The Chronic Care Model: What Does It Mean for CKD?

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NKDEP Coordinating Panel Meeting

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U.S. Department of Health and Human Services

National Institutes of Health

National Institute of Diabetes and Digestive and Kidney Diseases

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Overview

- Burden of CKD
- CKD Detection and Treatment
- The Chronic Care Model
- What the Model Means for CKD
- The Indian Health Service Experience
- NKDEP Priorities

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Burden of CKD

Prevalence of Renal Insufficiency in U.S.

GFR (mL/min/1.73 m^2)	59-30	29-15
Number of People	7.7 million	360,000

- 8 million Americans have a GFR < 60 mL/min/1.73 m^2
- 11 million more have a GFR > 60 but have persistent microalbuminuria

Coresh, et al., 2005

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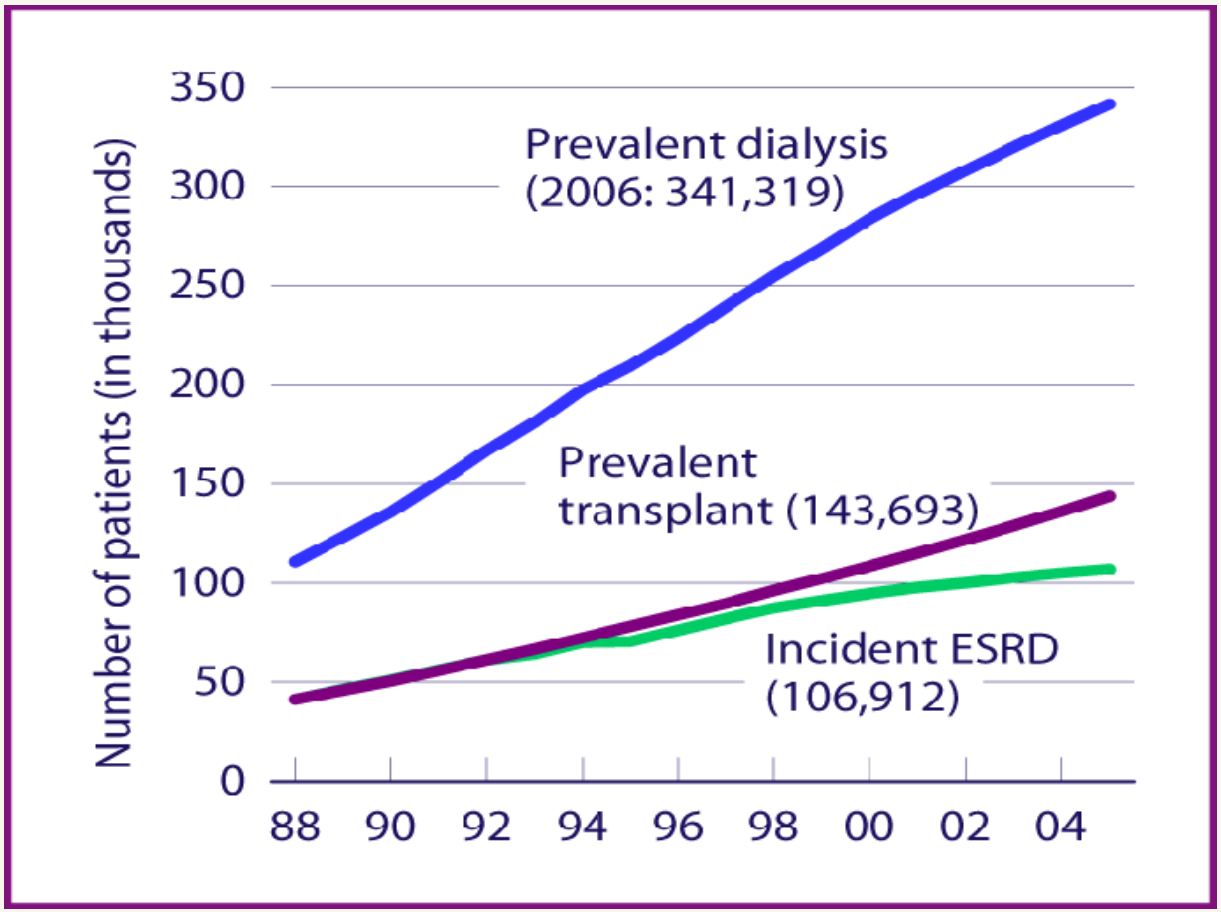
Burden of CKD

ESRD Prevalence



USRDS, 2007 ADR

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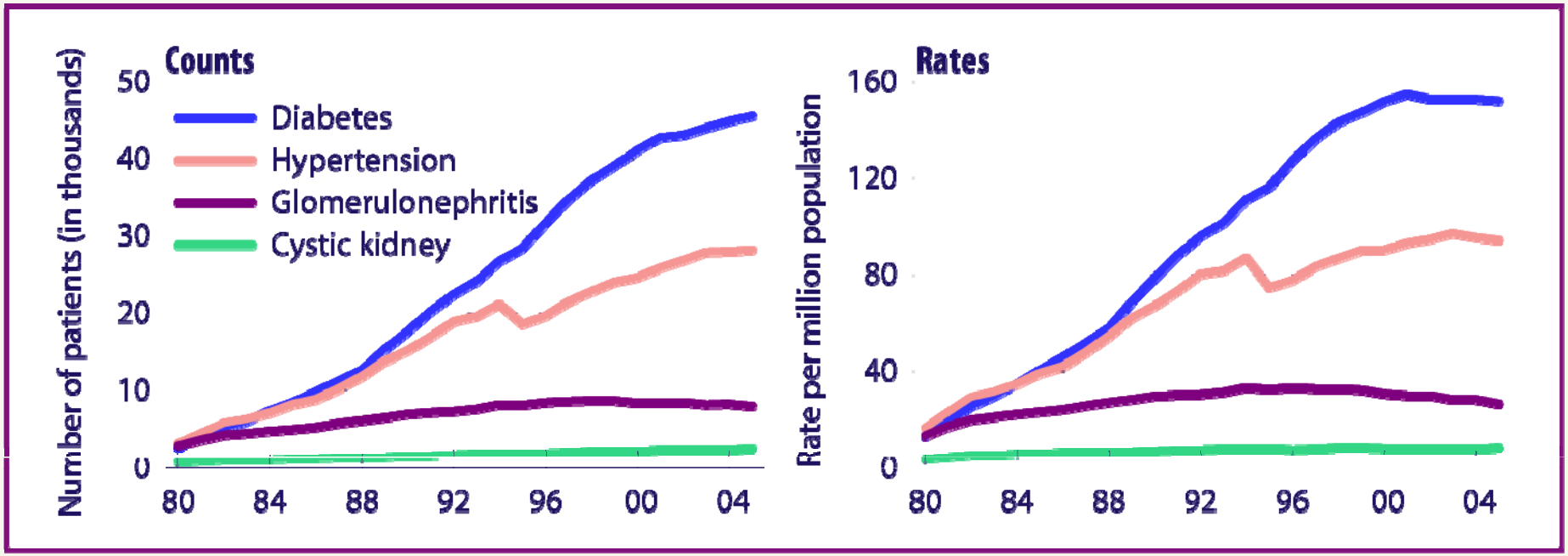
Burden of CKD

ESRD Incidence by Diagnosis



USRDS, 2007 ADR

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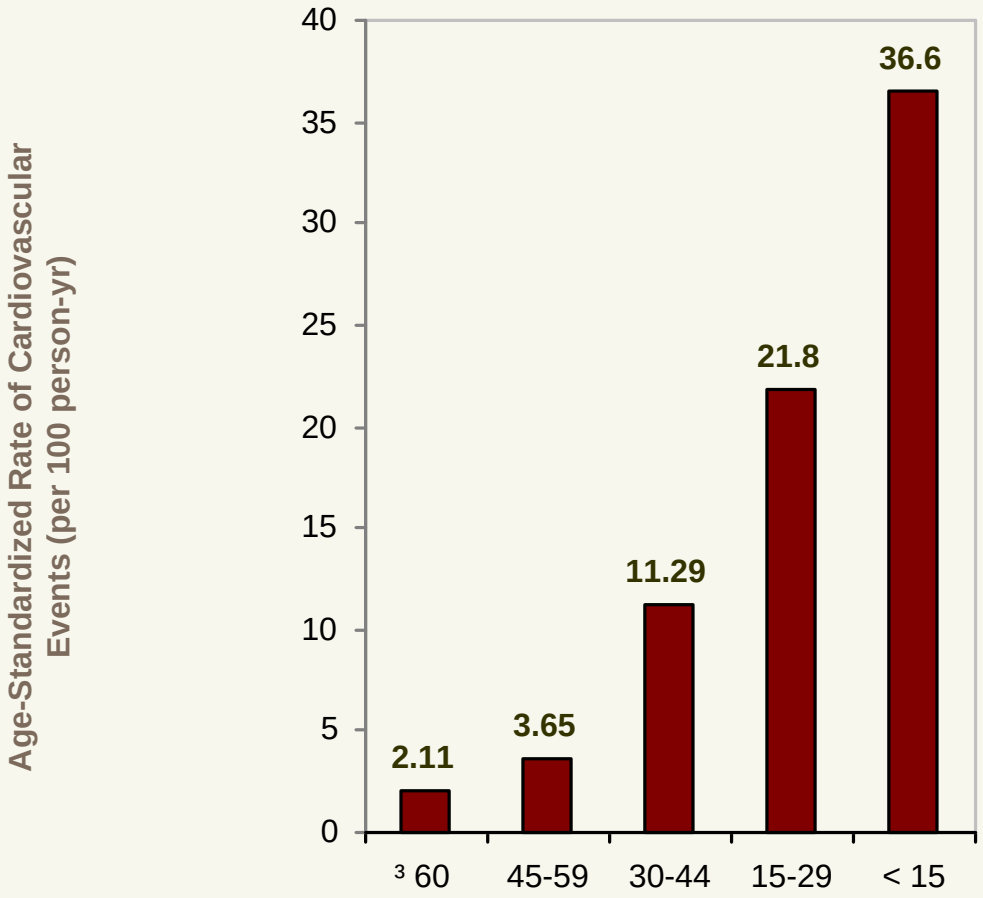
Burden of CKD

CKD Predicts CVD



Go, et al., 2004

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CKD Detection and Treatment

- CKD can be easily detected
  - Increased use of eGFR and UACR
- CKD can be effectively treated
  - Treatment slows progression, improves outcomes
  - Primary care providers can manage CKD prior to referral
  - CKD fits well within diabetes care delivery systems
  - Detailed guidelines facilitate management

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Key Clinical Recommendations

- Maintain blood pressure < 130/80 mmHg
  - Use an ACE inhibitor or ARB
  - More than one drug is usually required
  - A diuretic should be part of the regimen
- Best possible glycemic control in individuals with diabetes
- Refer to dietitian for a reduced protein diet
- Early consultation or teaming with nephrologist and/or interested health professional
- If GFR < 60, screen for anemia (Hgb), malnutrition (albumin), metabolic bone disease (Ca, Phos, PTH)
- Treat cardiovascular risk, especially smoking and hypercholesterolemia

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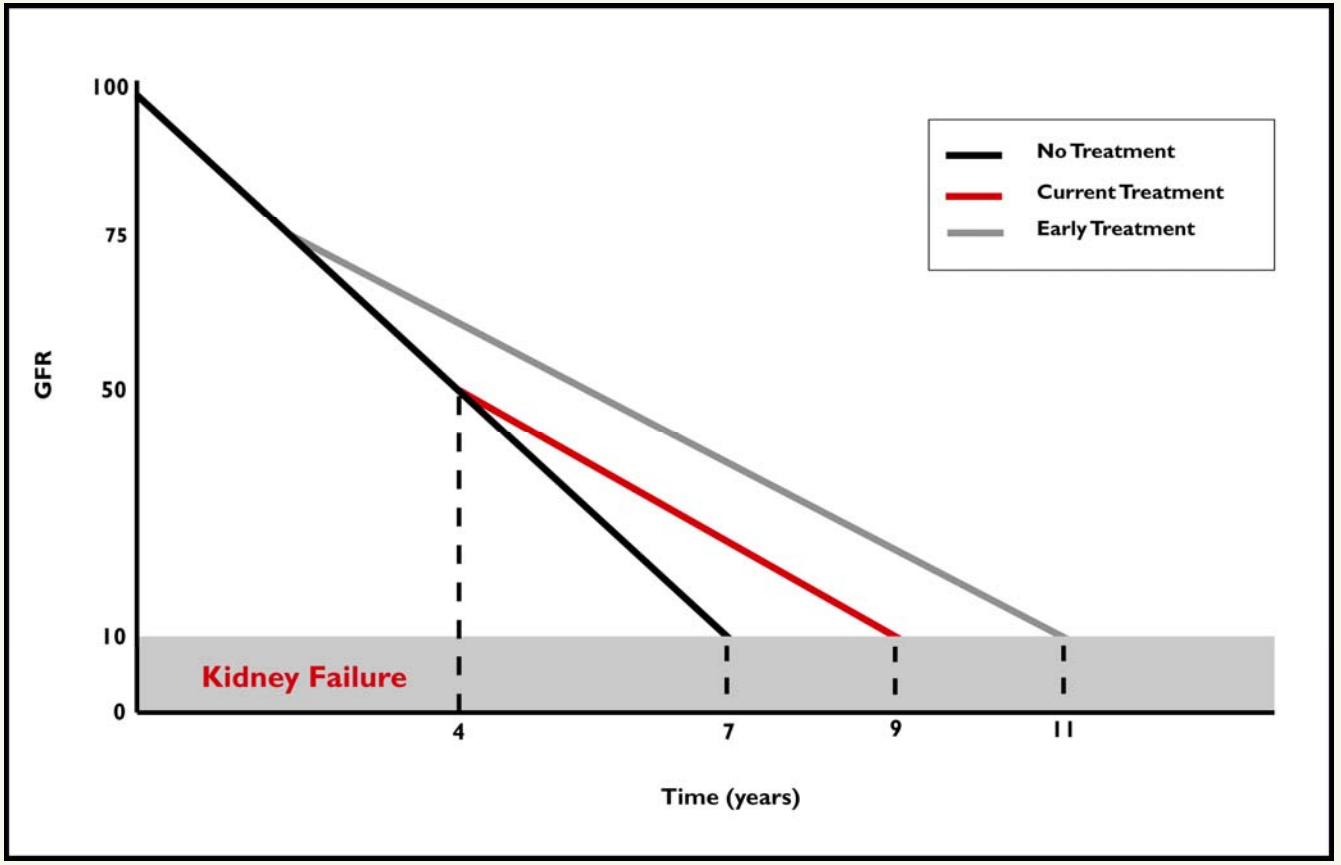
The Earlier, The Better

Early Treatment Can Slow Progression



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And yet…

- CKD remains underdiagnosed
  - Inadequate screening of at-risk patients
  - Misinterpretation of test results
- Implementation of recommend care is poor
  - Underutilization of ACE inhibitors and ARBs
  - Poor achievement of BP goals
  - Many people poorly prepared for dialysis (poor nutritional status, little understanding of dialysis choices)
- Many clinicians feel inadequately educated
  - Perception that CKD is a “specialist” disease
  - Uncertain about how to interpret diagnostic tests
  - Unclear about clinical recommendations
  - Low confidence in their ability to successfully manage CKD

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What if?

- We could make it easier for overburdened clinicians to follow established guidelines?
- We could better coordinate care among team members—and for comorbid conditions?
- We could improve follow-up to ensure the best outcomes?
- We could help patients better manage their illness?

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The Chronic Care Model

- The CCM points the way to achieving those goals, not only for CKD but for all chronic illnesses
- Summarizes basic elements for improving care in health systems (community, organization, practice, patient levels)
- Originated from a synthesis of scientific literature done by MacColl Institute for Healthcare Innovation in early 1990s
  - Extensively reviewed by advisory panel of experts; compared with features of leading U.S. chronic illness management programs
  - Refined and published in its current form in 1998
- Improving Chronic Illness Care (Robert Wood Johnson Foundation) launched in 1998 with the CCM at its core
  - ICIC and Institute for Healthcare Improvement developed the Chronic Care Breakthrough Series Collaboratives, which led to HSRA's Health Disparities Collaboratives

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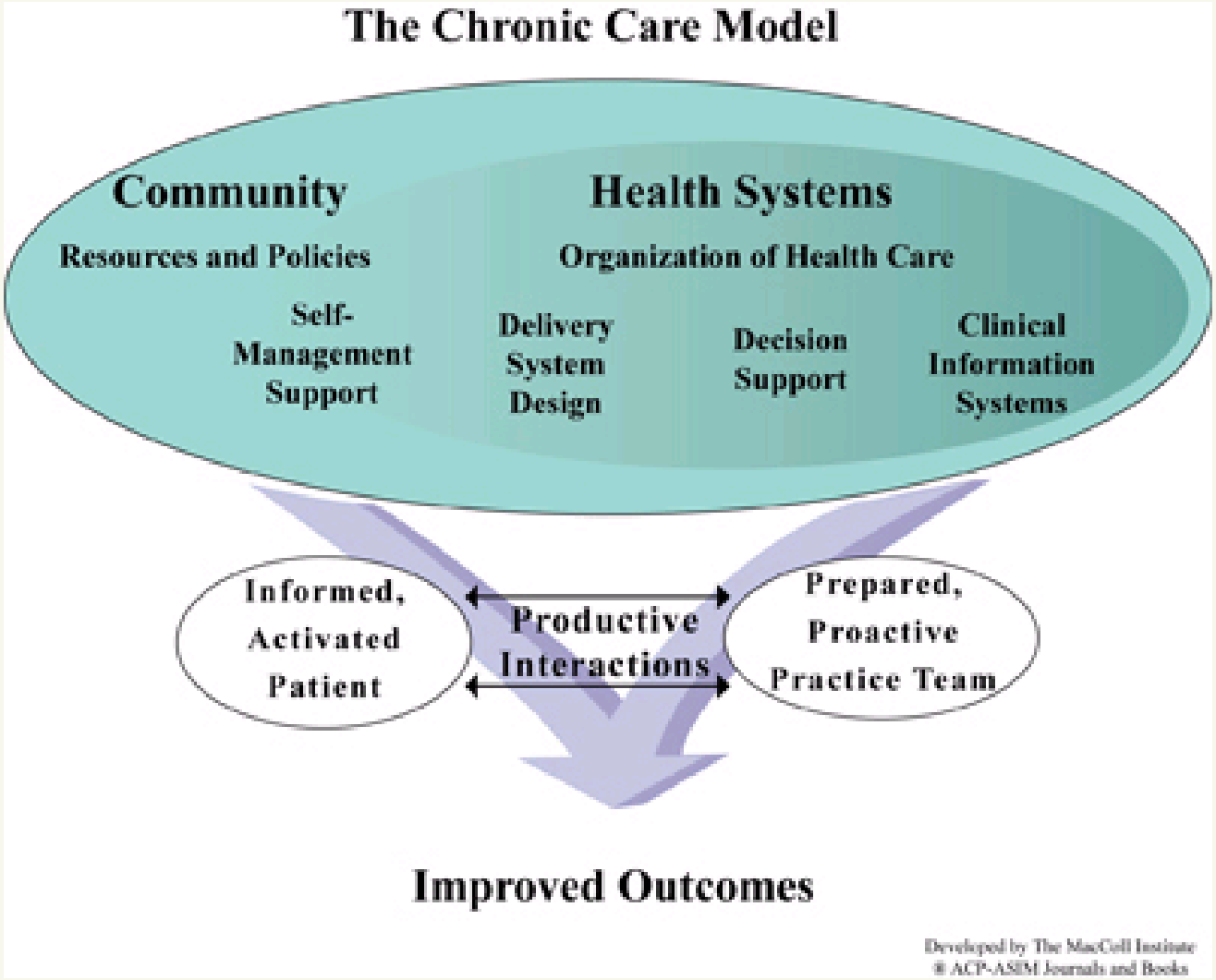
The Chronic Care Model



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The Chronic Care Model

Model Elements

- **Self-Management Support**
- Goal: Empower and prepare patients to manage their health care
  - How do we help patients live with their conditions?
- Change concepts
  - Emphasize the patient's central role in managing his or her health
  - Use effective self-management support strategies: assessment, goal-setting, action planning, problem-solving, and follow-up
  - Organize internal and community resources to provide ongoing self-management support to patients

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The Chronic Care Model

Model Elements

- **Delivery System Design**
- Goal: Assure the delivery of effective, efficient clinical care and self-management support
  - Who is on the healthcare team?
  - How does the team interact with patients?
- Change concepts
  - Define roles and distribute tasks among team members
  - Use planned interactions to support evidence-based care
  - Provide clinical case management services for complex patients
  - Ensure regular follow-up by the care team
  - Give care that patients understand and that agrees with their cultural background

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The Chronic Care Model

Model Elements

- **Decision Support**
- Goal: Promote care consistent with scientific data and patient preferences
  - What is the best care?
  - How do we make it happen every time?
- Change concepts
  - Embed evidence-based guidelines into daily clinical practice
  - Share evidence-based guidelines and information with patients to encourage their participation
  - Use proven provider education methods
  - Integrate specialist expertise and primary care

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The Chronic Care Model

Model Elements

- **Clinical Information Systems**
- Goal: Organize data to facilitate efficient and effective care
  - How do we capture and use critical information for clinical care?
- Change concepts
  - Provide timely reminders for providers and patients
  - Identify relevant subpopulations for proactive care
  - Facilitate individual patient care planning
  - Share information with patients and providers to coordinate care
  - Monitor performance of practice team and care system

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What It Means for CKD

- The Chronic Care Model provides a much-needed paradigm for how to improve CKD detection and management
- Offers a systematic way to identify needs and set priorities
  - What communication and education interventions are most needed?
  - What is already underway; what is not being addressed?
  - What activities is NKDEP best suited to undertake?
- A convenient “shorthand” to use in communicating with a variety of audiences
  - Makes it clear which elements NKDEP is seeking to address
  - Aligning NKDEP initiatives with established CCM change concepts helps us demonstrate their broader value
  - Facilitates seamless communications: promotes coordinated outreach to public, patients, and providers

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A Map, Not an Itinerary

- The CCM shows us the places we could go; it is up to us to choose our destinations, routes, and timetables
- Two primary vehicles: communication and education
  - NKDEP is best suited to develop the messages, tools, and materials that can be used to educate providers and patients about CKD—and facilitate more "productive interactions" between them
  - Though we can make recommendations, we are not equipped to implement specific changes in healthcare systems
- NKDEP cannot do everything contemplated by the CCM
  - We don't have the mandate… or the resources
- Our goal is to change practice, not advance theory
  - A theoretical model is useful, but only to the extent that it helps us develop practical and proven interventions

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The IHS Experience

- A chronic-care approach to a high-risk population
  - Not the Chronic Care Model *per se*, but similar elements
- The community is the patient
- Integrated primary care system
- Multidisciplinary clinics
- Community outreach
  - Screening
  - Patient education

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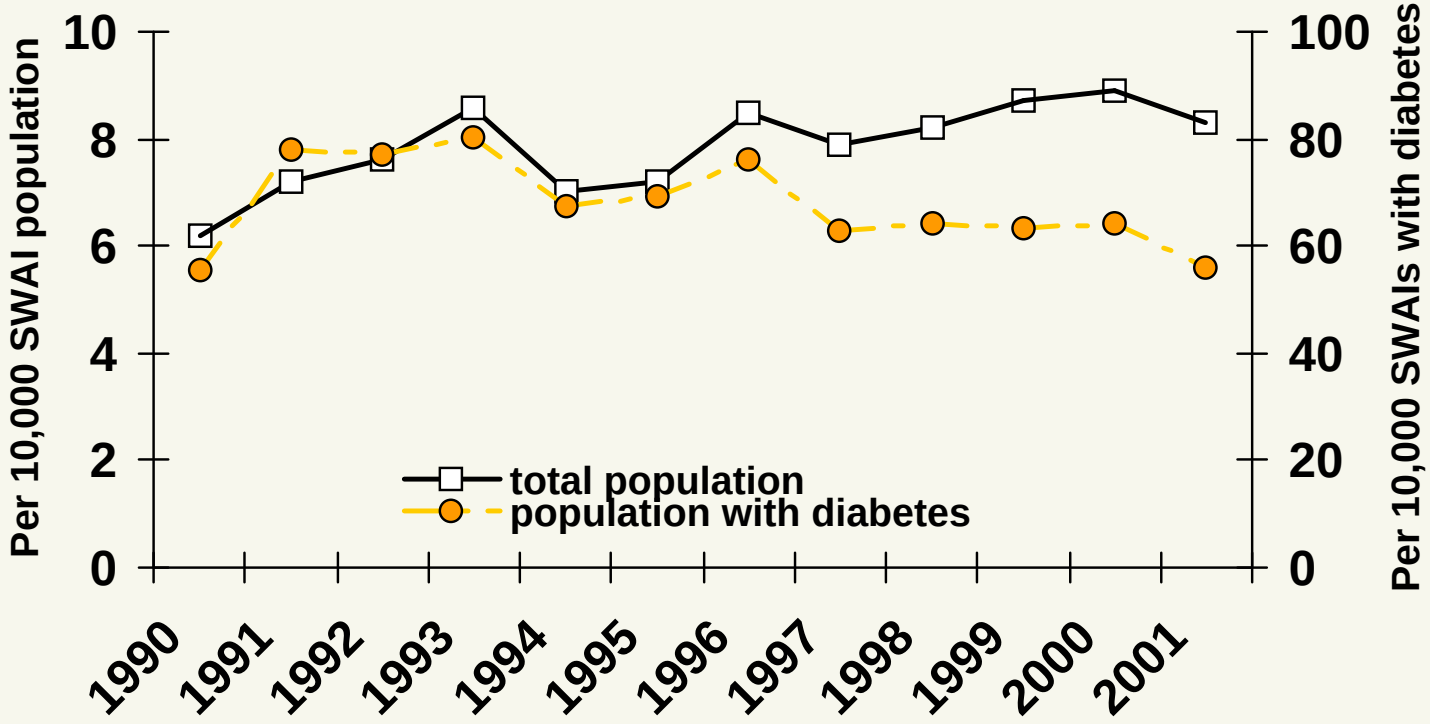
The IHS Experience

ESRD: Age-adjusted incidence, 1990-2001



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An Overarching Message

- **CKD is Part of Primary Care**
  - A perception that CKD is a “specialist disease” (one that requires management by a nephrologist) has led to a focus on referral
  - Primary care providers may be missing opportunities for early diagnosis and treatment
  - A greater emphasis on detecting CKD, and managing it prior to referral, can improve patient outcomes
  - Many of the therapeutic interventions for CKD are similar to those required for optimal diabetes care
    - Control of glucose, blood pressure, and lipids
  - Other key interventions can be handled in a primary care setting:
    - Screening for co-morbid conditions (e.g., anemia, malnutrition, disorders of mineral metabolism)
    - Counseling re dietary modification
    - Education about the progressive nature of CKD
    - Initial planning for renal replacement therapy

NKDEP Priorities

- To achieve this goal, primary care providers need training and tools that can help them detect and treat CKD
- NKDEP wants to increase knowledge about CKD among all primary care professionals:
  - Not just physicians, but also nurse practitioners, physician assistants, pharmacists, diabetes educators, dietitians, and others
  - Though we can make recommendations, we are not equipped to implement specific changes in healthcare systems

NKDEP Priorities

- We also want to help providers educate patients, and support our clinical recommendations, by developing useful clinical encounter tools
  - Patient-education pad (English and Spanish) that explains GFR in very simple language, provides space to record a patient's results
  - Back includes additional information for providers, and talking points to help guide patient discussions
- As well as educational materials for providers
  - UACR and GFR clinical reference sheet for diabetes educators
  - Continuing education article for nutritionists

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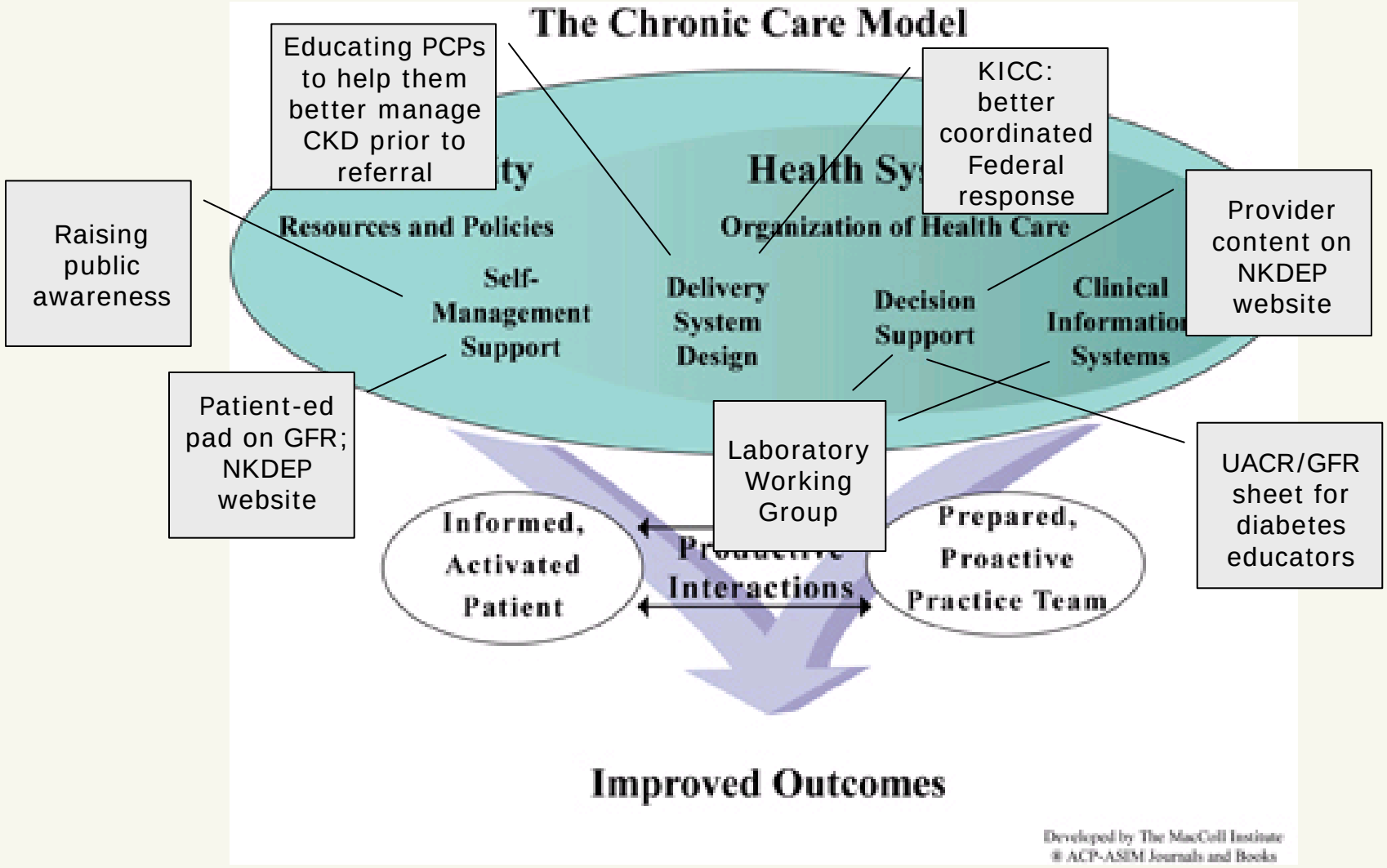
Community Health Centers

- Focusing on opportunities to implement these types of programs in community health centers
- Health centers are an ideal partner
  - Care for 16 million patients—many of whom are at risk for CKD
  - A track record of working to improve care in a systematic way
- Currently testing the GFR patient-education pad
- Engaging health centers in a conversation about needed materials and training packages

The Chronic Care Model

Where NKDEP Activities Fit In



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