Dynamic

Diabetes Nurse Case Management & Motivational Interviewing for Change

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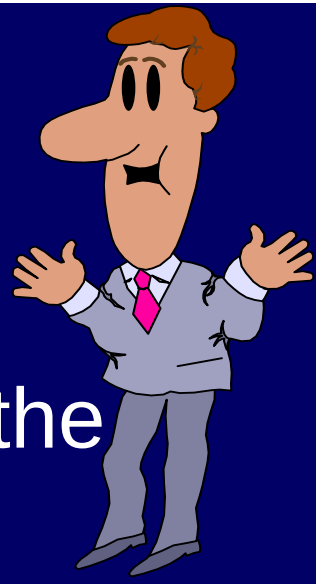
Evidence based interventions to reduce morbidly and mortality in DM

- HbA1C < 7
- BP < 130/80
- LDL cholesterol < 100
- Aspirin
- Yearly screen for nephropathy, feet, and eye exams
- ACE inhibitors

Current Diabetes Care in US



- Mean HbA1c level did not change in the last decade
  - 20.6 % still have A1C > 9.0
  - Only 42% at goal A1C < 7
- Only 7 % at goal for A1C, LDL, and BP

Improvement in diabetes processes of care and intermediate outcomes: US, 1988-2002
Ann Intern Med, 2006

- We are not doing well !
- Its not getting better!
- Despite AMAZING new tools and scientific research in last decade

Translational Research

- Phase I (bench-to-bedside) applying basic scientific discoveries to human health care under controlled conditions, i.e., clinical research

- Phase II promotes the adoption of promising clinical research by community based health care systems under uncontrolled and often uncontrollable conditions

Information Dissemination

- Useful and essential first step in Phase II translation BUT . . .
  - Produce only vague awareness of the new science
  - Does not address conditions and circumstances of the target audiences

AWARENESS $\neq$ ADOPTION

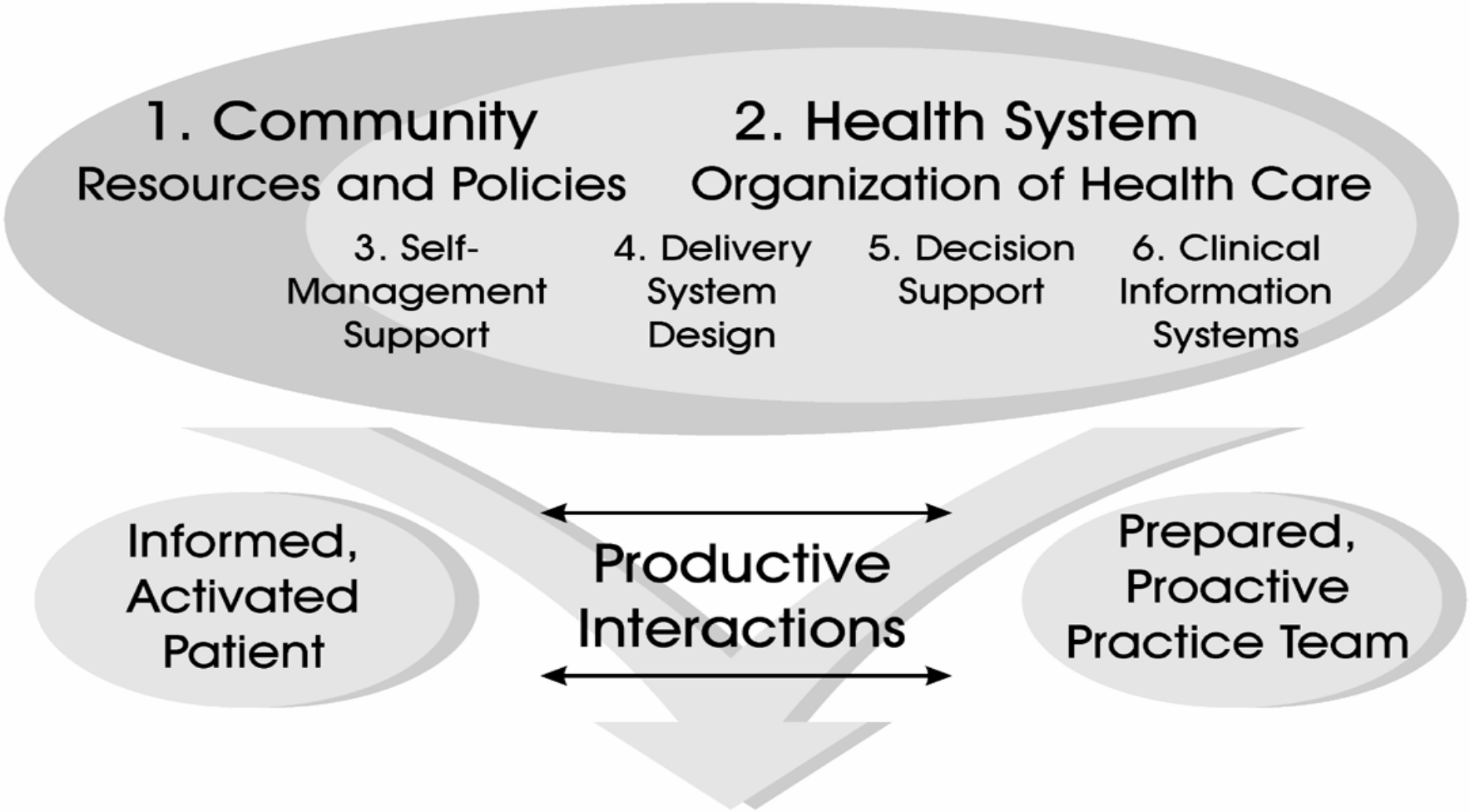
Efficacy vs. Effectiveness

- Efficacy – test impact of an intervention under highly controlled conditions

- Effectiveness – test impact of intervention under more normal circumstances (relatively uncontrolled, real time, “typical” setting, population and conditions

A Better System for Chronic Care

Overview of the Chronic Care Model



How to improve DM care: Where's the evidence

- Self-management support
- Delivery system design
  - Disease management
  - Nurse Case Management
- Decision support
  - Physician education
  - Guidelines
- Clinical Information systems

Interventions to Improve the Management of Diabetes in Primary Care, Outpatient, and Community Settings

A systematic review

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Cochrane Group Review (2001)

- Provider education
  - improved process measures
- Best results*
  - expansion of nurse role
  - Increase patient self- management

*JAMA 2005

The Quality Chasm

- Clinical Inertia
- System problems
- Adherence/ Compliance and Behavior Change and bad patients?
  - Reframing the question!

Barriers for Physicians

- Insufficient physician time
- Strategies to improve adherence
- Physicians limited adherence to guidelines

Nurse Case Management (NCM)

- Can spend more time - less costly
- Background and training in compliance, counseling, psychosocial
- Implement guidelines

Our Hypothesis:
The addition of enhanced NCM to PCP care will improve outcomes for pts with type 2 diabetes over a 3 year period


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DYNAMIC Approach

- Patient-centered
- Active involvement of the patient
- Empowerment
- Self-management
- Prompting Physicians –clinical inertia

Specific Aims

- Aim 1 - Effect on clinical parameters
- Aim 2 - QOL, pt satisfaction, self-management behavior, provider satisfaction
- Aim 3 - cost effectiveness
- Aim 4 - generalizability

Pilot Study

- RCT in 2 clinics (Fishburn and Cherry Drive) with nurse (Mary Collins)
- All DM pts included :
- n =150 nurse, n= 182 usual care
- Loose guidelines, not really structured

Results

- NCM improves BP results
- No change in A1C or LDL [but close to goal at baseline]
- Decrease in emotional distress [PAID]
- Improved screening rates (process measures)

Lessons from Preliminary Data

- Focus on high risk pts:
- HbA1C > 8.5, LDL > 130, or BP > 140/90
- Can we reproduce our results (clone Mary?)
  - Structured program
- Any other ways to ensure adherence of pts, change their behavior?

Challenges of Behavior Adherence

- Daily self-care behavior critical
- Clinician counseling style key to success
- Current system:
  - patient is passive recipient of “advice giving”
- Promotes passive, uninvolved pt
- Lack of agreement between pt and clinician
  - differing importance
  - confidence that change is possible

Motivational Interviewing

- First developed by Miller and Rollnick- addiction Rx
- Patient-centered
- Directive
- Reduces ambivalence and resistance to change
- Provides structure to the discussion of behavior change (it's teachable!)

Motivational Interviewing

- Ask permission
- Listening skills
  - Open ended questions
  - Pt does the talking
  - Provider is ‘curious’
  - Provider summarizes with gentle direction

DYNAMIC Design

- RCT- Usual care vs. nurse case management with MI
- High-risk patients (HbA1C >8.5, BP >140/90, or LDL >130)
- 5 year study – 3 year trial
- 6 Hershey primary care clinics and 3 Reading underserved Hispanic clinics
- Penn State Ambulatory Care Research Network
- HMC = 600 pts, Reading = 220 pts
- Rx glucose, lipids, BP, depression

DYNAMIC Nurses

- Motivational interviewing
- Diabetes self-management education
- Tracking patient outcomes
- Standing orders for process measures
- Utilize guidelines to prompt physicians
- Individualize patient follow-up
- Co-morbities managed- A1C, LDL, BP, depression

DYNAMIC Nurses

- Initial training - clinical guidelines, motivational interviewing technique- everything you need to know?
- Well documented curriculum (video)
- Consistent care based on consistent training program!

Specific Aim 2: Measurement Tools

- PAID - emotional distress
- Diabetes specific QOL (ADD-QOL)
- Patient satisfaction (DTSQ)
- Summary of diabetes self-care activities
- Provider satisfaction (Mayo)
- Penn State Survey Institute

Specific Aim 3:
Cost Analysis

- From perspective of society and payer
- use data from State database for inpt costs, abstract medications from charts, billing systems, utility measure
- Try to use models to extrapolate to (Quality adjusted life years) QALY

Interventions

1. NCM
2. Usual care

Mediators

Change in Self-Care Behavior (SbSCA)

1. Diet
2. Exercise
3. Home glucose monitoring
4. Medication Adherence

Change in Emotional Distress (PAID)

Change in: medication treatment for glucoses, lipids, BP, depression; complication screening

Outcomes

<u>Primary outcomes</u>

% at goal for:

HbA1C, LDL , BP

<u>Secondary Outcomes</u>

Weight

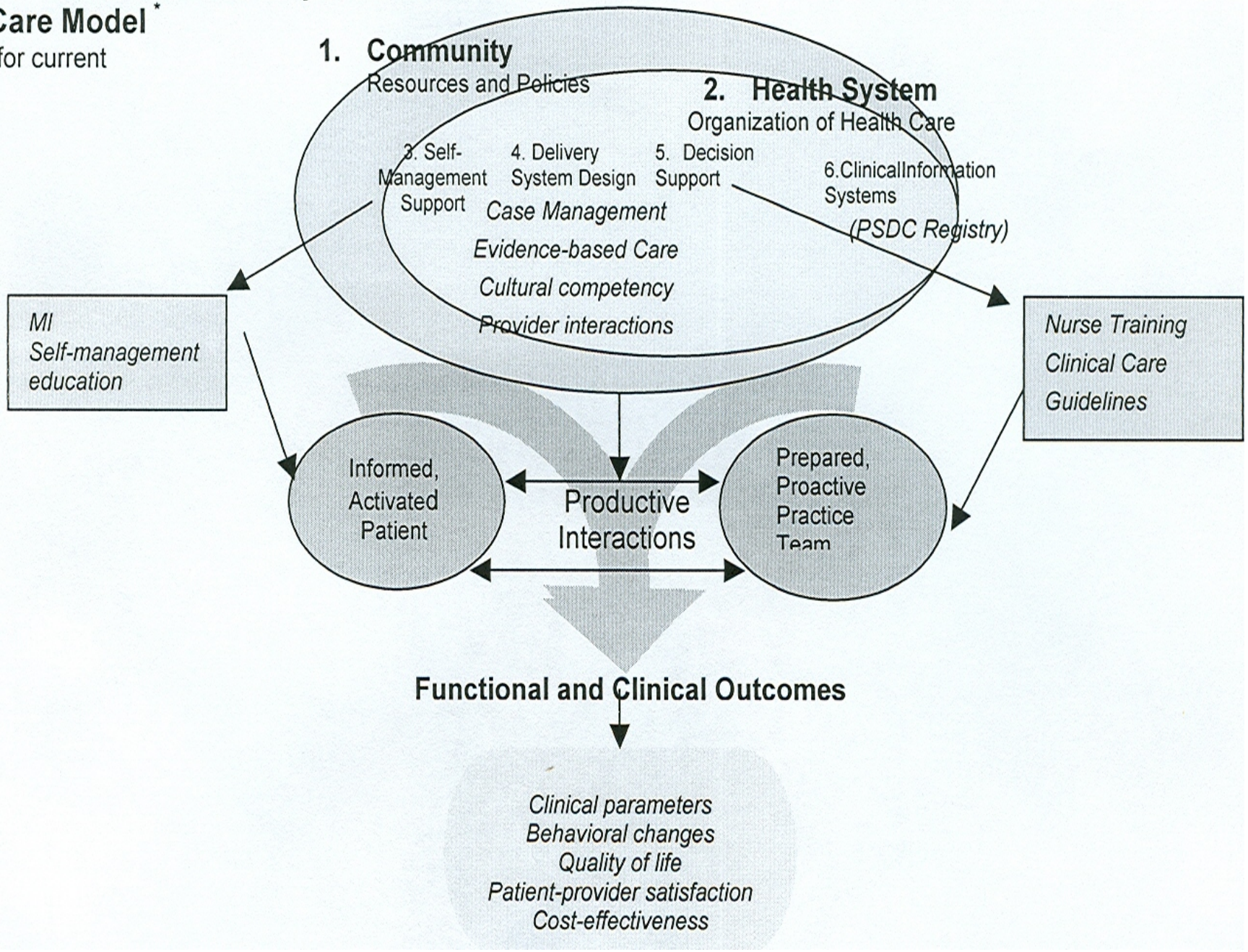
Complication screening

QOL (ADD QOL) Pt satisfaction (DTSQ) Physician satisfaction

Cost effectiveness

Figure 1. Overview of the Components of the Chronic Care Model *

As adapted for current



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