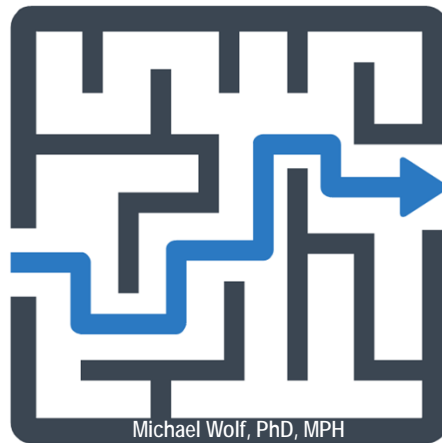Promoting Health Literacy

In Older Adults

Michael Wolf, PhD, MPH
Professor, Medicine & Learning Sciences
Associate Vice Chair, Department of Medicine
Associate Division Chief, General Internal Medicine & Geriatrics
Director, Health Literacy & Learning Program (HeLP)
Northwestern University
Chicago, IL USA

Overview

1. Health Literacy: A Few Basic (but important) Assumptions

2. Challenges of a Rapidly Aging America

3. Making it Simple: A **Health Literacy** Research Agenda

4. …But Significant: A **Healthcare Activation** Research Agenda

5. Advancing Health Literacy among Older Adults

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Since 2004

NORTHWESTERN UNIVERSITY
HeLP
Health Literacy & Learning Program

Design of **effective**, **scalable**, **health system-based** strategies
to promote patient self-management

NV Northwestern Medicine®
Feinberg School of Medicine

★ Department of Medicine
   - Division of General Internal Medicine & Geriatrics
▪ Department of Surgery
▪ Department of Medical Social Sciences
▪ Department of Psychiatry & Behavioral Sciences
   - Clinical Psychology PhD Program

Northwestern
SCHOOL OF **EDUCATION AND SOCIAL POLICY**

Northwestern
SCHOOL OF **COMMUNICATION**

Northwestern
McCORMICK SCHOOL OF **ENGINEERING**

Confluence of 2 Age-related Problems

Body		Mind

Body

80% of adults over 65 live with ≥2 chronic conditions (vs. 18%; 18-44 years)
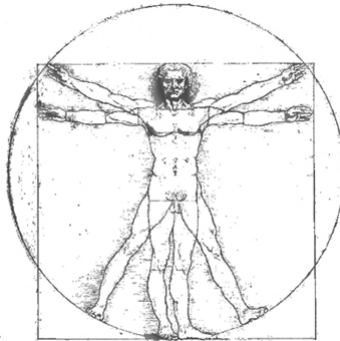
Mind

'Fluid' cognitive abilities necessary for self-care are known to decline with increased age.

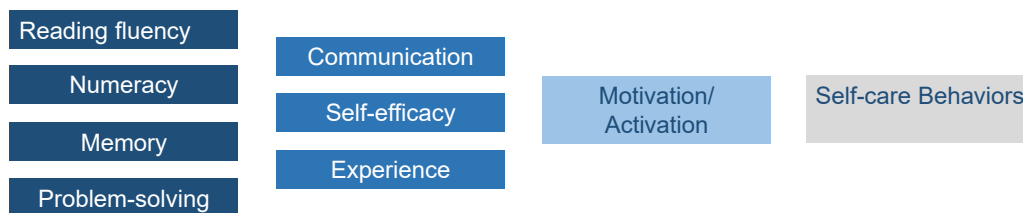↑ **Healthcare Demands**   ↓ **Self-care Skills**

Assumptions

1. A person's cognitive skills are a major determinant of health literacy skills
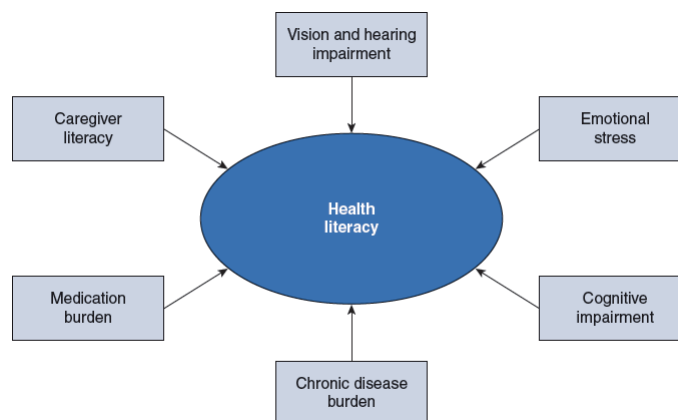
Health, Literacy, and 'Health Literacy'

Health Literacy...

The <u>cognitive</u> and <u>social skills</u> which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health.

– World Health Organization

| Reading fluency |
| Numeracy |
| Memory |
| Problem-solving |

| Communication |
| Self-efficacy |
| Experience |

Motivation/ Activation

Self-care Behaviors

Aging Perspective on Health Literacy

(Chodos & Sudore;Current Diagnosis & Treatment 2nd edition)

AMA Citation
Chodos AH, Sudore RL. Helping Older Adults with Low Health Literacy. In: Williams BA, Chang A, Ahalt C, Chen H, Conant R, Landefeld C, Ritchie C, Yukawa M. eds. Current Diagnosis & Treatment: Geriatrics, Second Edition New York, NY: McGraw-Hill; 2014. http://accessmedicine.mhmedical.com/content.aspx?bookid=953&sectionid=53375694. Accessed July 18, 2019.

Assumptions

1. A person's cognitive skills are a major determinant of health literacy skills

2. The requisite heath literacy skills needed to successfully manage health is determined by the design, accessibility of a healthcare system

Assumptions

1. A person's cognitive skills are a major determinant of health literacy skills

2. The requisite heath literacy skills needed to successfully manage health is determined by the design, accessibility of a healthcare system

3. Reducing the 'cognitive burden' of healthcare means…
   - ✓ better communication
   - ✓ simplified patient roles
   - ✓ proactive, learning healthcare systems

Health Literacy in Older Age

- Strong, consistent evidence that adults 65+ have more limited health literacy skills compared to younger adults

  - drivers: cognitive decline + educational attainment + sensory impairment (hearing, vision)

- Moderate, increasing evidence of within-subject health literacy declines

- Increasing healthcare needs
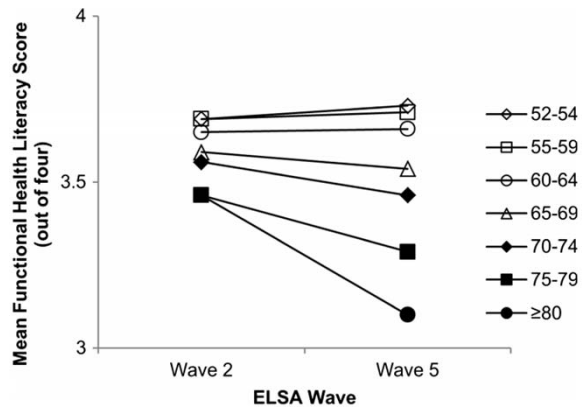
Figure 1. Mean health literacy scores between ELSA waves 2 (2004–2005) and 5 (2010–2011) by 5-year age group.

Kobayashi et al.: Health Literacy During Aging

Need for a Patient-Centered Approach...

"Keep watch also on the faults of patients, which often make them lie about the taking of things prescribed"

- Hippocrates

"America's healthcare system is neither healthy, caring, nor a system."

- Walter Cronkite
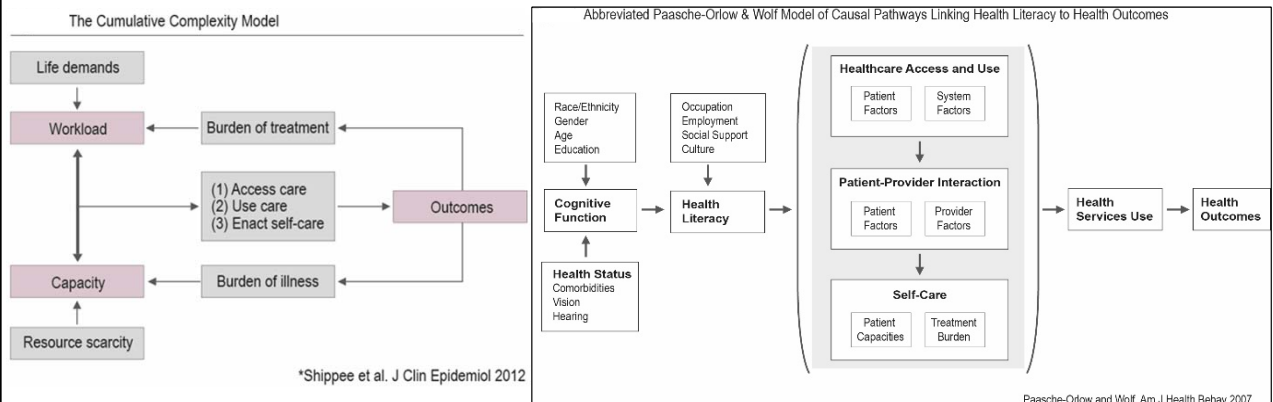

History

1989

Our Target – The Burden of Healthcare

Challenges to Patients

- Polypharmacy
- Multiple lifestyle behavior changes (diet, physical activity)
- Burdensome self-care tasks associated with monitoring conditions and managing symptoms (foot exams, blood pressure monitoring)
- High prevalence of functional limitations affecting self-care ability
- Requisite illness/treatment knowledge to problem solve around self-management
- Frequent healthcare provider visits with multiple prescribers
- Frequent pharmacy visits to collect typically unsynchronized prescriptions; sometimes multiple involved pharmacies
- Financial costs
- Changes in cognition, caused either by age, illness, or treatment
- Co-existing behavioral health issues
- Unmet health-related social needs (*housing instability, food insecurity, transportation, etc.*)
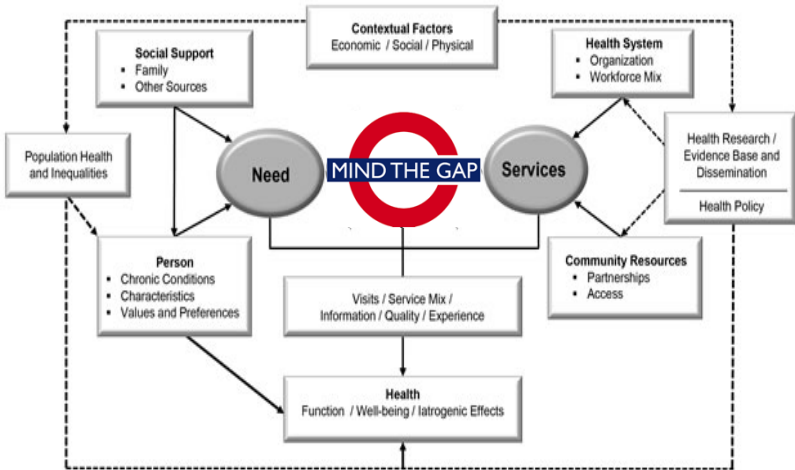
Challenges to Primary Care

- Evidence-based guidelines typically focus on a single chronic condition
- Potential for treatment interactions for different conditions, and as a result inappropriate prescribing
- Knowledge of the effect of certain treatments less understood among patients with MCC
- Involvement of one or more specialists, and quality of provider-provider communication
- For many practices, lack of continuity of care
- Visit time constraints and length of time between visits
- Inadequate patient involvement in treatment decision making
- Familiarity and/or availability of referral sources in the community to support patient self-management
- Incomplete, outdated documentation on patients' most current psychosocial circumstances that may be interfering with proper self-management of chronic conditions and healthcare utilization

Aligned Conceptual Frameworks

The Cumulative Complexity Model

*Shippee et al. J Clin Epidemiol 2012

Abbreviated Paasche-Orlow & Wolf Model of Causal Pathways Linking Health Literacy to Health Outcomes

Paasche-Orlow and Wolf, Am J Health Behav 2007.

AHRQ Complexity Model Addressing Healthcare for Patients with MCC

Confusing
People
Less

Making it Simple.

$2.7 BILLION

Research

JAMA Internal Medicine | Original Investigation

Research and Development Spending
to Bring a Single Cancer Drug to Market
and Revenues After Approval

Vinay Prasad, MD, MPH; Sham Mailankody, MBBS

IMPORTANCE A common justification for high cancer drug prices is the sizable research and
development (R&D) outlay necessary to bring a drug to the US market. A recent estimate of
R&D spending is $2.7 billion (2017 US dollars). However, this analysis lacks transparency and
independent replication.

OBJECTIVE To provide a contemporary estimate of R&D spending to develop cancer drugs.

Invited Commentary
page 1575

Author Audio Interview

Related articles pages 1658,
1679, and 1680

Related article at jama.com

Cognitive Load of Self-Care Tasks

- Physical health (co-morbidities, functional independence)
- Mental health
- Cognitive health
- Number of healthcare providers, frequency of visits
- Polypharmacy & regimen complexity
- Medical devices
- Involved technologies
- Monitoring responsibilities
- Health insurance

Disease Burden

Treatment Burden

Health Literacy 1.0: Cognitive Load of Health Information

- Incomplete or vague information & instructions
- Conflicting sources, nature of source
- Modality (spoken, print, multimedia)/opportunity for re-review
- Lack of coordinated 'system' of information
- Factual vs. procedural content
- Amount of content
- Reading grade level
- Format, organization
- Distraction (e.g. extraneous information, discordant imagery, environment)
- Communication speed (audio, visual)

Contents lists available at ScienceDirect
Patient Education and Counseling
journal homepage: www.elsevier.com/locate/pateducou

Working memory and the design of health materials:
A cognitive factors perspective
Elizabeth A.H. Wilson [a,b,*], Michael S. Wolf [a,c]

Contents lists available at ScienceDirect
Patient Education and Counseling
journal homepage: www.elsevier.com/locate/pateducou

Research Article
Media and memory: The efficacy of video and print materials for promoting patient education about asthma
Elizabeth A.H. Wilson [a,*], Denise C. Park [b], Laura M. Curtis [a], Kenzie A. Cameron [c], Marla L. Clayman [c], Gregory Makoul [d,e], Keith vom Eigen [d,e], Michael S. Wolf [a,f]

Lit Cog Deconstructing Self-Care Tasks (NIH/NIA)

Cognitive Performance Across Lifespan
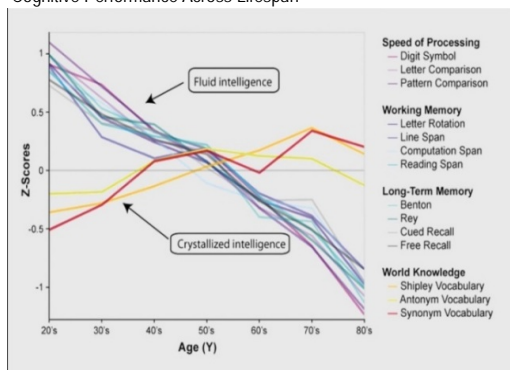
*Data adapted from Park et al. (2002) showing cross sectional performance of fluid and crystallized abilities.

- Following multi-step written instructions
- Consenting to clinical research studies
- Accessing/navigating online health resources (e.g. portal)
- Recalling spoken medical instructions
- Comprehending/recalling multimedia health information
- Organizing and properly dosing multi-drug regimens
- Problem-solving around treatment and self-care regimens
- Long-term care decision making

Health Literacy Interventions

A Case Example

Universal Medication Schedule (UMS)

Take	1 pill in the morning (bedtime)
Take	1 pill in the morning 1 pill in the evening
Take	1 pill in the morning 1 pill at noon 1 pill in the evening
Take	1 pill in the morning 1 pill at noon 1 pill in the evening 1 pill at bedtime

Morning:	6-8 am
Noon:	11-1 pm
Evening:	4-6 pm
Bedtime:	9-11 pm

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- Provides more explicit guidance as to when to take prescribed medicine
- Reduces variable prescribing, dispensing practices that lead to regimen complexity
- Aligns with a 'pill box' schema
- Evidence-based: multiple studies have found the UMS
  - reduces dosing errors
  - improves regimen efficiency
  - improves adherence (14% increase)
- Yet only 1 in 8 prescriptions written using UMS
- NCPDP, USP, NAM identify it as a best practice

Simple and Significant

staying engaged with patients

beyond the point of care

Activated Healthcare System, Activated Patient/Family

Some Current Projects

NIH/NIDDK

NIH/NIDDK
AHRQ
Eli Lilly

Technology-
Enabled
Alliance for
Medication Therapy Management

Gordon & Betty Moore Foundation

TAKE IT ✓ Treatment Adherence among Kidney Recipients by Engaging Information Technologies

- Routinely monitor regimen use, adherence & persistence via EHR portal
- Provide 'adherence alerts' to transplant center with specific patient concerns
- Mobilize appropriate resources to map specific problems to tailored solutions

Treatment Concern?

No   YES

Cognitive	Psychological	Medical	Regimen	Social	Economic

TAKE IT ✓

1
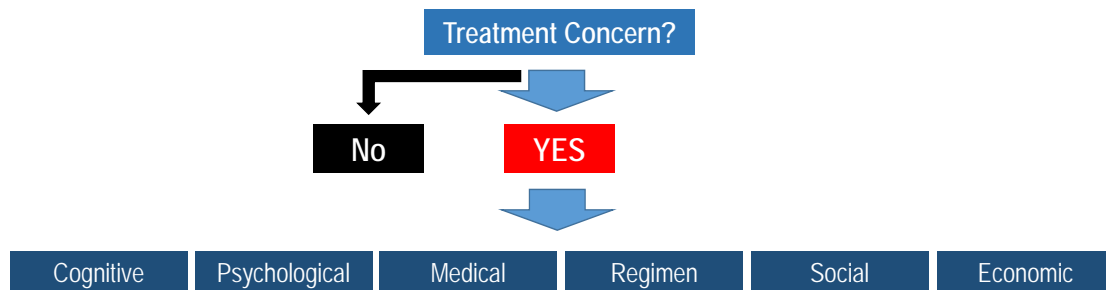
Mobile Med App
(Transplant Hero)

TAKE IT ☑

1 Mobile Med App (Transplant Hero)

2 Monthly Assessment (Patient Portal)

TAKE IT ☑

1 Mobile Med App (Transplant Hero)

3 Transplant Nurse Coordinator Triage

2 Monthly Assessment (Patient Portal)

19

TAKE IT ✓

1 Mobile Med App (Transplant Hero)

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3 Transplant Nurse Coordinator Triage

4 'Smart' referral: mobilize resources
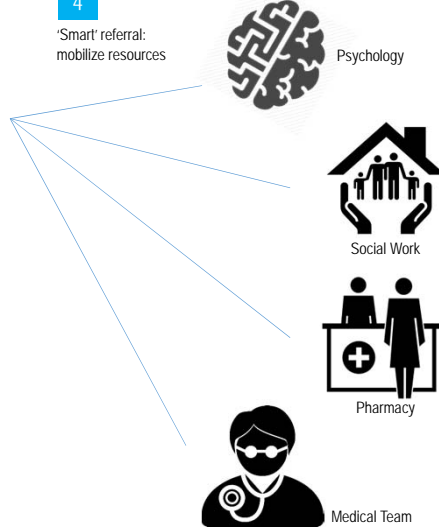
Psychology

Social Work

Pharmacy

Medical Team

TAKE IT ✓

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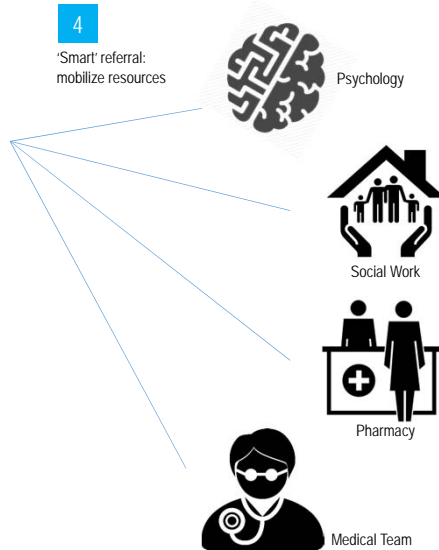
Psychology

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Medical Team

5 CoV Quarterly Report (tacrolimus)

Electronic Health Record (EHR)-enabled Complete Communication (EMC^2) Strategy

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Electronic Health Record (EHR)-enabled Complete Communication (EMC^2) Strategy

EHR Alert

The FDA recommends additional counseling for:

GABAPENTIN

* Suicidal thoughts or actions
* Changes in behavior and thinking
* Severe sleepiness or dizziness that could increase falls

****NOTE****
The FDA mandated medication information sheet will print automatically after this pop-up is closed.

Open PDF for more information?

[Yes] [No]

Step 1. Best Practice Alert

Electronic Health Record (EHR)-enabled Complete Communication (EMC^2) Strategy

Step 1. Best Practice Alert

Step 2. MedSheet

Electronic Health Record (EHR)-enabled Complete Communication (EMC^2) Strategy

Step 1. Best Practice Alert

Step 2. MedSheet

Step 3. IVR

Step 4. Lab Report

Technology-
Enabled
Alliance for
Medication Therapy Management

- Meaningful sharing of primary care EHR with community pharmacies to:

TEAM Communication & Information Flow

Technology-
Enabled
Alliance for
Medication Therapy Management

- Meaningful sharing of primary care EHR with community pharmacies to:

  Rx Reconcile medication regimens
  Perform medication reviews

  ⚠ Provide adherence alerts, updates

TEAM Communication & Information Flow

Technology-Enabled Alliance for Medication Therapy Management

- Meaningful sharing of primary care EHR with community pharmacies to:

  Reconcile medication regimens
  Perform medication reviews

  Provide adherence alerts, updates

  Offer clinical decision support

TEAM Communication & Information Flow

Patient Engagement: Keeping Pace

- Uptake of post-visit patient participation is high:
  (~65%) - **(IVR, portal, SMS)** within 72 hours

Other Preliminary Evidence

News Releases

Web-Based System for Self-Reporting Symptoms Helps Patients Live Longer
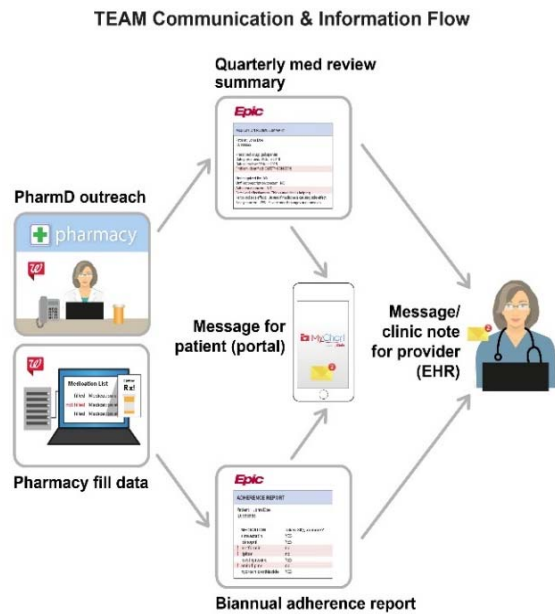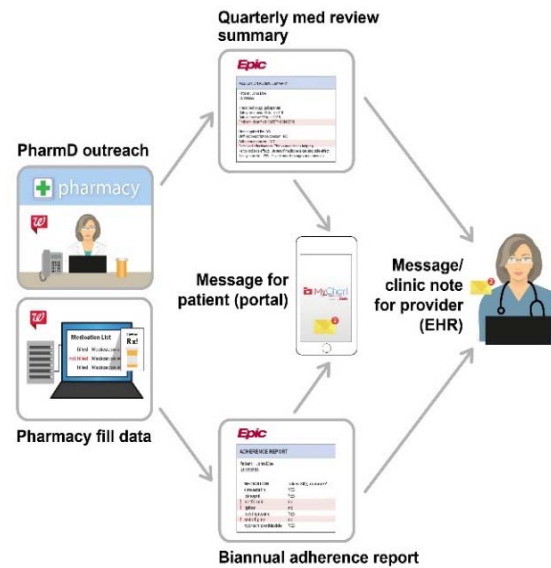Study Supports Increased Use of Patient-Reported Outcomes in Oncology

FOR IMMEDIATE RELEASE
June 4, 2017

Contact
Alise Fisher
571-483-1354
alise.fisher@asco.org

ASCO Perspective

- Improved quality of life
- Fewer ED/hospital admissions
- Better survival

Patient Engagement: Keeping Pace

- Uptake of post-visit patient participation is high: (~65%) - **(IVR, portal, SMS)** within 72 hours

- Bandwidth of primary care to respond limited

Community

Health System

Resources & Policies

Self-Management Support

Health Care Organization
Delivery System Design
Decision Support
Clinical Information Systems

Informed, Activated Patient — Productive Interactions — Prepared, Proactive Practice Team

Improved Outcomes

Chronic Care Model
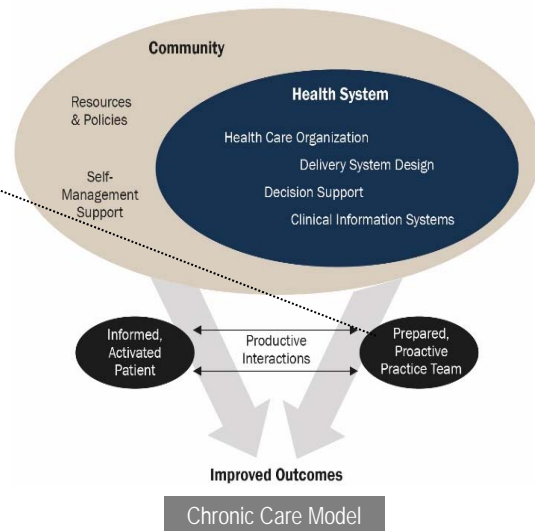
Advancing Research Priorities

NIH
National Institute on Aging

Health-related quality of life
Assessment tools (e.g., symptom burden, quality of life, function)
Implementation of novel (and scalable) care models
Association between clusters of chronic conditions and clinical, financial, and social outcomes
Symptom burden
Shared decision-making to enhance care planning
Clinical decision-making tools
Treatment burden
Self-management interventions
Alzheimer's disease and other dementias
Intervention designs with multiple components and pragmatic trials
Risk stratification
Resilience
Data harmonization across healthcare systems
Health behaviors
Healthcare disparities
Chronic care models
Health services usage
Treatment algorithms, guidelines
Remote monitoring and mhealth
Epidemiological methods to address longitudinal/missing data
Qualitative research in individuals with MCCs and their caregivers
Admin./registry data methods

Moving Forward

- Direct more attention to the 'user interface' of healthcare
  - *Strong evidence base of health literacy best practices*

- Create opportunities to keep older patients engaged
  - *leverage technologies, offer multiple modalities*

- Identify/classify individuals at risk
  - *screen for low health literacy, low 'activation'?*

  - *allocate more resources to those most in need*

"For God's sake, stop researching for awhile and begin to think".

- *Sir Walter Hamilton Moberly*
  British Scholar, Philosopher, 1949

Thank You!

NORTHWESTERN UNIVERSITY

HeLP

Health Literacy & Learning Program

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