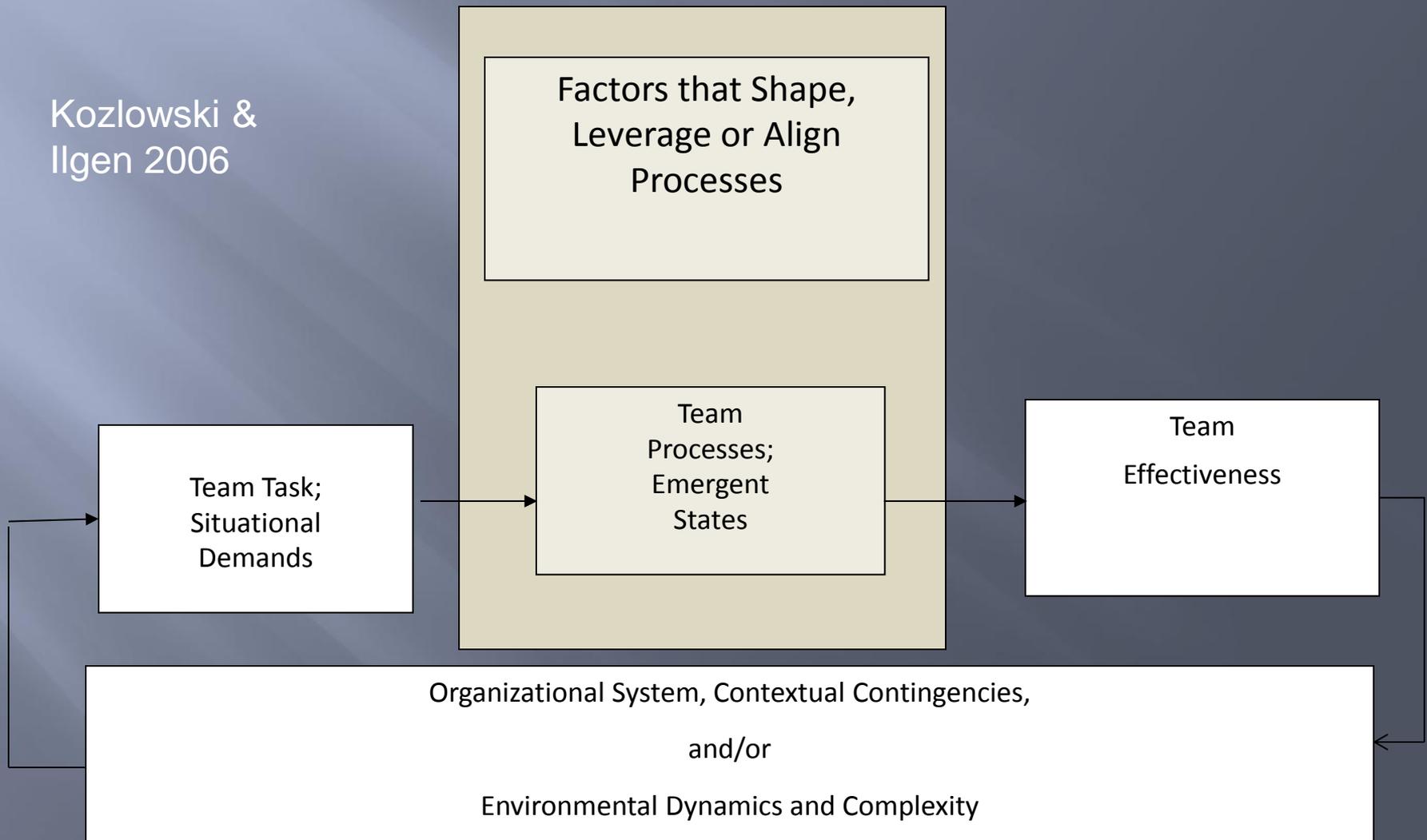
- ▣ Massive amount of information
- ▣ Extensive differentiation of tasks and technical expertise
  - Reception, measurement, treatment
  - Billing
  - Laboratory
  - Medical records
- ▣ A group that can share the work and the knowledge will have an advantage
  - But teams are much stronger in concept than in practice.

# Problems with team work

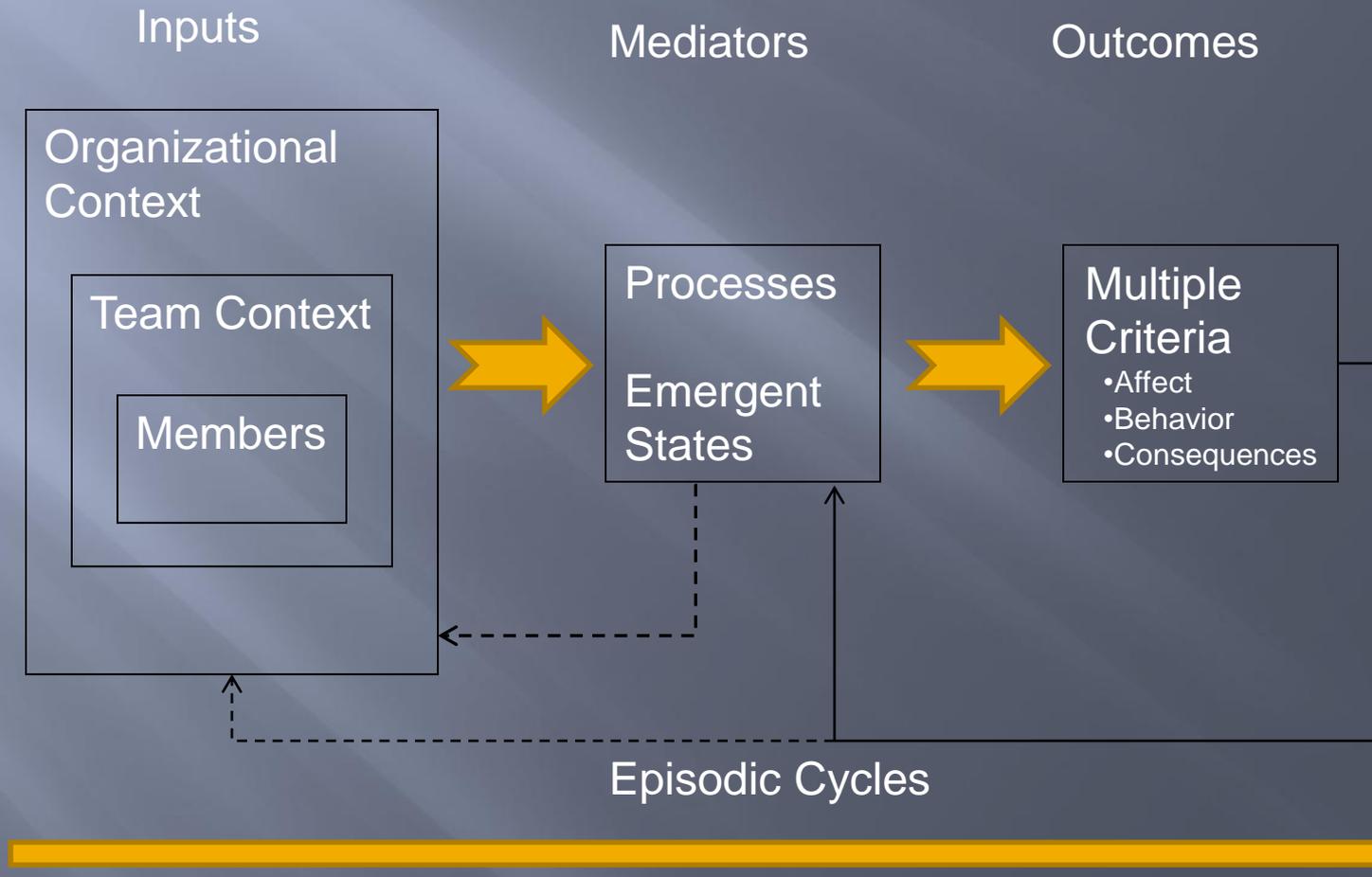
- ▣ Independent training, traditions, and development
- ▣ Individual incentives and reimbursement
  - Time pressure
  - Productivity pressure
- ▣ A US culture of individualism
  - The sacred dyad: me and my physician
- ▣ Despite this background there is lots of talk of teams

# Kozlowski's team conceptualization

Kozlowski &  
Ilgen 2006



# There are other conceptualizations....



# Measurement of effectiveness

- ▣ Three principal approaches (West)
  - **System resource**
    - ▣ Quality of staff
    - ▣ Costs of work
    - ▣ Resource consumption
  - **Internal process**
    - ▣ Health of the team?
      - (spirit, confidence, trust, innovativeness)
  - **Goal approach**
    - ▣ Profitability
    - ▣ Numbers of patients seen
    - ▣ Quality of service
    - ▣ Quality of care (?)

# Most work on teams has been done outside of medicine

- ▣ Cotton – 1993
  - Studies of teams working on productivity, satisfaction, absenteeism – 57 improved, 7 no change, 5 report productivity declines
- ▣ Cohen et al– 1997
  - 82% of companies with >100 employees use teams
  - Review 54 articles – proposes emergent states exist –
  - Curvilinear relationship between size and productivity
  - 4 team types – work, parallel, project, management

# Several Summaries exist in medicine

- ▣ West – 2002
  - How can we work most effectively in teams
  - How can we manage organizations so that team based working contributes optimally to organizational effectiveness?
- ▣ Lemieux –Charles 2006
- ▣ Manser 2009
- ▣ Bosch 2009

# West et al from the Uk

- ▣ The question is not whether teams work but how to help them do the best possible work?
  - In medical care
    - ▣ Groups begin in primary care
      - MD, Rn, LPn, lab, medical records, receptionist
    - ▣ Groups exist in every setting
      - Radiology
      - Surgery
      - Oncology
    - ▣ On the hospital wards, in the outpatient setting

# Lemieux-Charles 2006

- ▣ Reviewed literature from 1985-2004
  - Included only those with comparison group
    - ▣ 1,975 ► 33 studies, (12 intervention studies)
      - care delivery teams (n=29)
      - project teams (n=4)
- ▣ Found 3 approaches to studying teams
  - Experimental/quasi experimental design
  - Experimental/quasi experimental team redesign
  - Field studies
- ▣ Concluded:
  - Some evidence: ↑ clinical outcomes, pt satisfaction
  - Not clear how interventions led to effects
  - Need studies of mechanisms, leadership, effect of changing membership, interaction with organization

# Manser 2009...

- ▣ Review of 101 studies of interdisciplinary collaboration to examine whether they reduce occurrence of adverse events
  - ▣ Operating rooms, emergency rooms, Intensive care
  - ▣ Trauma, resuscitation teams
- ▣ Conclude
  - Staff perceptions of team work and safety-relevant work is associated with patient safety
  - Studies of critical incidents often show team failures
    - ▣ Communication/hierarchy
  - Little work in health care evaluating the association between emergent states and outcomes

# *Bosch et al 2009*

- ▣ Mixed evidence of benefit
  - Review 1990-2008 literature
  - 118 abstracts (from 6,807) ► 26 articles
    - ▣ 43% of studies in inpatient settings
  - Two major types of studies
    - ▣ ↑ expertise (e.g. Pharmacist, endocrinologist, psychiatrist)
    - ▣ ↑ coordination (e.g. adding a coordinator, enhancing communication and coordination infrastructure)
- ▣ Concluded
  - Teams with ↑ expertise =► ↑ process, ± pt outcomes
  - Teams with ↑ coordination =► ↑ pt outcomes  
± costs & resource use

# Evaluating the Patient Centered Medical Home

- ▣ Organizations were expecting increased productivity – 2002
  - Running faster wasn't working at GHC
    - ▣ Retirements & discord among medical staff

# Reid et al

- Background – advanced access, email, “productivity” burnout 2002-2004
- Implemented Patient Centered Medical Home 2006 – Intervention + 2 usual care controls
  - Downsized panel 2300  1800
  - Created teams – RNs, LPNs, pharmacists
    - Daily huddles
    - Short all-team planning meeting daily
    - Visual displays to identify and track issues
    - email

# Results from Ambulatory Care Experiences Survey

	Ambulatory care differences				
	QI	SDM	CC	AC	HO
12 m vs Baseline	2.3***	2.93**	3.32***	3.71***	1.1
24 m vs Baseline	1.6*	1.03	3.06**	2.84***	1.14
	*P<0.05	**P<0.01	***P<0.001		

QI = doctor-patient interaction

SDM = shared decision making

CC = coordination of care

AC = access to care

HO = helpfulness of staff

1,232 Intervention respondents,  
2,121 control respondents

# Taplin et al 2015: Teams in cancer care

- ▣ PubMed, Scopus/ABI/Inform complete, Embase – search for pubs 8/2009 – 8/2015
  - 8,058 articles mentioning team-based approaches
    - ▣ 459 discussing teams in cancer care
      - 56 with team care evaluated
        - 16 with team care compared to control care
- ▣ Included studies (n=16):
  - 2 – screening & dx
  - 11 – Multidisciplinary care teams
  - 2 – Palliative care
  - 1 – End of life care

# Results

## ▣ Designs

- Time series (n=4)
- RCT (n=1)
- Contemporaneous comparison (n=10)
- Pre/post intervention (n=1)

## ▣ Endpoints used

- Adherence to quality indicators (n =10)
- Satisfaction with care experience (n= 1)
- Quality of life (n=2)
- Mortality (n=3)

# Results (continued)

- ▣ Team composition varied
  - Primary-care led with LPN, RN, & desk clerks
  - MDTs (oncology, pathology, radiology, surgery)
  - Pharmacist led teams including MD, Rn
- ▣ Increased guideline adherence to screening
- ▣ Improved timeliness of follow-up to abnormal
- ▣ MDT – improved pre-op assessment, therapy planning, adherence to meds (1 study – pharmacist)
- ▣ Little if any information on how/why

# Team training is occurring

- ▣ TeamSTEPPS
  - AHRQ – James Battles PhD
- ▣ Mann & Marcus 2006 – inpatient obstetrics
  - Baseline 1999-2001, 2002 intervention, 2003-2007
  - Adverse Outcomes Index fell from 5.9% to 4.6%
- ▣ Neily et al 2010 – training of surgical teams
  - 74 Va facilities
  - 18% reduction in surgical mortality
- ▣ Salas E
  - Teams must be the right solution
  - Organizations must support the teams and change their culture

# Some areas of work needed

- ▣ Under what conditions are teams the solution
  - Oncologic care? Primary Care?
    - ▣ For what activities – task specification
  - Organizational characteristics
- ▣ How do teams work?
  - Relationship between team characteristics (emergent states, mental models etc.) and outcomes
  - Role and function of leadership
  - Effect of changing membership
- ▣ Teams in *cancer care*
  - *What are the critical characteristics of multidisciplinary cancer care teams – Tumor boards*

# Conclusion

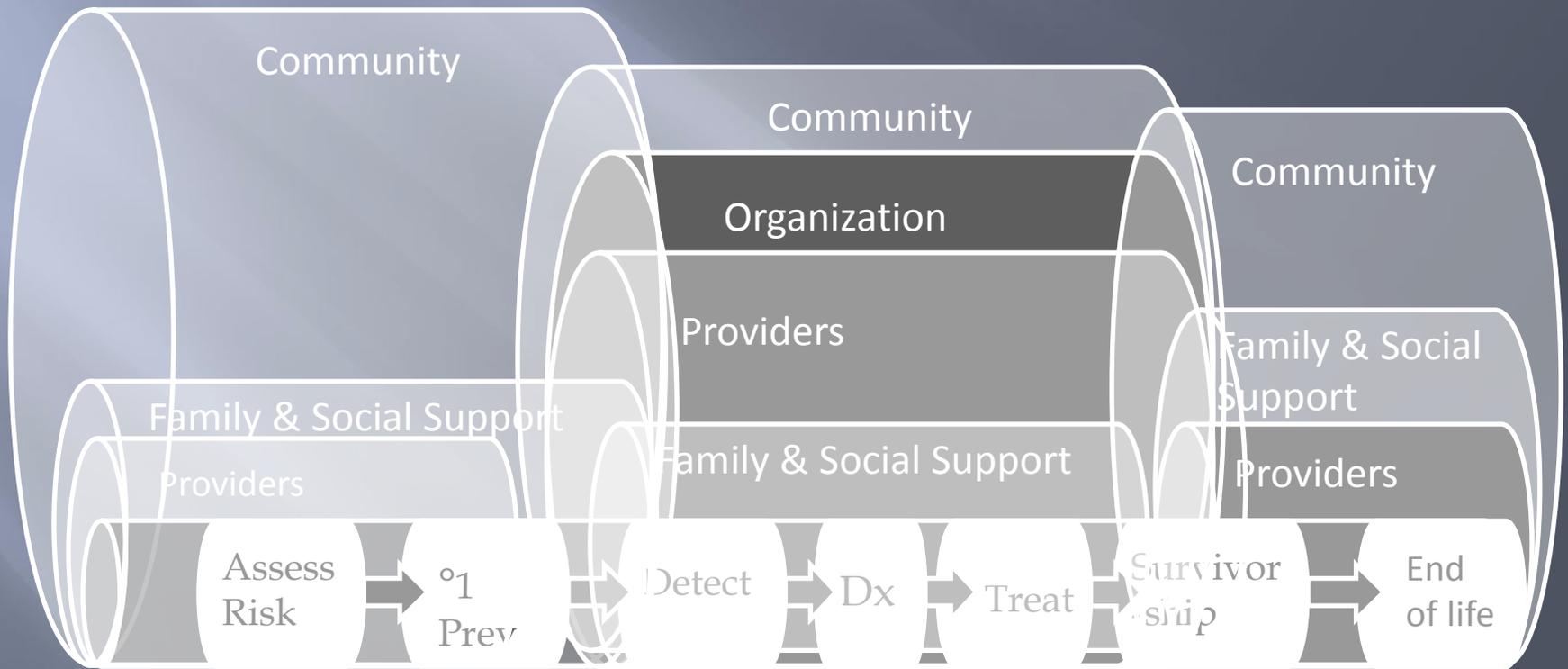
- ▣ We have a care system that knows what to do
  - It struggles with how best to do it
- ▣ We need to examine how the context of care links to the process of care
  - Community, organizational, and team effects
- ▣ We can learn lessons from team studies outside medicine
- ▣ We need to thinking about and practicing teamwork

# End

- ▣ My colleague Jane Zapka PhD has been critical to the development of the perspective presented here, though many others have contributed as well.



# It's complicated because the effects may vary across the continuum



# In cancer care we need to think beyond the primary care/specialty divide

- Earle et al 2004
  - 14,884 5-year survivors of CRC cancer
    - Compared to matched controls in Medicare
    - Cancer survivorship was associated with less likelihood of getting necessary care
  - 44 quality of care indicators
- Pts cared for by Oncologists alone
  - Less preventive eye exams among diabetics
  - Less intensive tracking of HgA1c
  - Less Recommended f/u for angina, CHF, COPD
- Pts cared for by 1<sup>o</sup> Care and Specialty
  - Increased preventive care
  - Less cancer surveillance

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