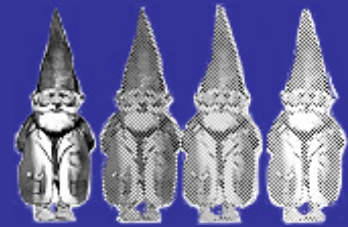


# An Evidence-Based and Cost-Effective Approach to Treating GERD

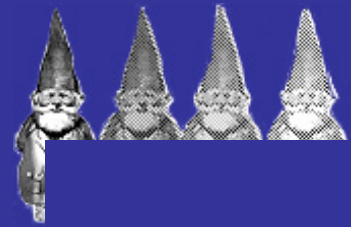
Mark Quirk, Ed.D., Frank J. Domino, M.D.,  
Heather-Lyn Haley, Ph.D., Warren Ferguson,  
M.D., and John Wysocki, B.A.

*University of Massachusetts Medical School*



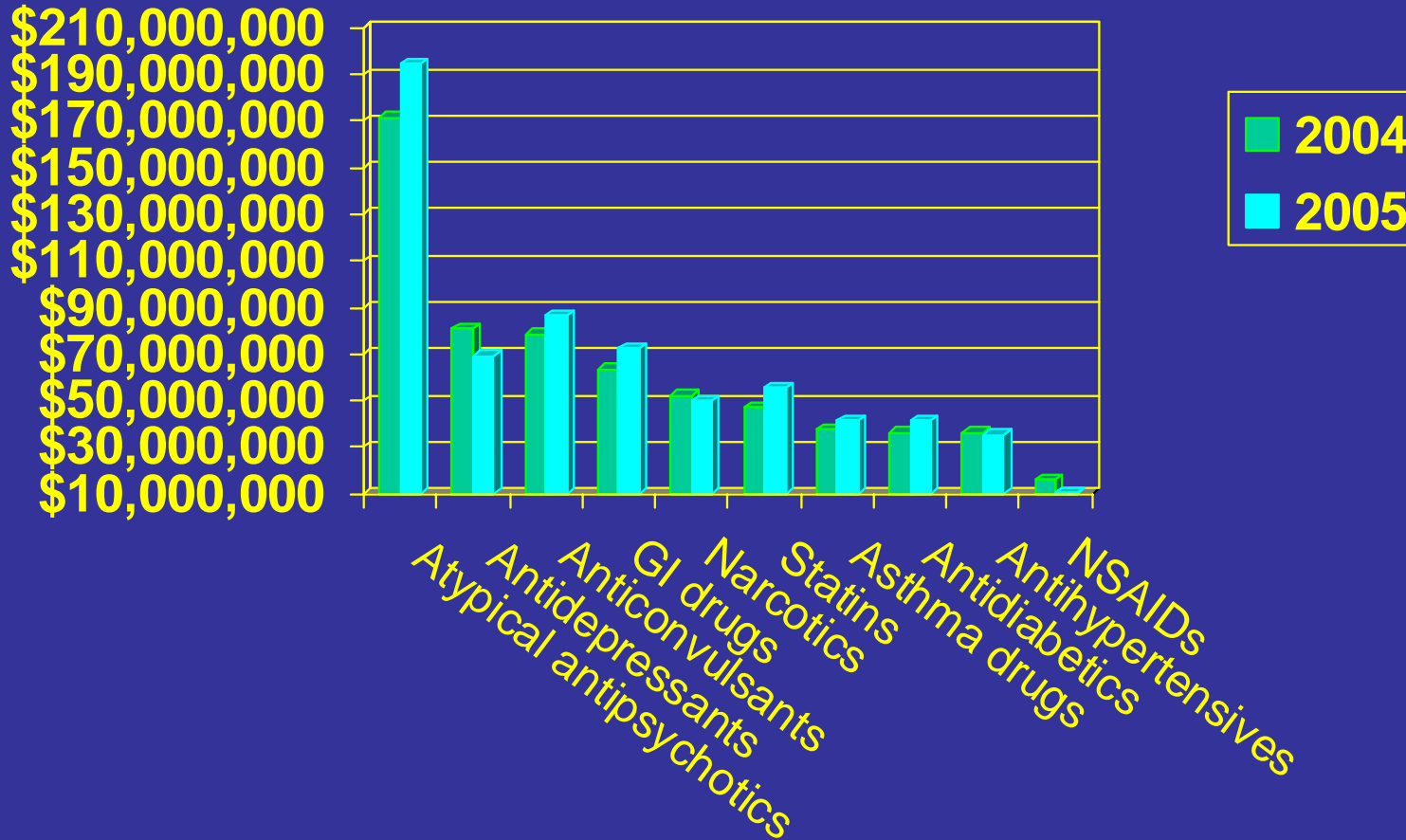
# Top Ten Rx: MassHealth Calendar Year 2005

Rank	Drug Name	Type of Drug	Dollars	Ave
1	PROTONIX	GI PPI	\$63,233,343	\$118.41
2	ZYPREXA	Psychiatric	\$56,225,471	\$322.11
3	SEROQUEL	Psychiatric	\$51,834,221	\$197.25
4	LIPITOR	Cardiovascular	\$47,602,056	\$94.54
5	RISPERDAL	Psychiatric	\$44,127,292	\$212.19
6	ABILIFY	Psychiatric	\$25,152,856	\$329.57
7	DEPAKOTE	Psychiatric	\$24,039,306	\$122.00
8	ADVAIR	Asthma	\$16,776,058	\$155.92
9	LAMICTAL	Psychiatric	\$15,896,656	\$217.97
10	ZOLOFT	Psychiatric	\$14,541,197	\$106.44



# MassHealth Pharmacy Claims - 2004-05

## Top 10 Therapeutic Classes by Amount Paid



# Program Objectives

- Demonstrate an evidence-based, cost effective approach to the diagnosis and management of GERD
- Provide the *best evidence* to support this approach
- Introduce the most effective lifestyle interventions for GERD treatment
- Measure the impact of this training intervention on prescribing behaviors and physician knowledge

## Design:

### *Pre/Post Intervention Case Comparison Study*

## Outcomes:

a. Prescribing behaviors

	<u>1 month prior</u>		<u>1 month after</u>
<u>I</u>	O1	X	O2
<u>C</u>	O1	---	O2

b. Pre/Post Knowledge Quiz

# Demographics

- Participants
  - 76 physicians provided pharmacy data (DEA #)
  - 40 completed pre & post knowledge test
  - 6 community health center sites randomized
    - 4 intervention
      - 27 physicians provided DEA #s, were trained & completed pre/post-test (of 54 enrolled)
    - 2 control
      - 22 physicians were enrolled & provided DEA; 13 responded to pre/post-test

# Intervention Group

## GERD: Agenda

- Dinner Discussion 20 Minutes
- Formal Presentation 30-60 Minutes
- Questions 15 Minutes
- Post Paperwork 5 Minutes
- Total < 2 hours**

# Sources of Evidence

- Cochrane Database
- VHA Clinical Practice Guideline
- Canadian Task Force
- American College of Gastroenterology Practice Guideline
- Meta-analyses including economic modeling



# Quality of Evidence on *Initial Treatment*

- Most double blind, placebo controlled studies show slightly higher initial treatment efficacy with 4-8 weeks of PPI compared to H2RAs
- H2RAs can effectively treat many patients who have mild GERD

# Best Evidence on *Maintenance Therapy (DoD 2003)*

- Best evidence guidelines include options to initiate with H2RA or PPI
- Evidence supports stratification based on risk factors and lifestyle modification
- Clinical & economic studies favor H2RA step down approach over intermittent PPIs

# Lifestyle Factors and GERD



# What Does the Literature Support?

- Elevate head of bed
- • Sleep on the left side
- Lose weight (if appropriate)
- • Reduce stress
- • Stop NSAIDs (Advil)
- Change eating habits

Avoid eating 2-3 hours before bedtime

Avoid certain foods (chocolate, caffeine, fat)

Eat smaller portions

- • Smoking Cessation
- Avoid ETOH



• *No Children*

# Adult GERD Treatment Protocol

**Differential Diagnosis**  
 Peptic Ulcer Disease  
 Gastritis  
 Pancreatitis  
 Gall Bladder Disease  
 Cardiac Disease

**Symptoms of reflux**  
 Greater than or equal to 2X/week?

Lifestyle modifications  
 H2RAs and Antacids

**Patient Red flags?**  
 Dysphagia  
 Weight loss  
 Blood loss  
 Back / chest pain  
 Symptoms > 5 yrs

Referral to gastroenterologist

**Assign severity\***

Mild

Severe

**\*Assigning severity - factors:**

- Pain @night
- H2RA failure
- Obesity
- Stress
- Smoking
- NSAID use

Two or more factors present - correlates with **Severe**.  
 One factor present - correlates with **Mild**.

4 week trial H2RAs  
 Lifestyle modifications:  
 -diet, stress, smoking,  
 NSAID use  
 Symptoms improved?

Complete 8  
 week trial H2RA

Step-down -  
 maintenance  
 H2RAs BID, prn

Follow-up as  
 needed

4 week trial PPIs  
 Lifestyle modifications:  
 -diet, stress, smoking,  
 NSAID use  
 Symptoms improved?

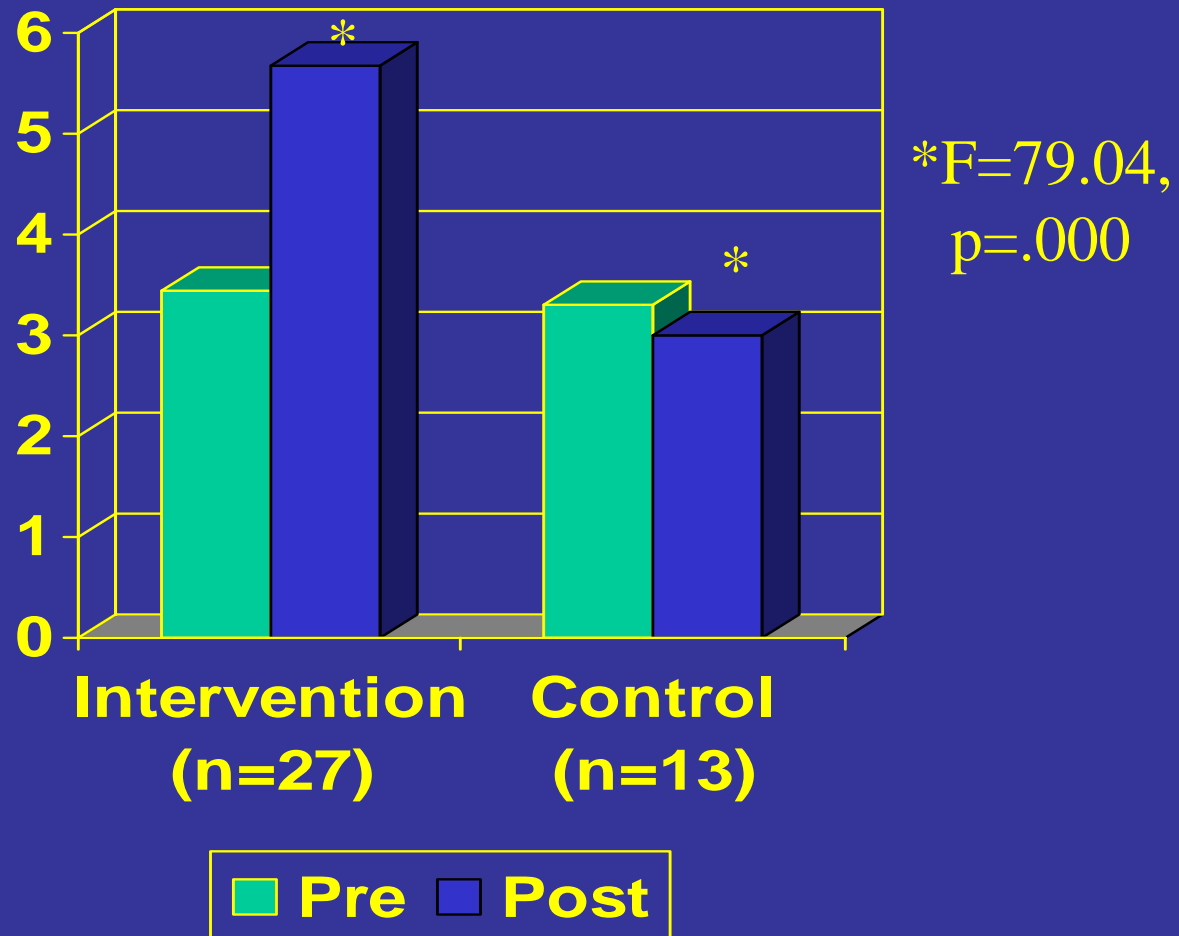
Complete 8  
 week trial PPI

Step-up - 4 week trial PPI  
 Symptoms improved?

Complete 8  
 week trial PPI

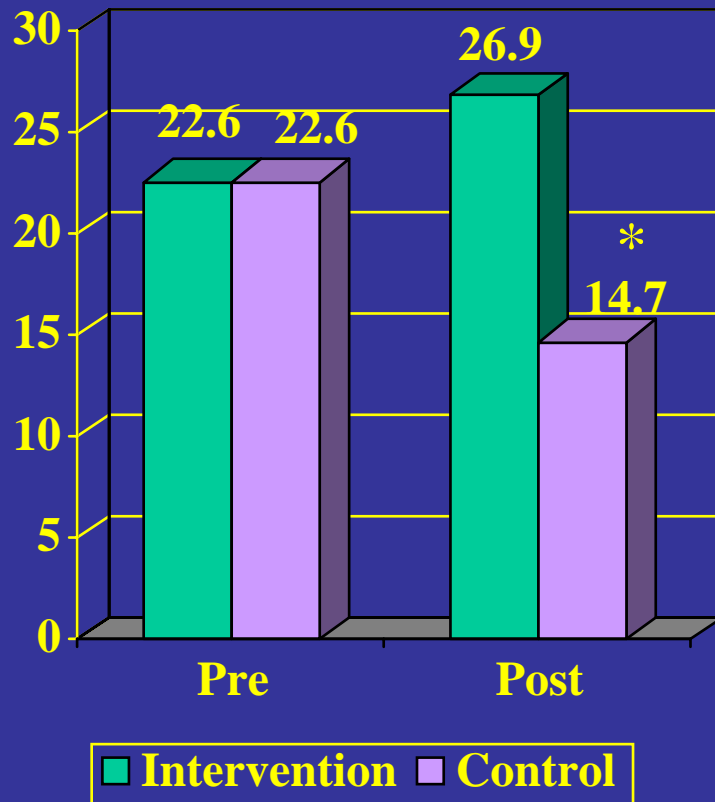
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# Knowledge Quiz on GERD Treatment EBM

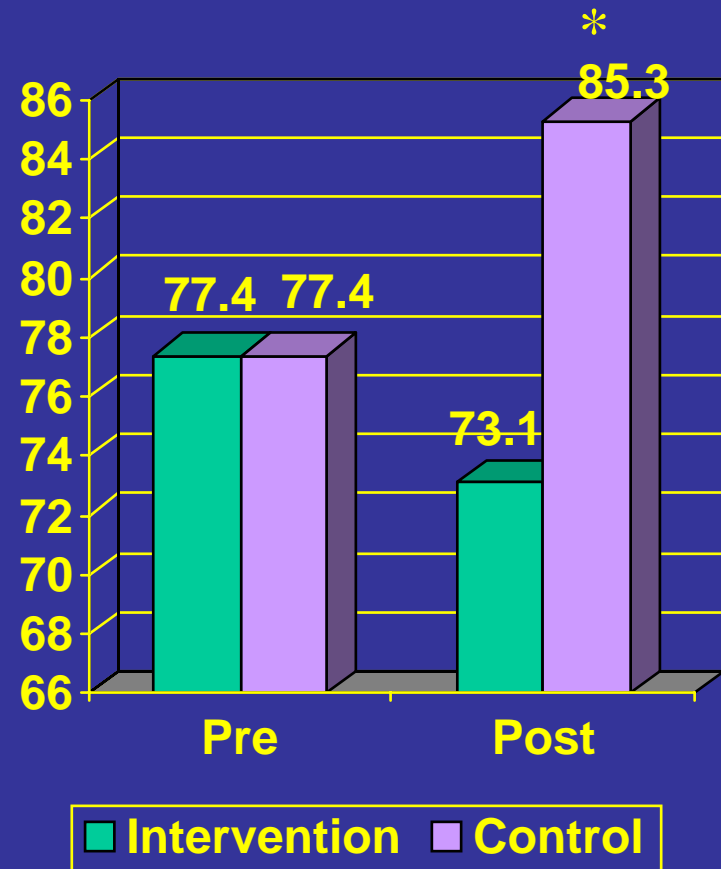


# % of GERD prescriptions per class

H2RA



PPI



\* F=4.436, p=.041

Data are for one month pre & post training, new prescriptions only

# Projected Savings

PPI (Protonix only)

$$12\% \times \$63,000,000 = \$7,560,000$$

H2RA

$$25\% \times \$7,560,000 = \$1,890,000$$

Training Costs = \$250,000

Total Savings = **\$5,420,000**