

Promoting Adherence to Medication & Treatment

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Six Ongoing/ Focal Areas for *Healthy People 2010* – According to HHS & CDC

All require adherence to regular screening/intervention regimens, treatment regimens

1. Infant Mortality [prenatal care, maternal health]
2. Cancer Screening & Management
3. Cardiovascular Disease (CVD)
4. Diabetes
5. HIV Infection/AIDS [was new]
6. Immunizations [was new]

Healthy People 2020 under development:

<http://www.healthypeople.gov/hp2020/Objectives/TopicAreas.aspx>

Poor Medication Adherence

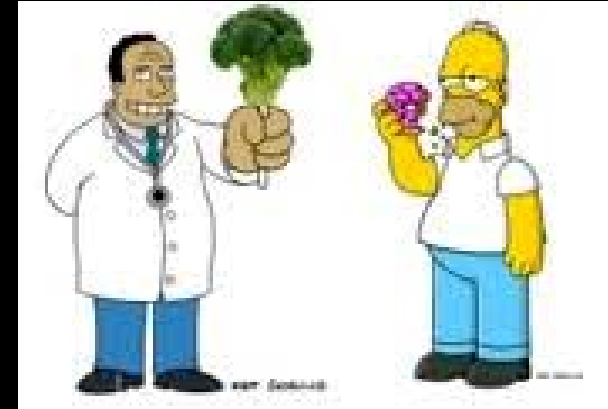
- Costs \$177 Billion in U.S. annually
- Accounts for 78% of healthcare spending
- 20-25% of employer healthcare costs are the result of non-compliance
- Cuts across age, gender, race, education and income
- Effective adherence programs may have a much greater impact on patient health than improved medical treatments
- WHO report revealed that **50% of patients** with chronic disease do not take their medication as prescribed

Illness & Death in America

- 7 out of 10 deaths among Americans each year are from **chronic diseases** – not able to maintain regimens for prevention, as well as to adherence to treatments
- In 2005, 133 million Americans – almost 1 out of every 2 adults – had at least one chronic illness.
- About 25% of people with chronic conditions have one or more daily activity limitations

Adverse Effects

- Heart disease, cancer and stroke account for more than 50% of all deaths each year.
- Obesity has become a major health concern. 1 in every 3 adults is obese; and almost 1 in 5 youth aged 6 - 19 is obese (BMI \geq 95th percentile of the CDC growth chart)



Adverse Effects

- For diabetes, hypercholesterolemia and hypertension, hospitalization rates were significantly lower for patients with high medication adherence.
- Diabetes continues to be the leading cause of kidney failure, nontraumatic lower-extremity amputations, and blindness among adults, aged 20-74.

Example: Diabetes Regimen Adherence

- Each additional \$1 spent on diabetes medication is estimated to save \$7 in medical costs
- Combined drug and medical costs for the most compliant diabetes patients average almost 50 % *below* the cost for the least compliant group

Costs of Poor Adherence

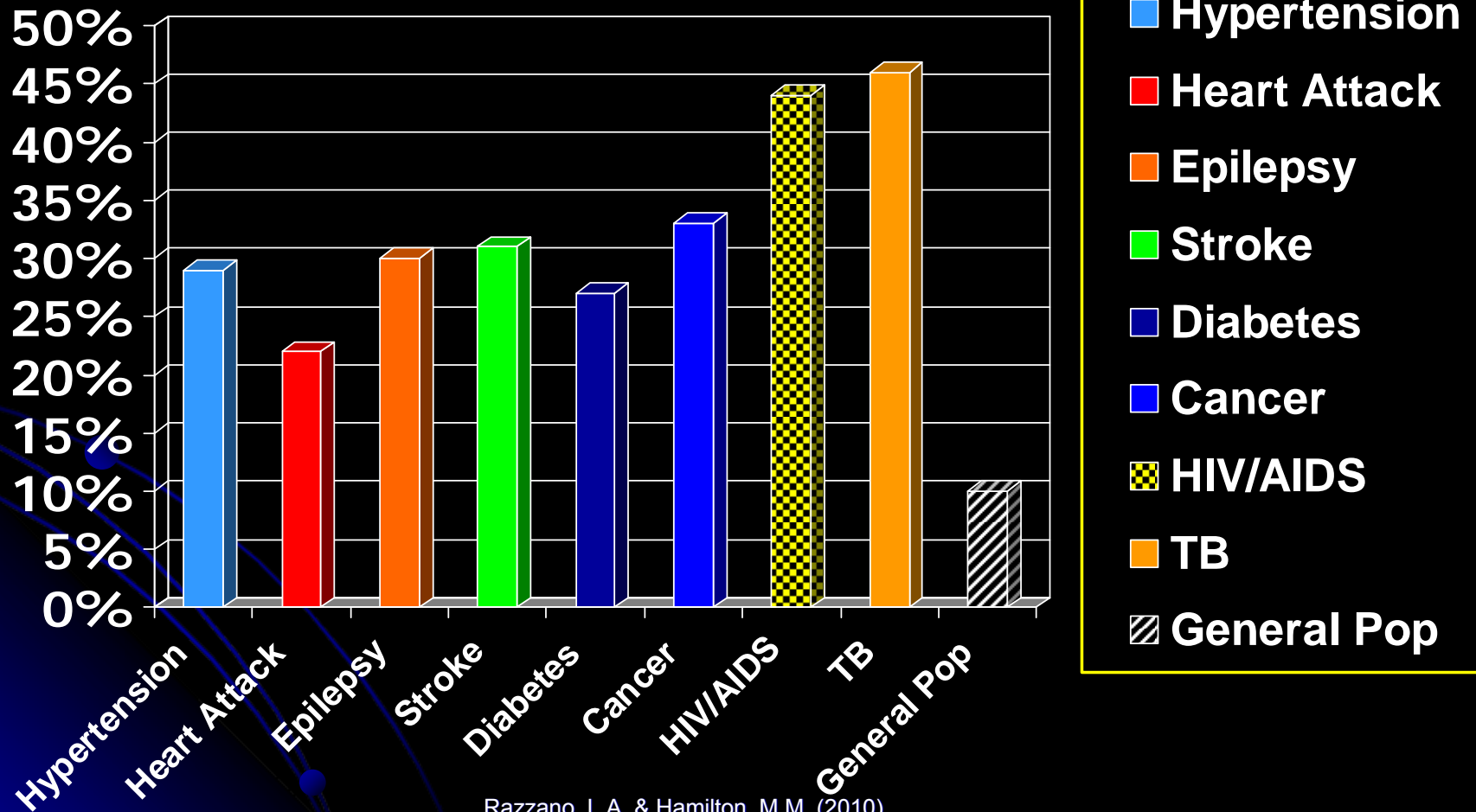
- Represent 75% of total health care expenditures
- 69% of hospital admissions
- 80% of hospital days
- 55% of emergency room visits

Razzano, L.A. & Hamilton, M.M. (2010).



Depression affects adherence & is not common co-morbidity worldwide

(WHO 2003)



Razzano, L.A. & Hamilton, M.M. (2010).

Health Beliefs

- One strategy to promote adherence is to address health beliefs in several areas
 - Perceived Severity
 - Perceived Benefits
 - Perceived Barriers
 - Cues to Action
 - Self Efficacy

General HBM Application

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) @ risk, risk levels; personalize risk based on a features/behaviors; heighten perceived susceptibility if too low
Perceived Severity	One's opinion of how serious is a condition, its consequences	Specify consequences of the risk and the condition itself
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

Using HBM: Medication & Treatment Adherence

Concept	Application	Tailoring Activities
Perceived Susceptibility	Define patient's @ risk, risk levels; probability of perceived susceptibility & progression; features & their health behaviors;	Increase overall knowledge of disease progression risks; 2° illness risks; potential med interactions; metabolic issues
Perceived Severity	Specify consequences of the risk and the condition itself	Initial symptoms & limitations; long course impact of illness, complications of poor treatment
Perceived Benefits	Define action to take; how, where, when; clarify the positive effects to be expected	Increase function reduce impact; initiate use of medications (e.g. HIV/AIDS);
Perceived Barriers	Identify and reduce barriers through reassurance, incentives, assistance	Medications/interactions; identifying early symptoms, side effects; cost
Cues to Action	Provide how-to information, promote awareness, reminders	Illness monitoring; conversations with docs
Self-Efficacy	Provide training, guidance in performing action	Development of regimen dosing plans; health testing routines; treatment schedules

Strategies to promote adherence

- **PERSONAL** understanding of perceived susceptibility, seriousness, & benefits for action
- Identify patients' strengths & weaknesses – core principle of PSR/EBPs/EBM
- Translate technical information to formats usable, & preferred & understood by patients
- Must identify systemic barriers, tangential systems with opportunities for integration
- **NORMALIZE** health promotion – regular messages are less suspicious, coordinate with community programs, variety to promote attendance

Suggestions from CDC:

Before you begin any treatment regimen, there are several steps you can take to help you with adherence:

- **Talk with your healthcare provider** about your treatment plan and develop a plan that works for you.
- Be sure you understand why adherence is so important. When you know the possible consequences if you don't adhere to your treatment plan, you may be more motivated to stick with it.
- Get a written copy of your treatment plan that lists each of your medications and describes how and when to take them.
- Learn all the possible side effects of your medications so that you know what to expect and how to manage any problems.

More CDC Tips

- Adherence is harder when dealing with life challenges, like substance abuse/alcoholism, unstable housing, mental illness, relationship issues, or other issues. **Talk to your doctor about any challenges you may be facing that could affect your ability to take your meds.**
- Consider a "dry run." Use candy or vitamins to practice your treatment regimens when complex.
- Schedule taking your **medications** around your daily routines. That can make it easier to remember and stick to your regimen.
- **Ask your provider about stopping treatment** - treatments should only be stopped or started as agreed upon **with your care provider.**

Ex. Prescription Adherence Tools

You have just filled a prescription for an antibiotic...



READ THIS IMPORTANT INFORMATION

- **Take it exactly as your medical expert tells you**
- **Do not skip doses**
- **Do not share it with others**
- **Finish the prescription even if you feel better**
- **Do not save it for later**
- **Why is this checklist so important?**

Using an antibiotic the wrong way can make infections stronger and harder to treat. You can prevent this problem by getting smart about antibiotics.

For more information call 1-800-CDC-INFO or visit www.cdc.gov/getsmart/

FDA's Safe Use Initiative

www.fda.gov/Drugs/DrugSafety

- *Safe Use Initiative* aims to create and facilitate public and private collaborations within the healthcare community.
- Central goal is to reduce preventable harm by identifying specific, preventable medication risks and developing, implementing and evaluating cross-sector interventions with partners who are committed to safe medication use.

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Adherence Follow Up Questions for 1:1 Meeting with Patients

Questions that should anchor every visit:

1. How many doses did you miss?
2. Have you had any **other** doctor's appointments since I last saw you? How did it go? What happened?
3. When is our next appointment?

MAPS-1 Findings

- Medication intervention based on health beliefs and other theoretical models – evaluated in small RCT study
- Results examine baseline (T1) and 6-month follow up (T2) data
- Intervention group (MAPS) demonstrated stronger improvement in adherence in contrast to comparison group (CG), $p < .02$.
- **Impact:** Missed dosages decreased by 59% among MAPS participants vs. 26% among CG participants (**+33% MAPS** vs. CG).

MAPS-1 Findings

- The MAPS participants also reported significant improvements related to physical HIV/AIDS symptoms compared to the CG, $p < .01$
- **Impact:** reported impairment related to HIV/AIDS symptoms* decreased by as much as 50% for MAPS compared to 28% in CG. (+22% MAPS vs. CG)

* Health Symptoms = positive correlate with adherence

Early Results from Peer-Operated MAPS-2 Intervention

- Percent of pills missed in the last 7 days was an HIV medication adherence indicator
 - There was a significant ($p=0.002$) decrease in percent of pills missed over time
- The mean difference in percent of pills missed after controlling for confounders was:
 - - 6.79% from baseline to post ($p=0.032$) &
 - -10.48% from baseline to follow-up ($p=0.002$).

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