

Chronic Disease Management

What does it mean in
everyday practice ?

Dr. Richard Lewanczuk
Professor
Department of Medicine
University of Alberta
and
Senior Medical Director
Primary Care and Chronic Disease Management
Alberta Health Services

Disclosure:

no conflicts of interest with respect to
this talk

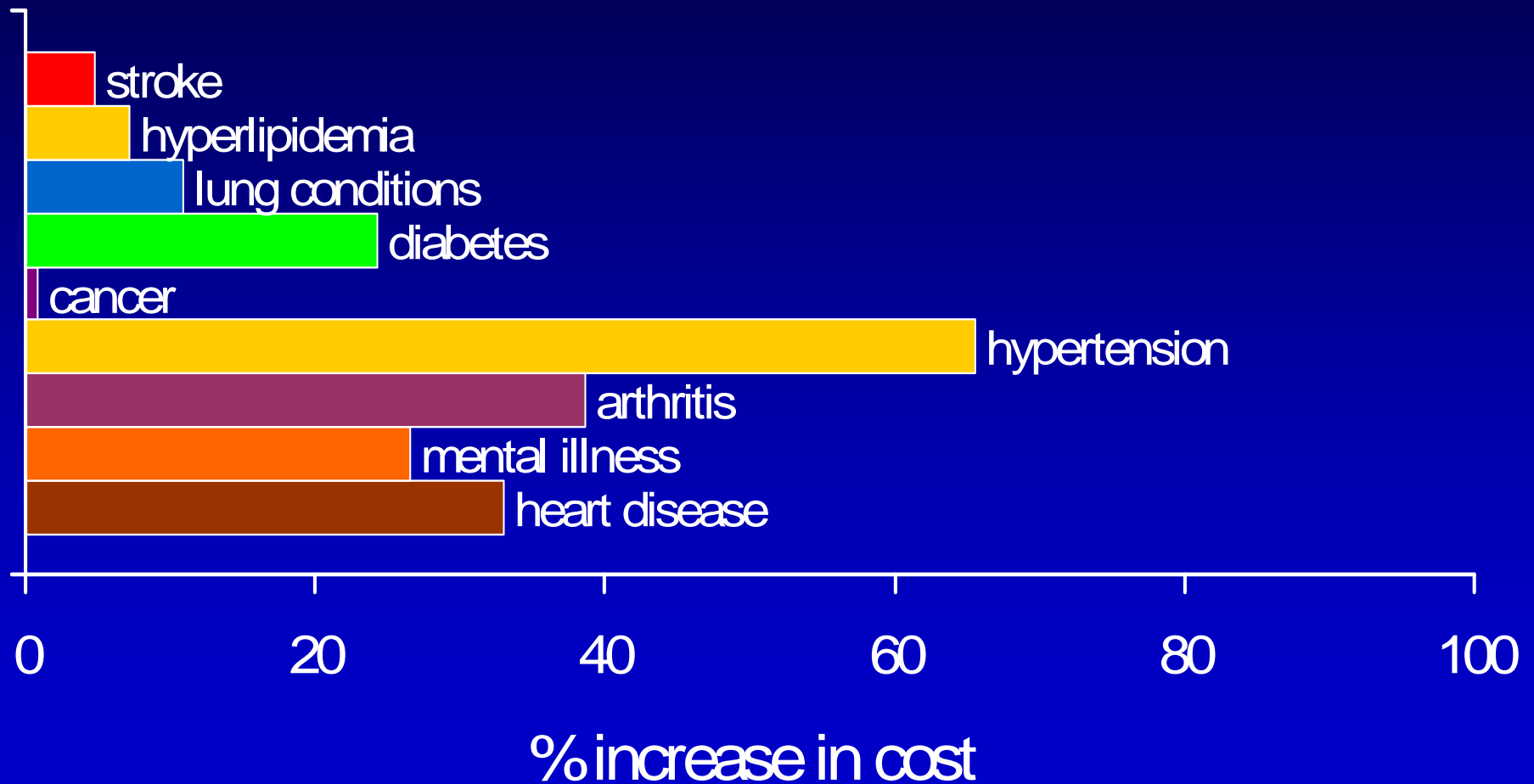
95 cents of every healthcare dollar is
spent on acute care



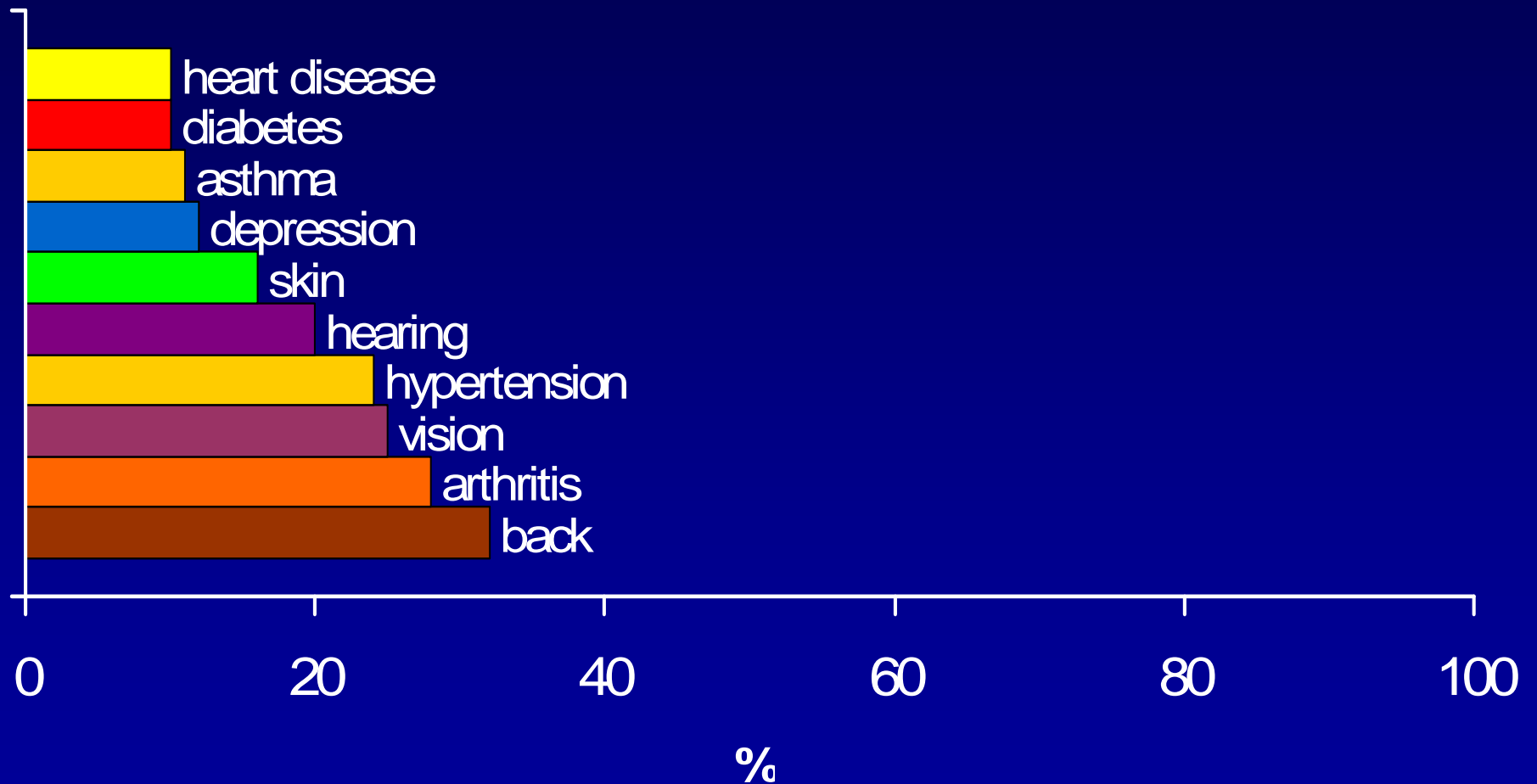
Commonest cause for hospital admission in Edmonton / Calgary :

1. Exacerbation of chronic lung disease
2. Exacerbation of heart failure
3. Respiratory infection in 1 or 2 above

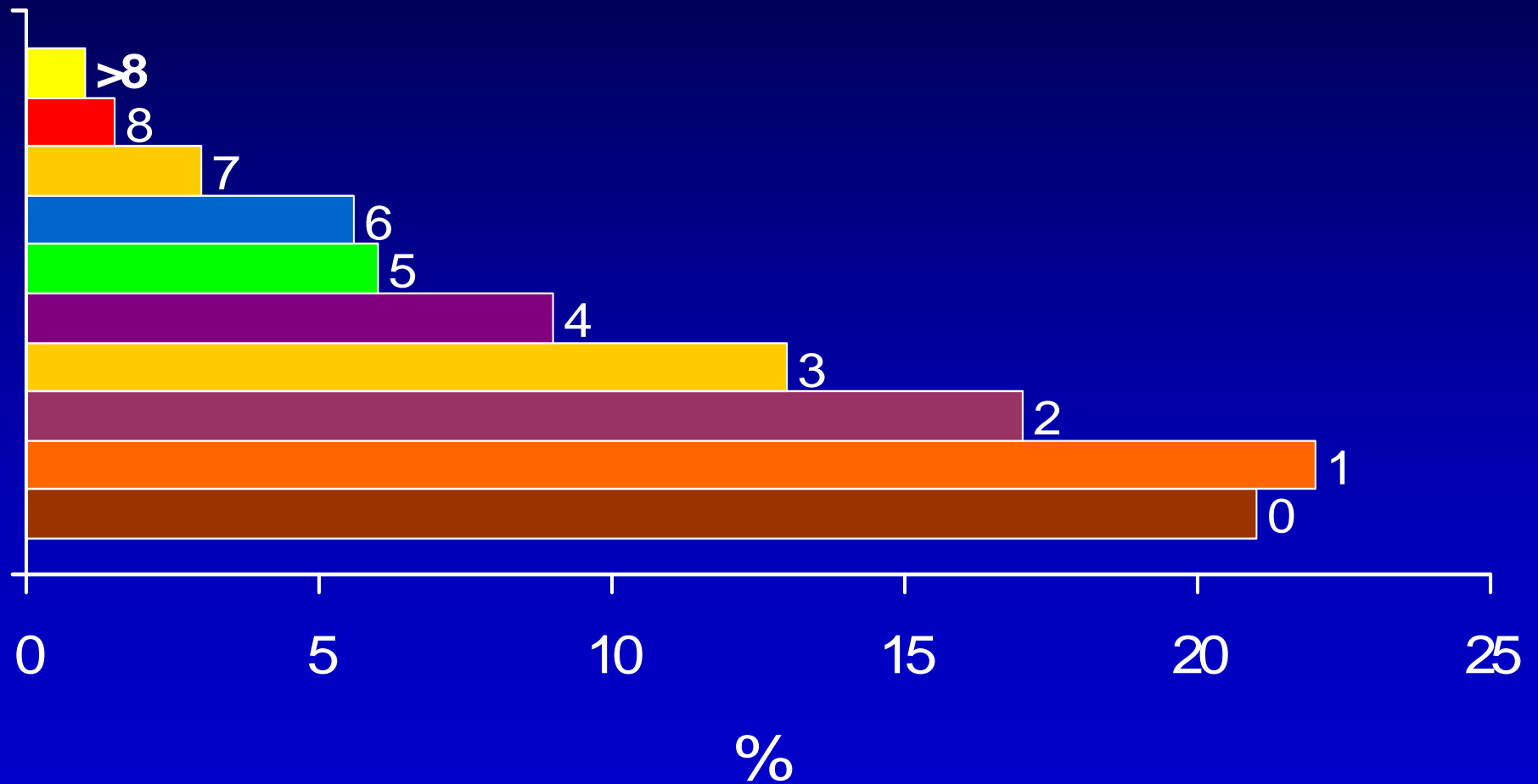
% increase in Medicare costs 1987-2002



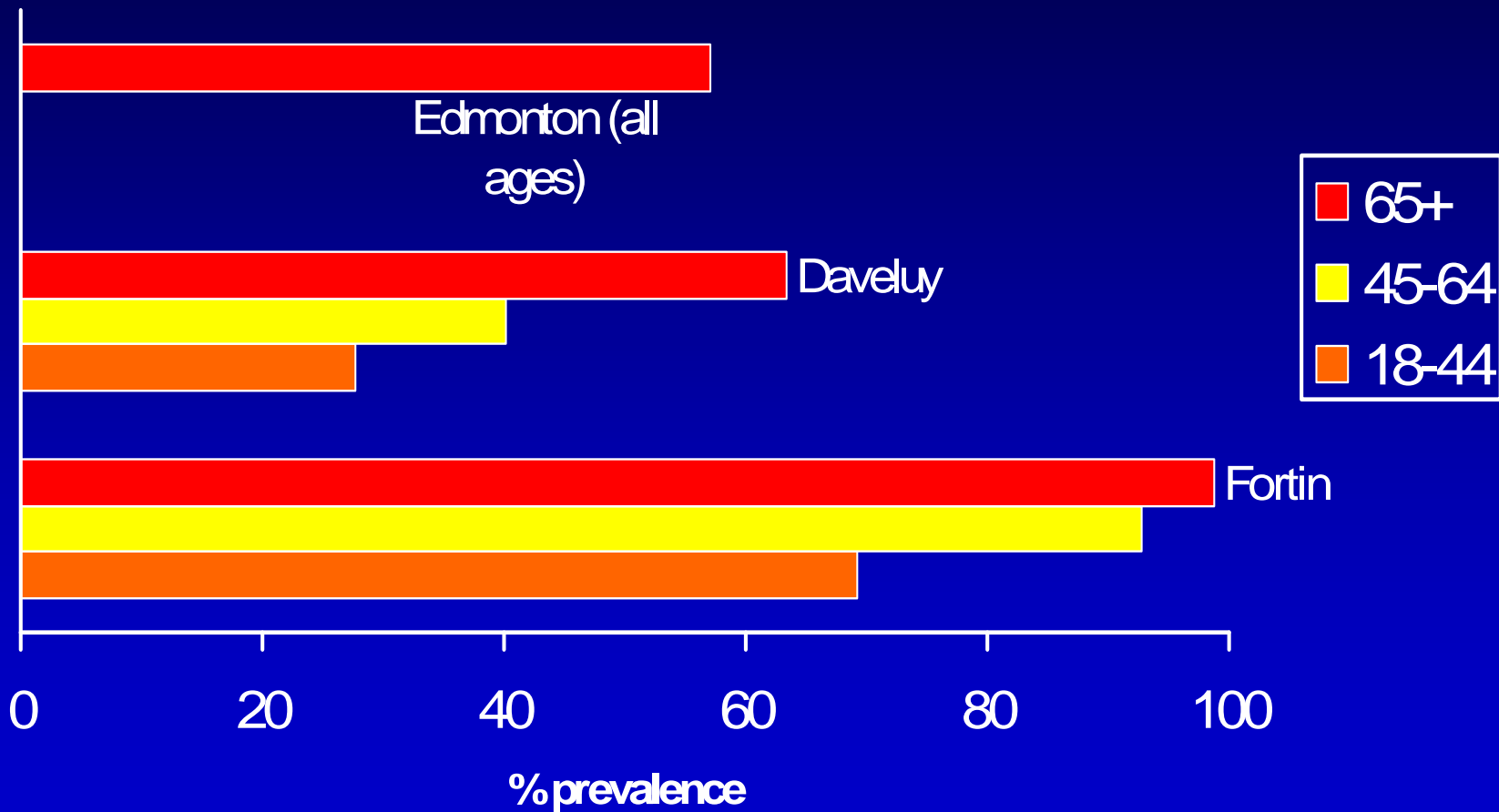
Chronic disease prevalence in the adult population - Edmonton



Number of comorbidities in the general adult population - Edmonton



Prevalence of 2 or more chronic diseases

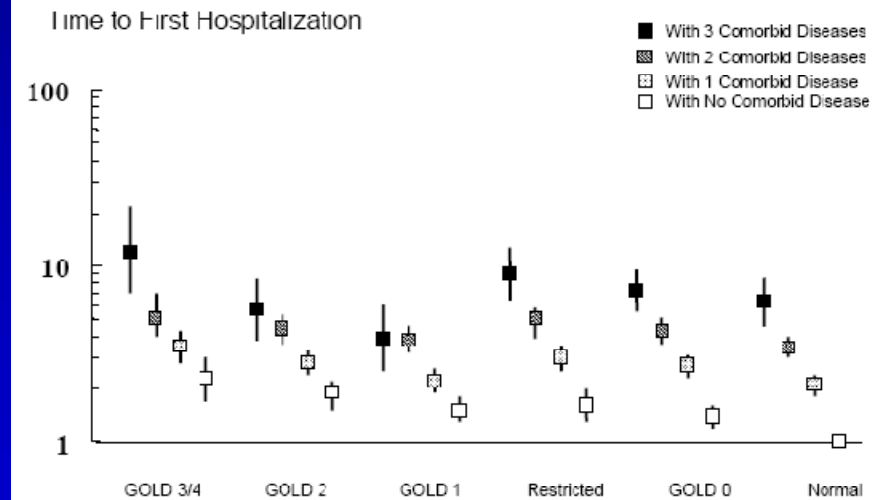
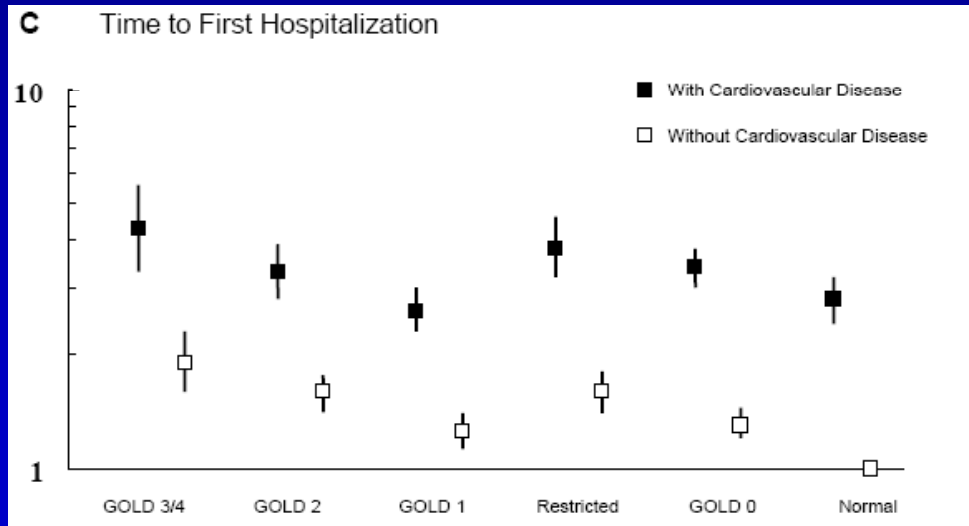
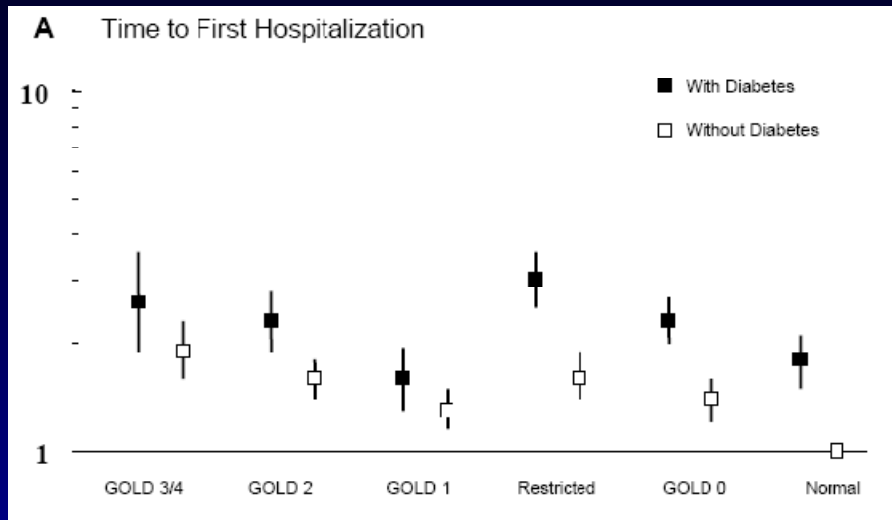


- 1) Alberta Health Services
- 2) Daveluy et al, Institute de la statistique du Quebec, 2001
- 3) Fortin et al, Ann Fam Med 3:223, 2005

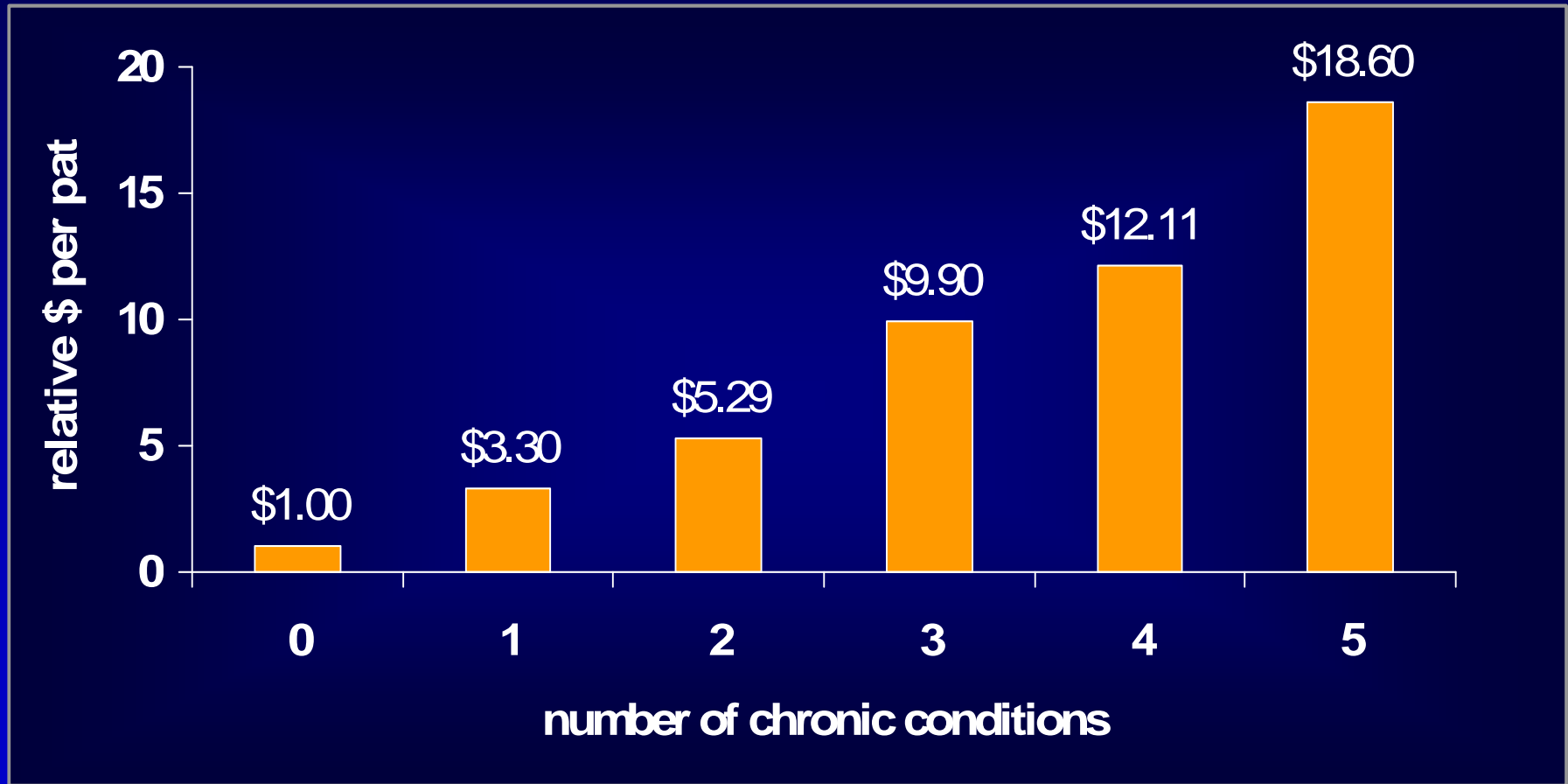
Why are chronic diseases so common?

- All of us will have hypertension by age 83
- $\frac{1}{2}$ of us are overweight or obese
- $\frac{1}{3}$ of us have high cholesterol
- $\frac{1}{4}$ of us will develop diabetes
- Most women will have osteoporosis by age 73
- $\frac{1}{5}$ women and $\frac{1}{10}$ men will develop Alzheimer's
- $\frac{1}{4}$ of us will have a significant mental illness at some point in our lives
- $\frac{1}{5}$ women and $\frac{1}{6}$ men will have a stroke; $\frac{1}{3}$ of us will be disabled by a neurological disease

Time to first hospitalization in COPD patients with co-morbid disease



Relative health care spending in California based on number of chronic conditions



adapted by R Lewanczuk from GF Anderson Johns Hopkins Bloomberg School of Public Health.
Analysis of Medical Expenditure Panel Survey (MEPS) data, 2002.

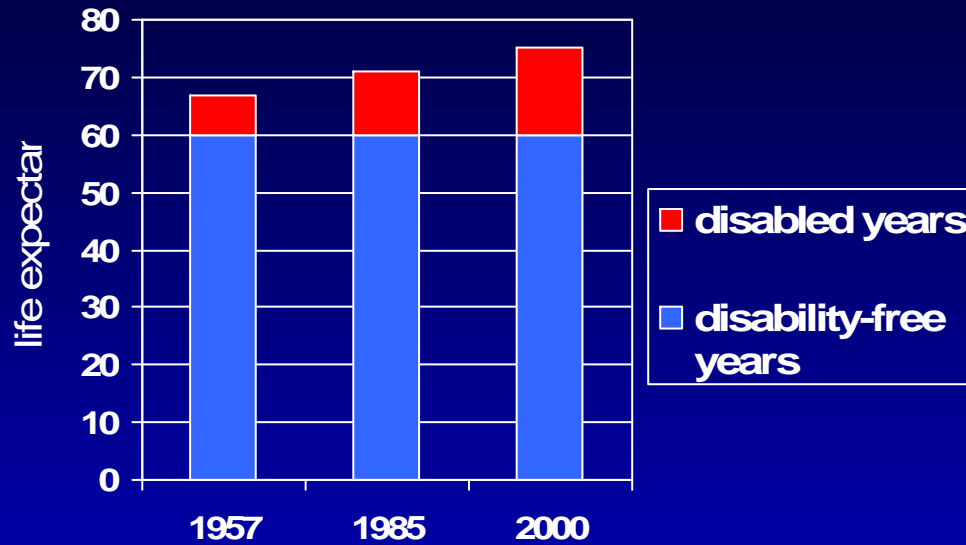
Reactive, episodic “illness” care is no longer tenable

“We can’t keep doing the same thing
and expecting different outcomes”

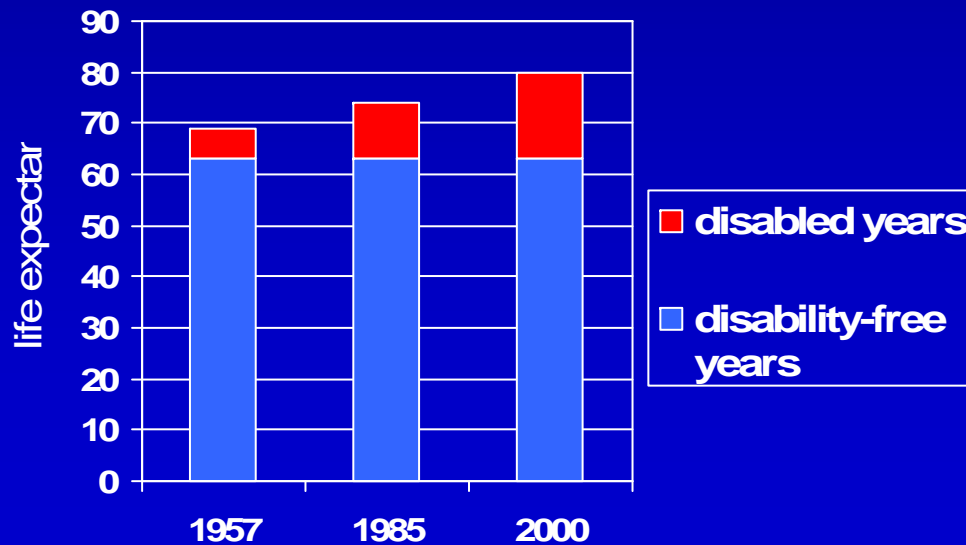
What is the goal of Chronic Disease Management ?

to keep people healthier, longer

Life expectancy at birth



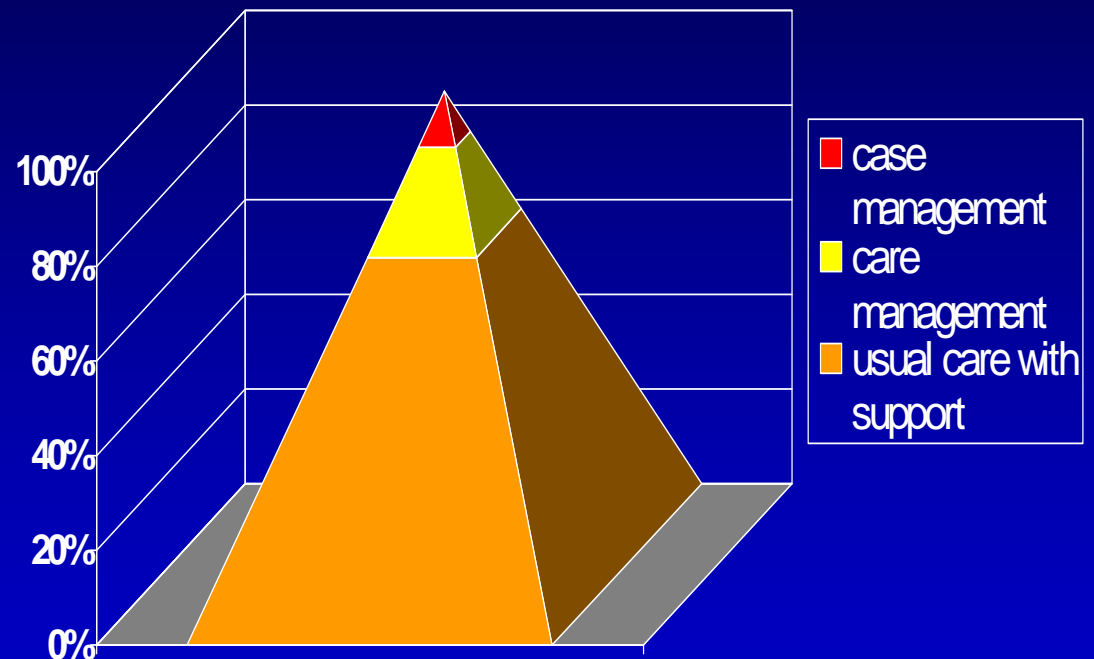
Men



Women

CDM Levels of Care

- Primary Care Physicians Teams and PCNs are supported to provide the best care to the most people
- Specialty clinics provide care management to “complex” cases
- Case management is reserved for the most challenging situations



Principles of Chronic Disease Management

- responsible for an entire population group
- identify patients (case finding) (VPL)
- stratify by risk and provide care in least intensive setting
- treatment in the community before it impacts on more complex acute care services
- primary care provider “runs the show” - provides care, coordinates care, is responsible

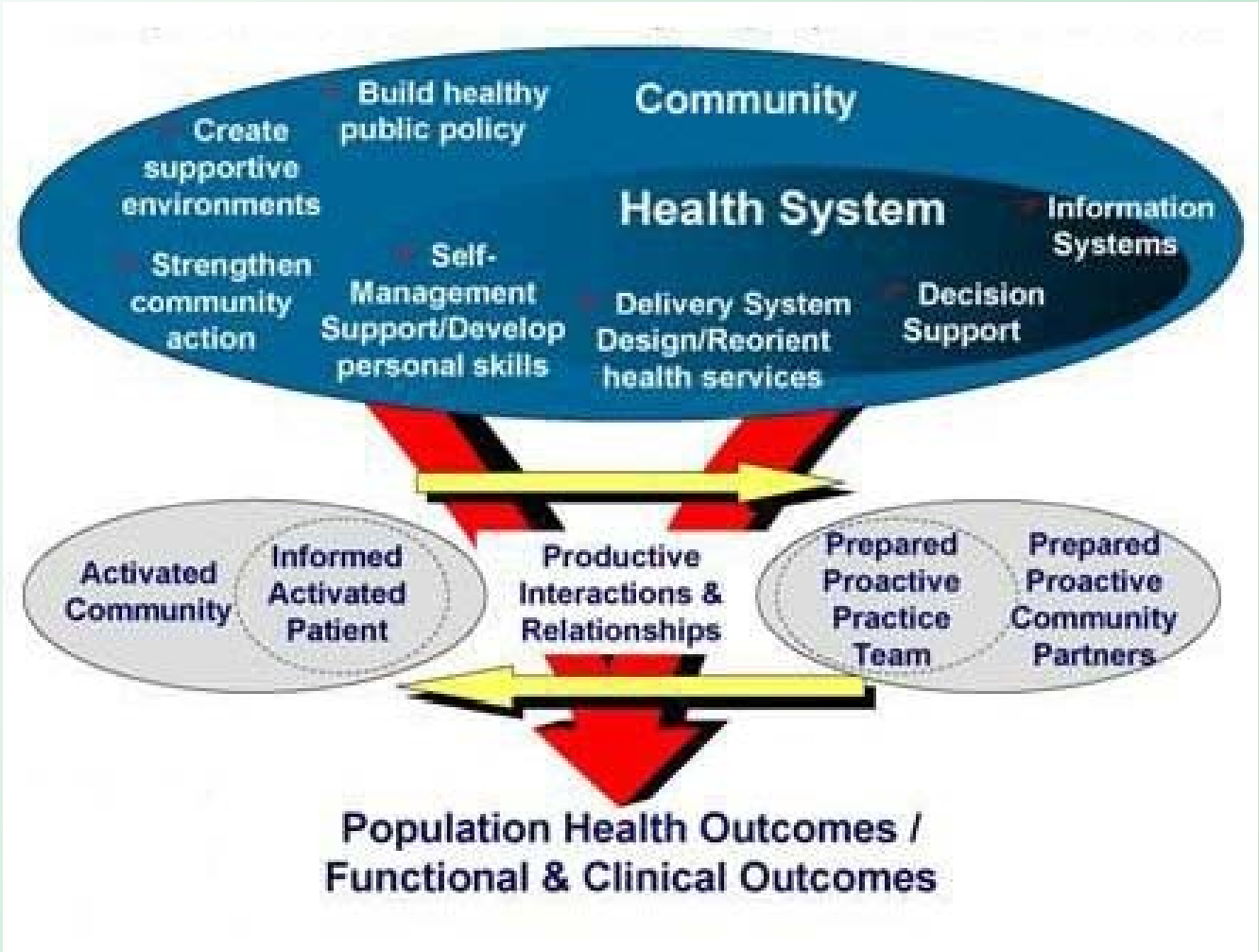
Principles of Chronic Disease Management

- involve patients in their own care (goal setting)
- interprofessional teams
- patient support in disease management with ongoing follow-up and education
- the system supports the family physician – patient relationship (infrastructure, financial, training, linkages to other parts of the health care system, etcetera)
- the system supports specialty and other services to, in turn, support primary care

Principles of Chronic Disease Management

- specialists act as advisors, mentors, resource
- information systems allow access and transfer of key patient data in a timely manner
- integration of care across organizational boundaries
- performance measurement tools help guide care

Chronic Disease Model



Steps in CDM

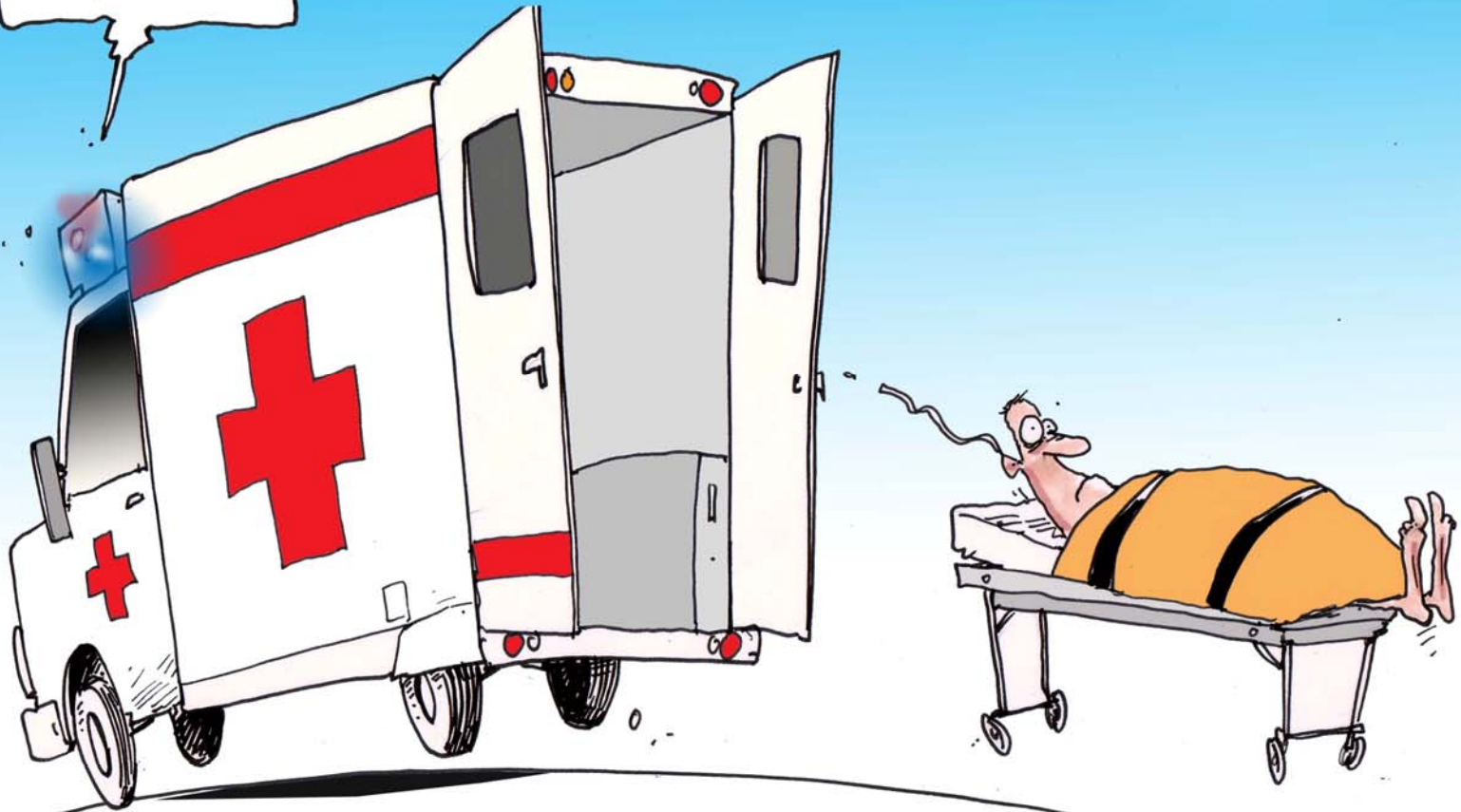
1. Screen / identify patients with condition (gold standard Dx)
2. “Register” patients with condition
3. Determine responsibilities – within the team; role of specialty and Regional programs
4. Develop or implement care maps, protocols (decision support; evidence-based)
5. Ensure patients are on care maps and develop means to track patients, mechanisms for alerts and updates to patient plan
6. measure/evaluate – system, disease specific, intermediate endpoint, hard endpoint
7. Allow for patient self-management
8. Consider whether community resources may be utilized

Strategies to prevent chronic disease

- “know your panel” (implies support in creating the panel)
- IT/IS supports for reminders, flags, etc.
- effective individual preventative measures:
 - risk identification
 - clinic level skills (motivational interviewing, barrier identification)
 - other supports: psychology, social work
- System support: community resources, policy, etc.

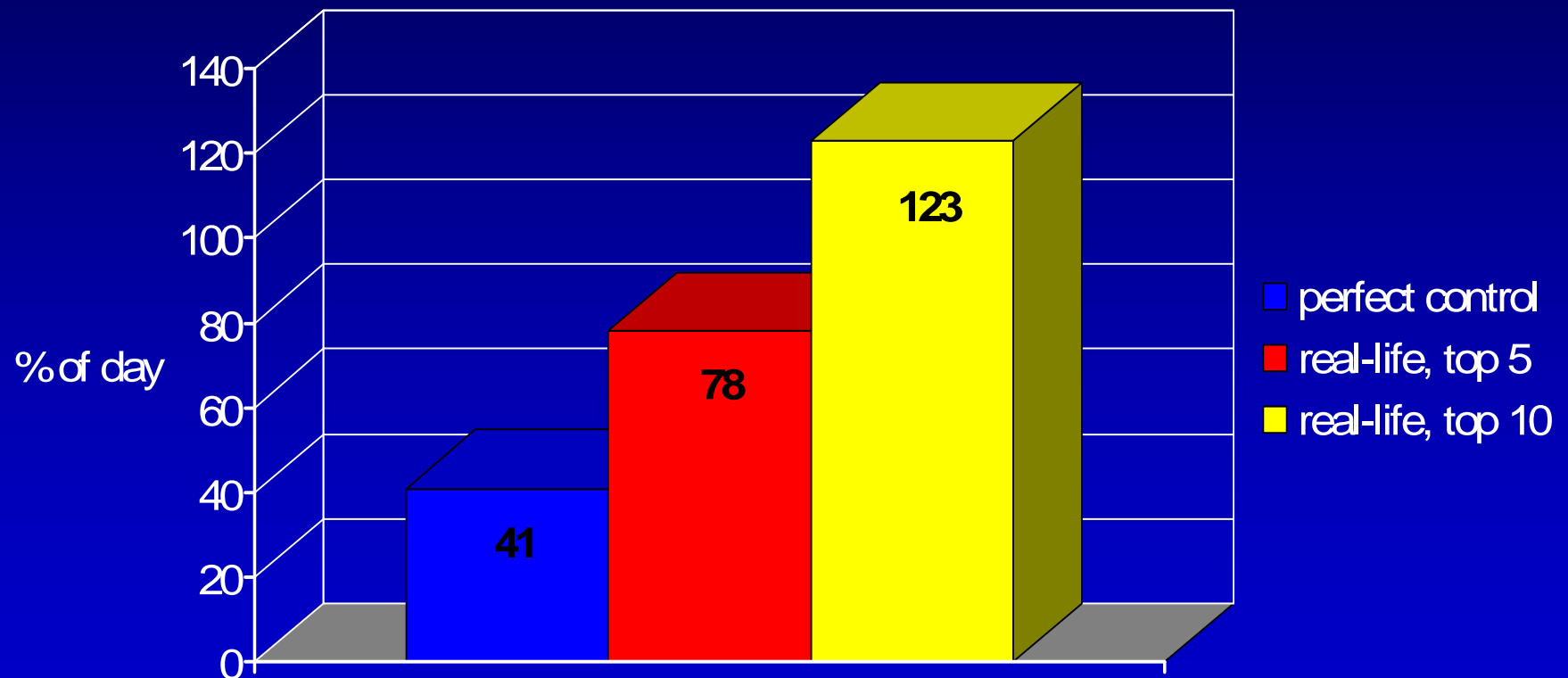
ROLE CLARITY

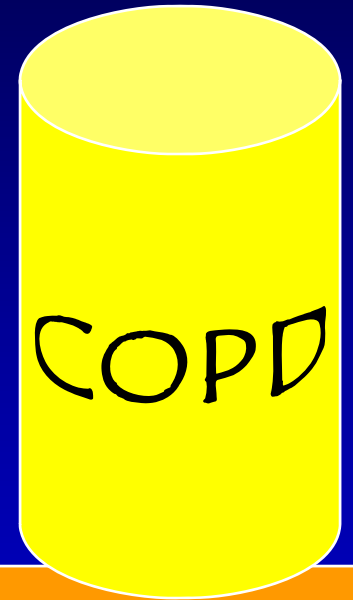
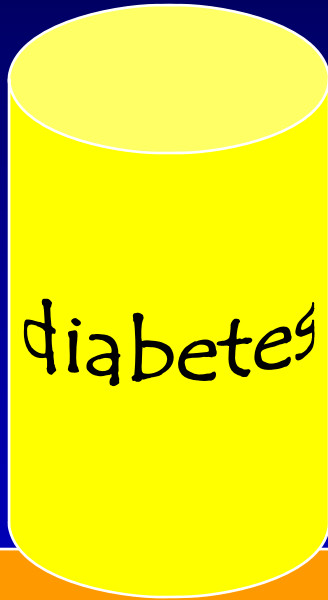
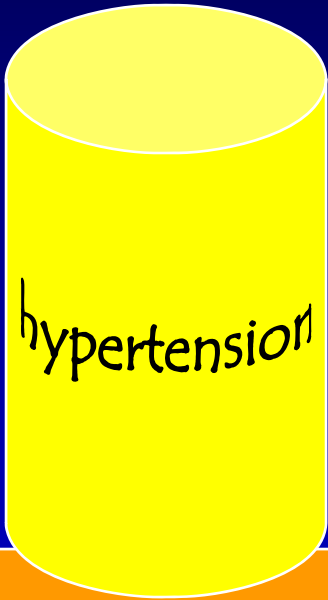
... NO...
IT'S YOUR
JOB TO CLOSE
THE DOORS...



DOLIGHAN.
dolighan.com

% of day required for CDM based on published guidelines





motivational interviewing

Stanford

Be your own boss

healthy living programs

Flinders

mental health screening

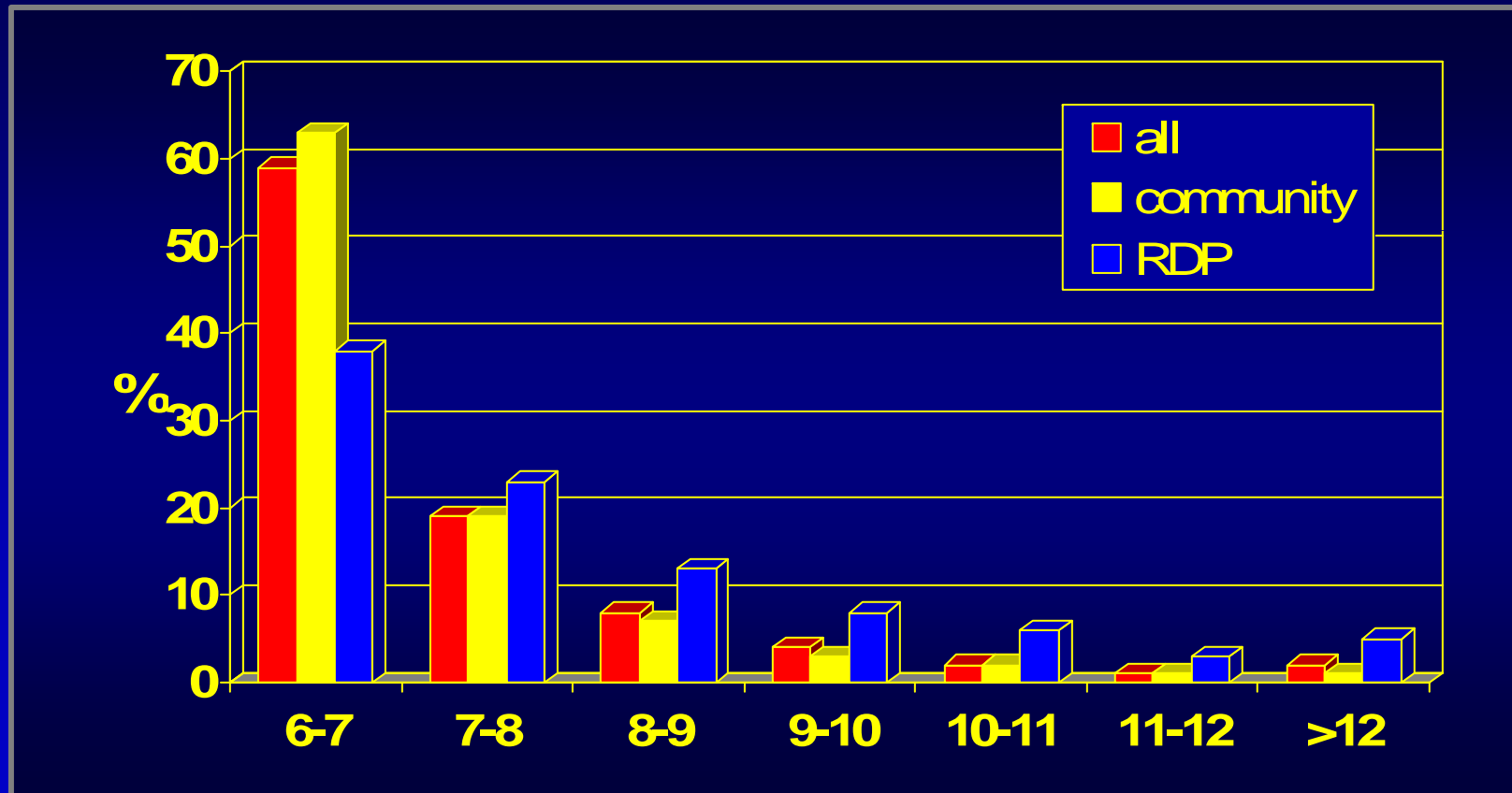
goal setting

social

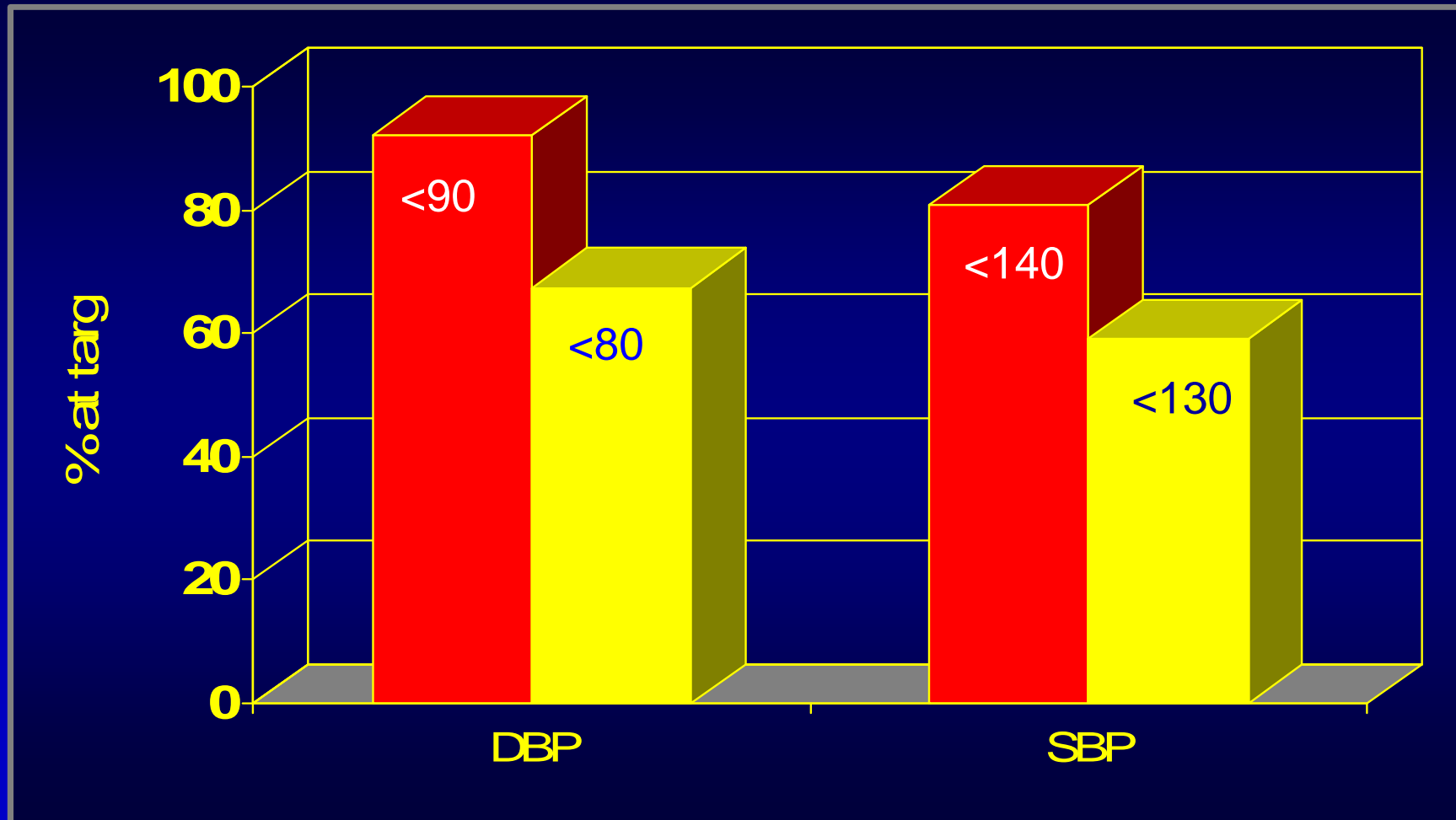
patient-reported outcomes

adherence

% of Capital Health diabetic patients at HbA1c targets

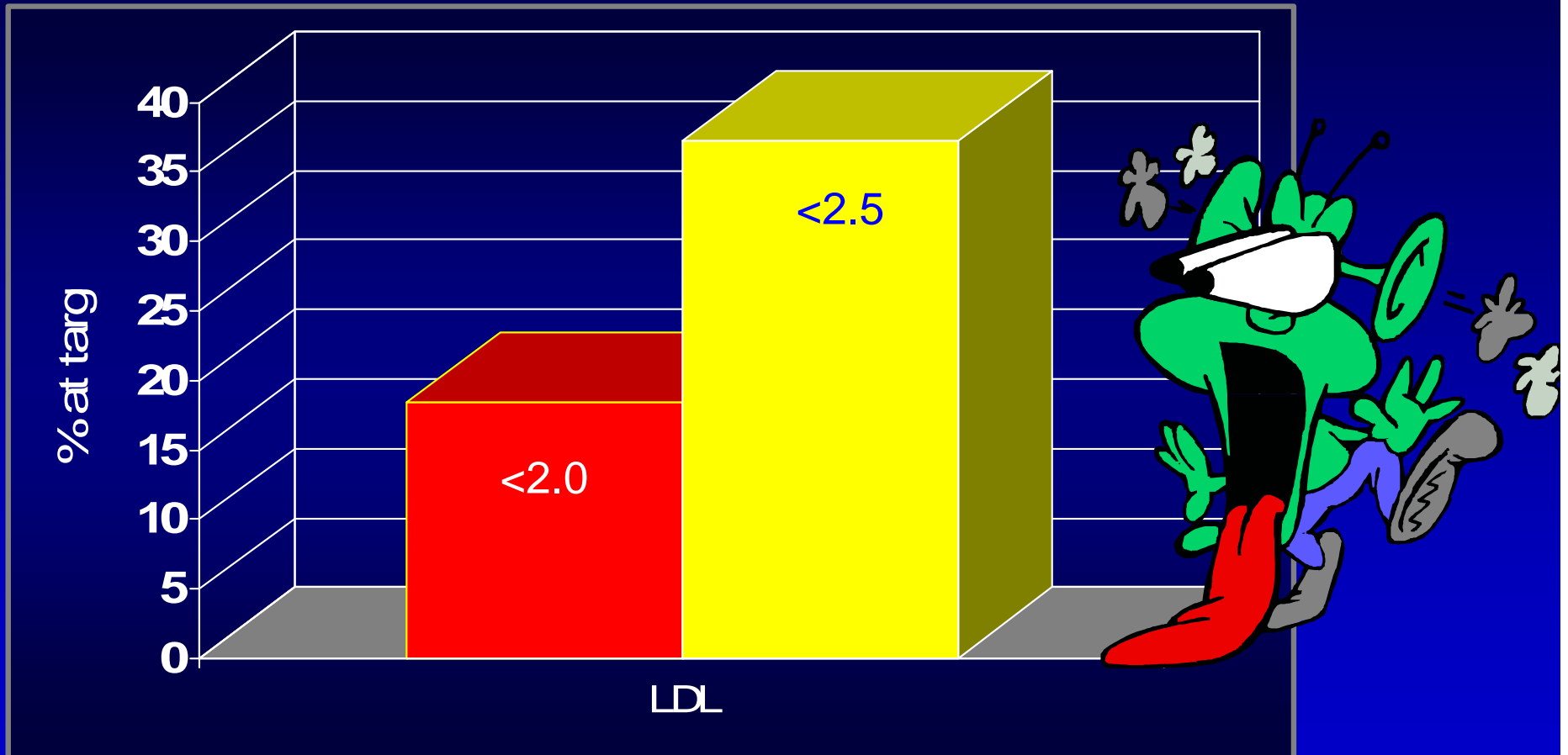


BP Control in Edmonton Regional Diabetes Program



Source: Capital Health Regional Diabetes Program

LDL Control in Regional Diabetes Program



Source: Capital Health Regional Diabetes Program

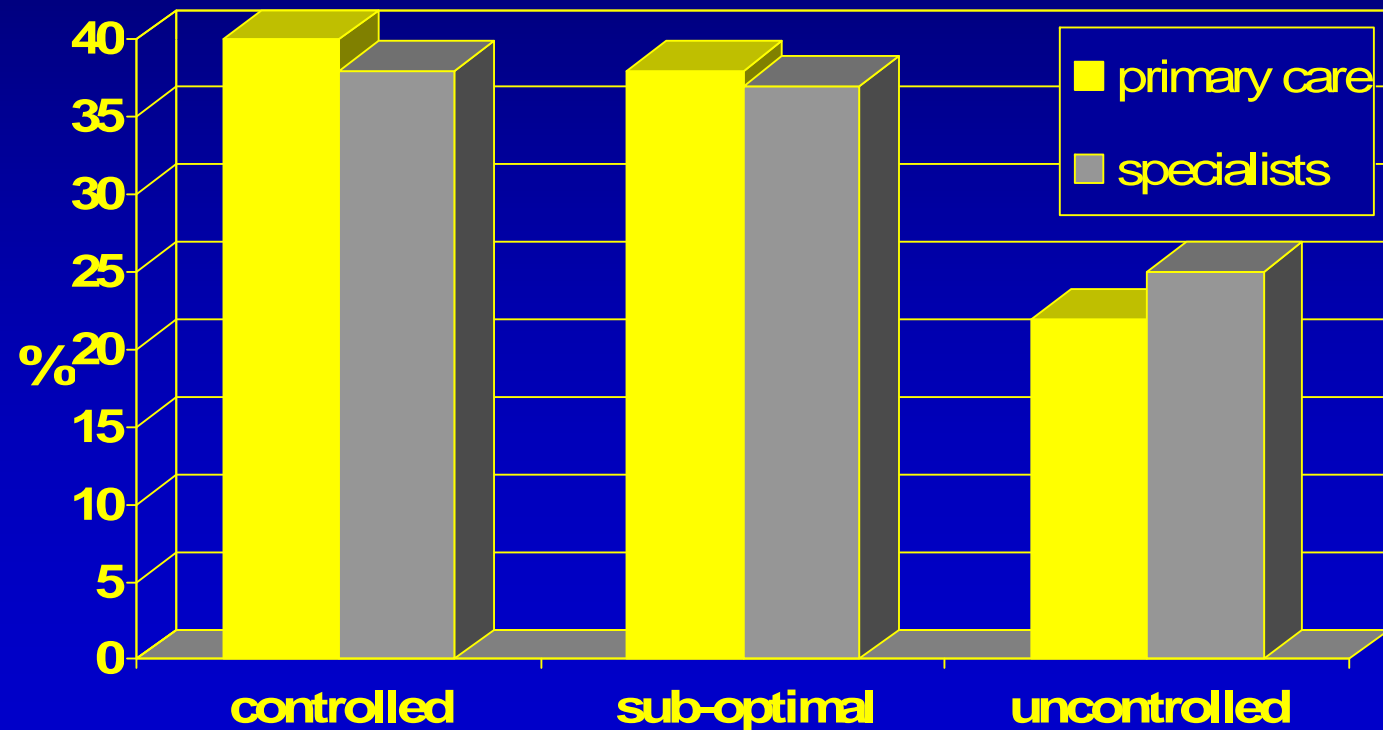
proportion of hypertensive and dyslipidemics on pharmacotherapy in Regional Diabetes Program



Source: Capital Health Regional Diabetes Program

How do family doctors compare to specialists in diabetes management in CH ?

Patients initially uncontrolled (HbA1c >8.4%)
After 6 months:



Treatment Adherence



Patient-identified barriers to diabetes control

1. 55.5% psychological (priorities, motivation, self-efficacy, competing demands, emotional)
2. 25.7% external physical (access – time, appointments, mobility, location; monetary)
3. 24.8% psychosocial
4. 23.9 internal physical (other conditions, side-effects)
5. 15.3% educational

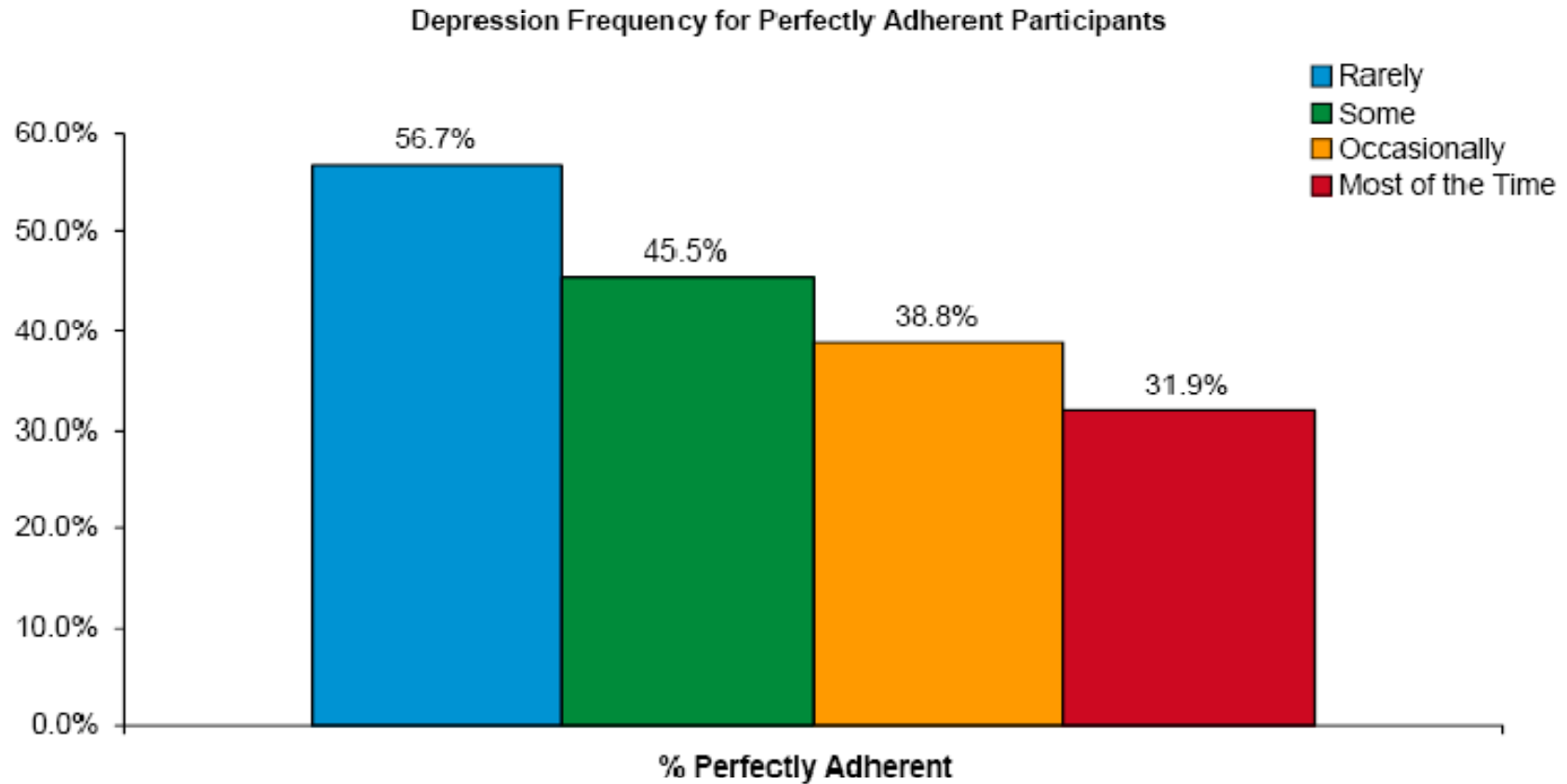
Determinants of treatment adherence

- demographics
- biological markers
- health history
- time with condition
- symptoms (or lack of)
- acceptance of condition
- perceived benefit
- perceived risk
- co-morbidities
- complexity of regimen
- stage of change
- physician-patient relationship
- pharmacist-patient relationship
- prior treatments/attempts
- expectations/beliefs
- habits
- social factors
- psychological state
- goals
- triggers
- social support
- side effects
- cost
- refill convenience
- lifestyle disruption
- motivation
- self-confidence
- knowledge

Barriers to self-management

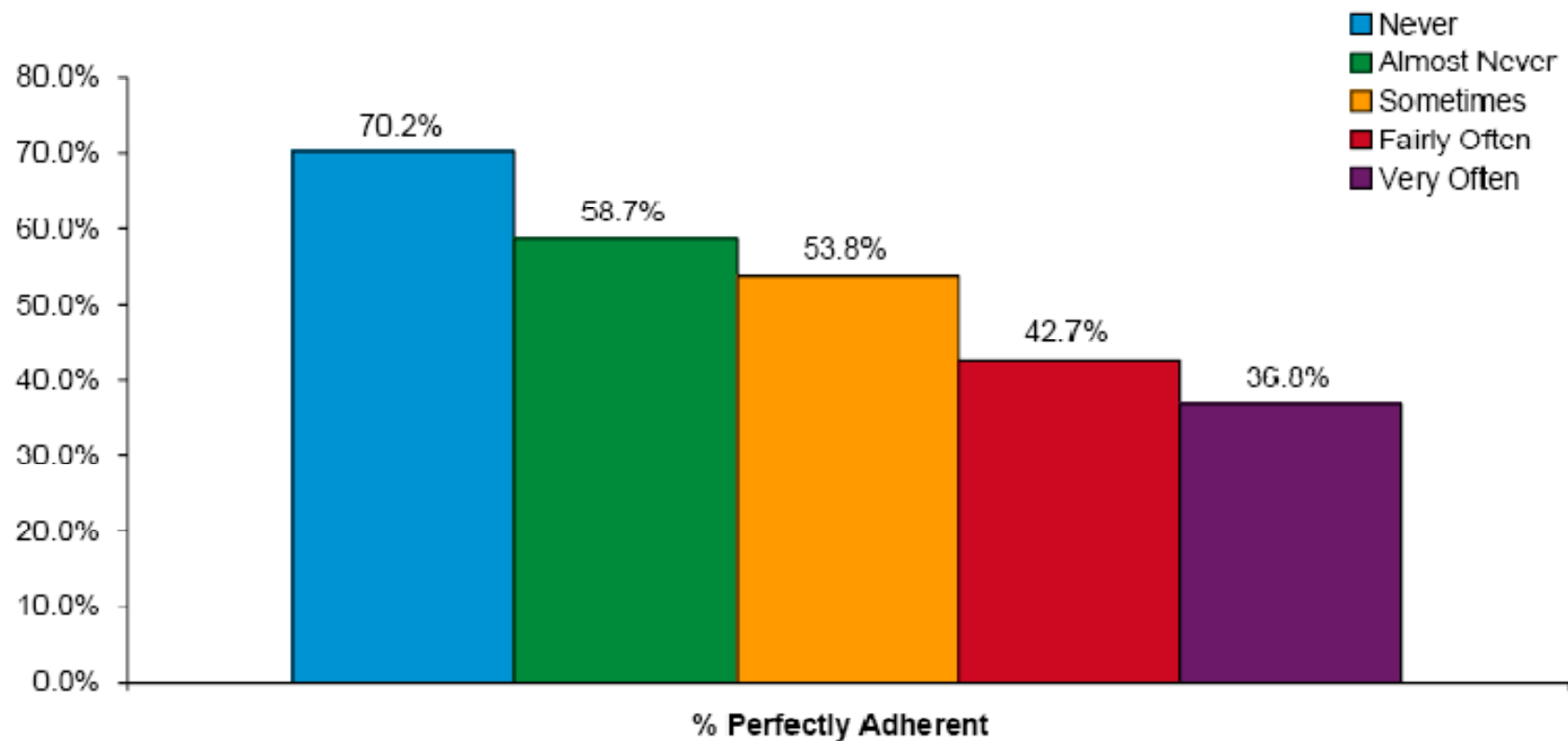
- number of diseases
- depression
- physical functioning
- self-efficacy
- health literacy
- disease burden
- compound effects of multiple conditions
- overwhelmed by one condition
- financial constraints
- social activity

Emotional Predictors: Depression

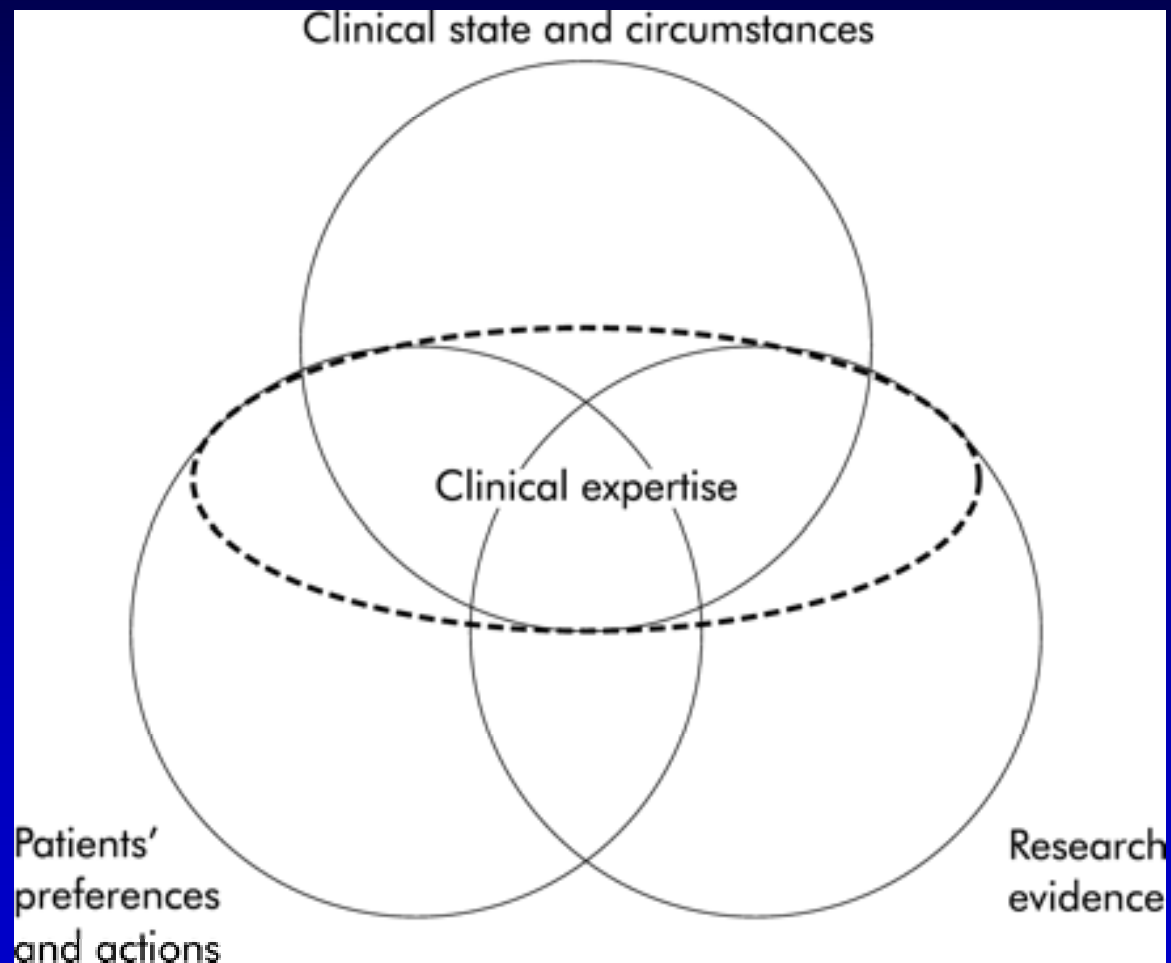


Emotional Predictors: Stress

Stress Frequency for Perfect Adherent Participants



The real history of evidence-based medicine

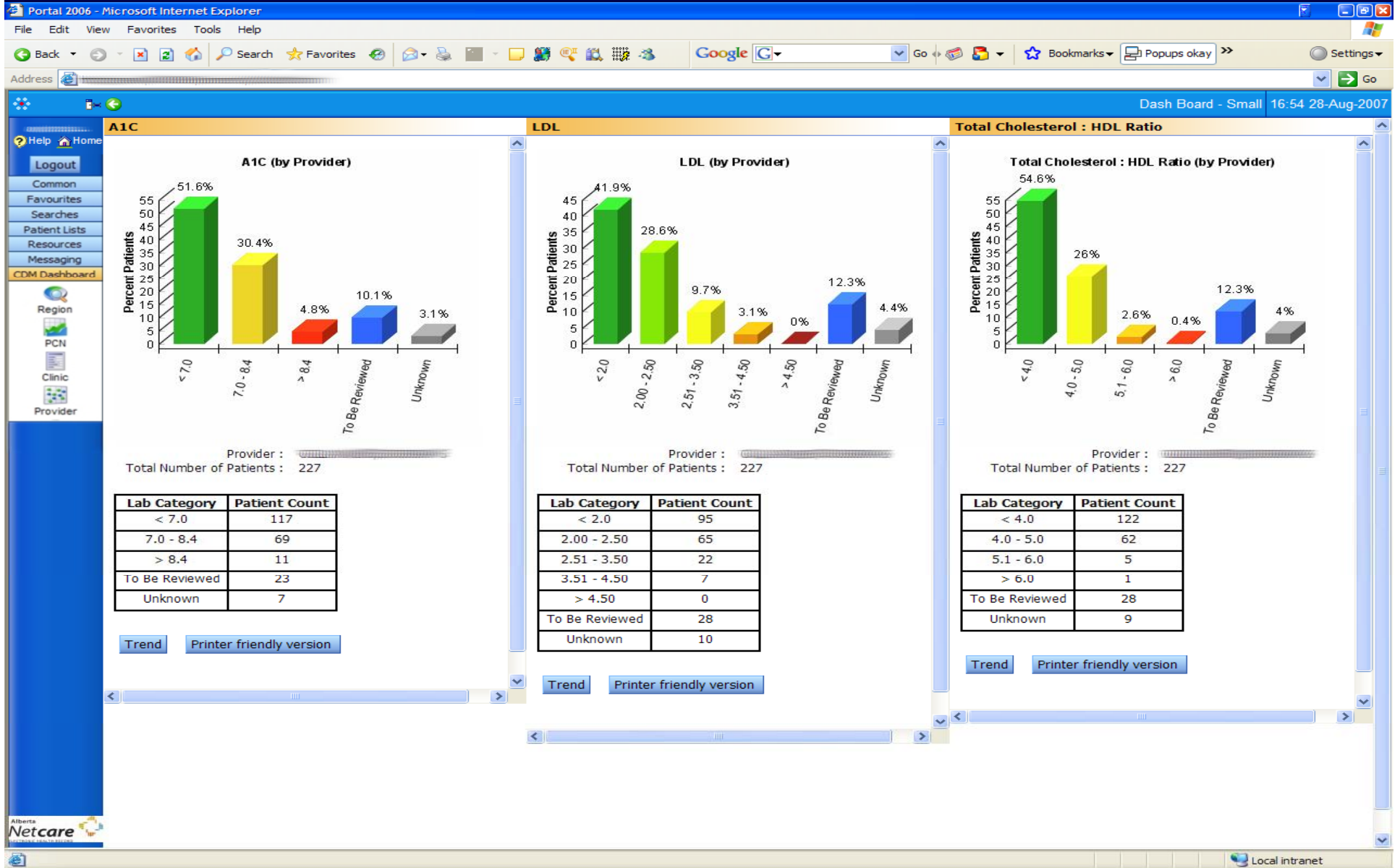


Sackett, evidence based medicine, BMJ 312:71, 1996

Decision Support

Know your patients !

Registry - Aggregate Dashboard



Registry – Patient Viewer

Portal 2006 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Google Go Bookmarks Popsups okay Settings

Address http://www.abc.com/

Clinical Documents (All) 15:07 07-Sep-2007

Showing all documents View By Category Look For Status All Clear

Mark selected document as unread
Mark all documents as read

Dynamic Patient Summary
Chronic Disease Summary
Anatomic Pathology (10/10)
Blood Bank (15/15)
Blood Gases (62/62)
Blood Products (30/30)
Chemistry (1675/1675)
Coagulation (191/191)
Cytogenetics (2/2)
Drug Levels (14/14)
Fluids (20/20)
Hematology (298/298)
Immunology (10/10)
Microbiology (208/208)
Other (13/13)

Logout
Common
Favourites
Recently Viewed Patients
List 1
List 2
List 3
List 4
Searches
Patient Lists
Concerto
Messaging
BIRT

Alberta Netcare

Done Local intranet

Care Co-ordination

Responsible Physician : JONES, DR. PETER
Follow Up Scheduled : Yes
Follow Up Date : 24-Sep-2007
Follow Up Type/Reason : Telephone

Co-Morbidities / Complications

Depression	05-Sep-2007
Foot Disorder	07-Aug-2007
Sexual Dysfunction	04-Aug-2007
Obesity	12-Apr-2006
Hypertension	24-Feb-2006
Lung Transplant	16-Aug-2004
Retinopathy	05-May-2003
Gestational Diabetes	22-Dec-2000

Medications

Diamicon	1 time a day	10 mg	02-MAR-2006	Take as supplemented	Oral blood glucose lowering drugs (A10B)
gliclazide	3 times a day	12 mg	02-JAN-2006	No refills	Oral blood glucose lowering drugs (A10B)
Tenormin	1 time every month	225 ug	05-MAY-2007	Research on Medication	Antihypertensive/Renal Medications (C02)
Atenolol	2 times every 2 weeks	125 ug	02-MAY-2004		Antihypertensive/Renal Medications (C02)

Markers Of Disease Progression

A1C
Hemoglobin A1C (HBA1C) : 6.3 % 05-DEC-2005 08:46 High

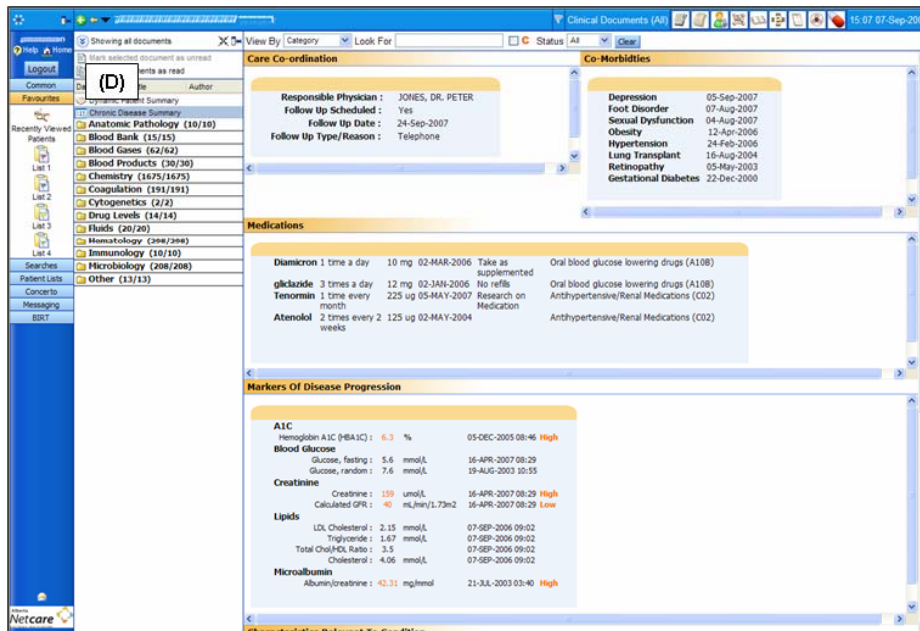
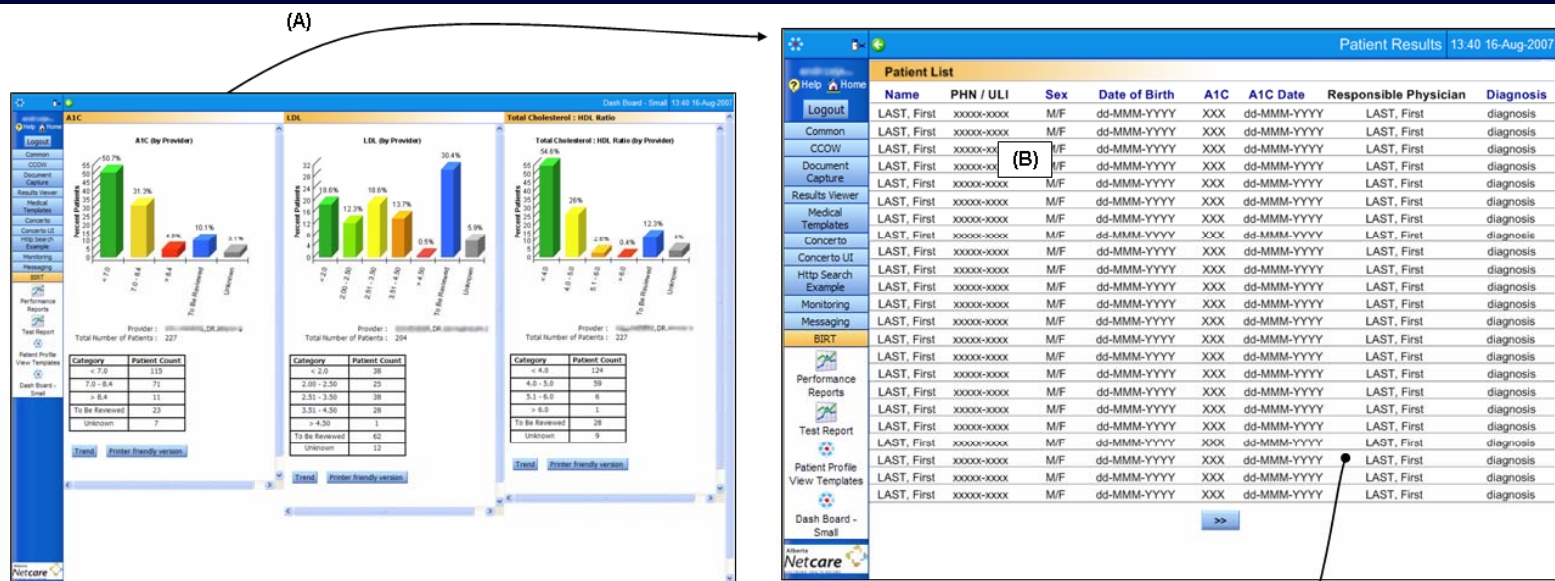
Blood Glucose
Glucose, fasting : 5.6 mmol/L 16-APR-2007 08:29
Glucose, random : 7.6 mmol/L 19-AUG-2003 10:55

Creatinine
Creatinine : 159 umol/L 16-APR-2007 08:29 High
Calculated GFR : 40 mL/min/1.73m2 16-APR-2007 08:29 Low

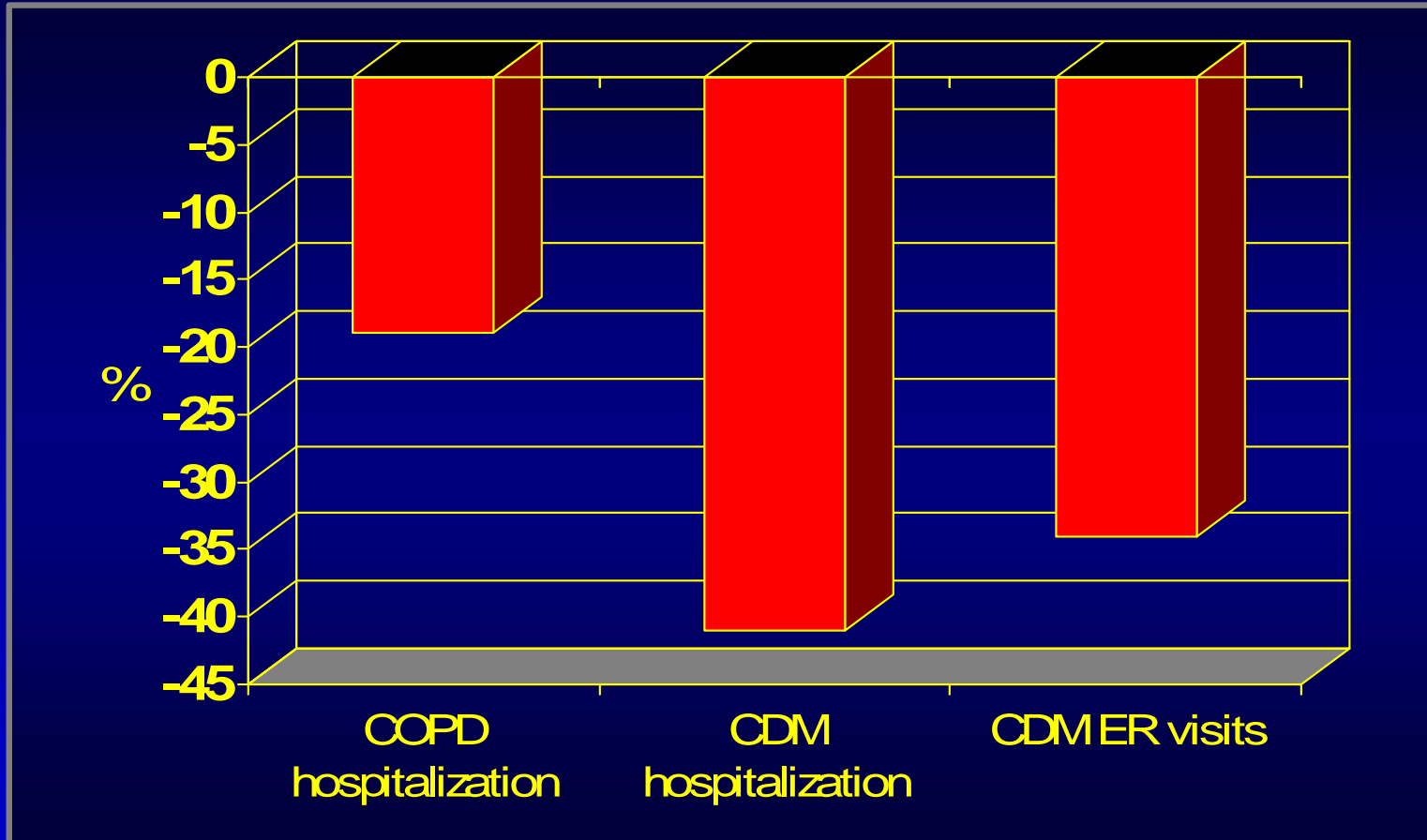
Lipids
LDL Cholesterol : 2.15 mmol/L 07-SEP-2006 09:02
Triglyceride : 1.67 mmol/L 07-SEP-2006 09:02
Total Chol/HDL Ratio : 3.5 07-SEP-2006 09:02
Cholesterol : 4.06 mmol/L 07-SEP-2006 09:02

Microalbumin
Albumin/creatinine : 42.31 mg/mmol 21-JUL-2003 03:40 High

Dashboard Drilldown Flow



Calgary CDM Outcomes



Source: Calgary Health Region

What does this mean for the patient ?

- Health Care not “Illness Care”
- Personal responsibility
- Strong emphasis on staying healthy with support to do this !
- The health care team works with the patient to be proactive in maintaining health (e.g. assesses risk for conditions, keeps up to date with routine interventions such as immunization, Pap smears, blood pressure checks)

What does this mean for the patient (cont'd)?

- Increased community supports
- Increased access to information (e.g. patient portal)
- Care coordinated and managed by primary care team
- Less reliance on just physicians, increased access to other health care professionals
- Specialists see more complicated patients
- Ability to access appropriate care, at right place, right time (i.e. shorter waiting lists or no waiting lists)
- All health care needs are addressed, not just a single problem

What does this mean for the patient (cont'd)?

- Did we make a difference ?
- Does the patient feel better ?
- Does the patient function better?

CDM – benefits for physicians

- Patients are seen when they need to be seen
- Less time spent on routine and annoying tasks
- Confidence that results are being followed-up
- Confidence that patients don't fall between the cracks
- Confidence that guidelines are being followed, best up-to-date care is being provided

CDM – benefits for physicians

- Less memory needed:
 - Reminders
 - Recalls
 - Alerts
 - Guidelines
- Greater patient safety and legal protection
- Better and easier access to specialists, specialty services
- Better and easier access to other health services (mental health, physio,etc.)
- Better information sharing; real time data exchange

CDM – benefits for physicians

- Easier access to acute care services and hospitals; proactive admissions
- Patients start taking responsibility for their own health and disease management
- Regional lifestyle and behavioral change programs
- Connection and utilization of community resources (e.g. Weight Watchers, YMCA, Running Room)
- Greater efficiency so more patients can be looked after per unit of time (theoretically up to 50%)

Patient-reported outcomes

Why Patient Reported Outcomes ?

- Patients want to feel well
- Patients want to function better

- Functional status is linked to health status
- Functional status is predictive of resource utilization
- Mental health status determines behavior change, compliance
- PRO's help identify what is important to the patient



SF-12v2™ Health Survey Standard Version

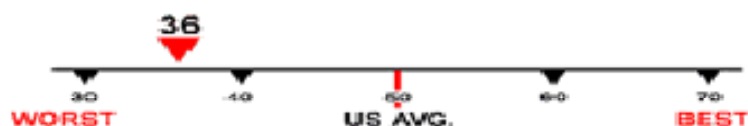
Report for John Doe

April 06, 2006

YOUR SCORES

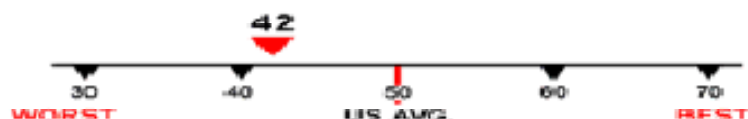
Report Date: April 06, 2006
Survey Mode: Web
Age: 38
Gender: Male
Conditions: Back problems

PHYSICAL HEALTH SUMMARY **36**



Your physical health summary score is very much below average, even taking into account the margin of error.

MENTAL HEALTH SUMMARY **42**



Your mental health summary score is below average, taking into account the margin of error.

YOUR PROGRESS

	Date	Physical Health Summary	Mental Health Summary
Current:	04/06/06	36	42
Previous:	10/19/05	47	36
Change:		worse	better

- Your physical and mental health summary scores changed significantly compared to the last time the survey was taken. Be sure to mention this to your doctor.
- The margin of error can cause small changes in scores. This survey focuses on changes of 5 points or more. However, you should always report to your doctor changes that are important to you.

Note: This survey is not a diagnostic tool. It is intended to supplement, but not replace or substitute the advice of your personal physician. If you have any questions or concerns about your health, it is always a good idea to seek one-on-one professional medical consultation.

Close

WHAT YOUR SCORES MEAN

Based on your answers about health in the past 4 weeks, our research shows that:

Compared to the general population...

Physically, your...

- functioning is much worse
- pain is much worse
- performance of work, home or school activities is much worse

Emotionally,...

- bothered more than most
- participation in social activities is more limited
- performance of work, home and school activities is limited much more

Overall, your...

- rating of your health is much better
- energy level is much higher

Compared to other men of similar age...

- your physical health appears to be much worse
- your emotional health appears to be worse

WHAT YOU SHOULD DO

- Schedule today, an appointment with your doctor to discuss the impact that your personal and emotional problems are having on your life.
- In one month, take this survey again to continue monitoring your progress.
- By showing this report to your doctor or other health care provider, you can work together to make sure that your physical & mental health are as good as they can be.

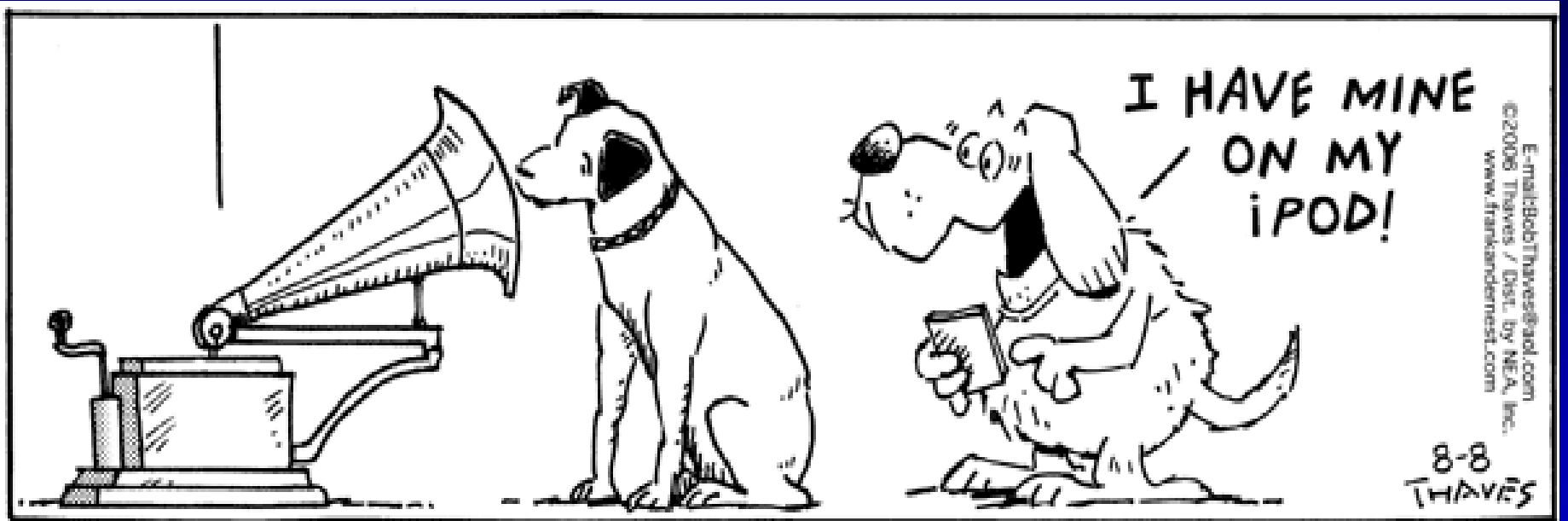
Conditions with greatest impact on:

- **physical health:**

- arthritis
- incontinence
- back problems
- COPD
- liver problems
- diabetes
- heart disease
- asthma

- **mental health:**

- depression
- eating disorder
- incontinence
- hearing loss
- skin problems
- back problems
- obesity



E-mail: BobThaves@aol.com
©2008 Thaves / Dist. by NEA, Inc.
www.frankandernest.com

8-8
THAVES

© NEA, Inc.

Discussion/Questions?

