

School of Medicine
& Health Sciences

THE GEORGE WASHINGTON UNIVERSITY



Telemedicine's role in the prevention of the US opioid epidemic

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The Fifth "Vital Sign"

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Complying with Pain Management Standard PC.01.02.07

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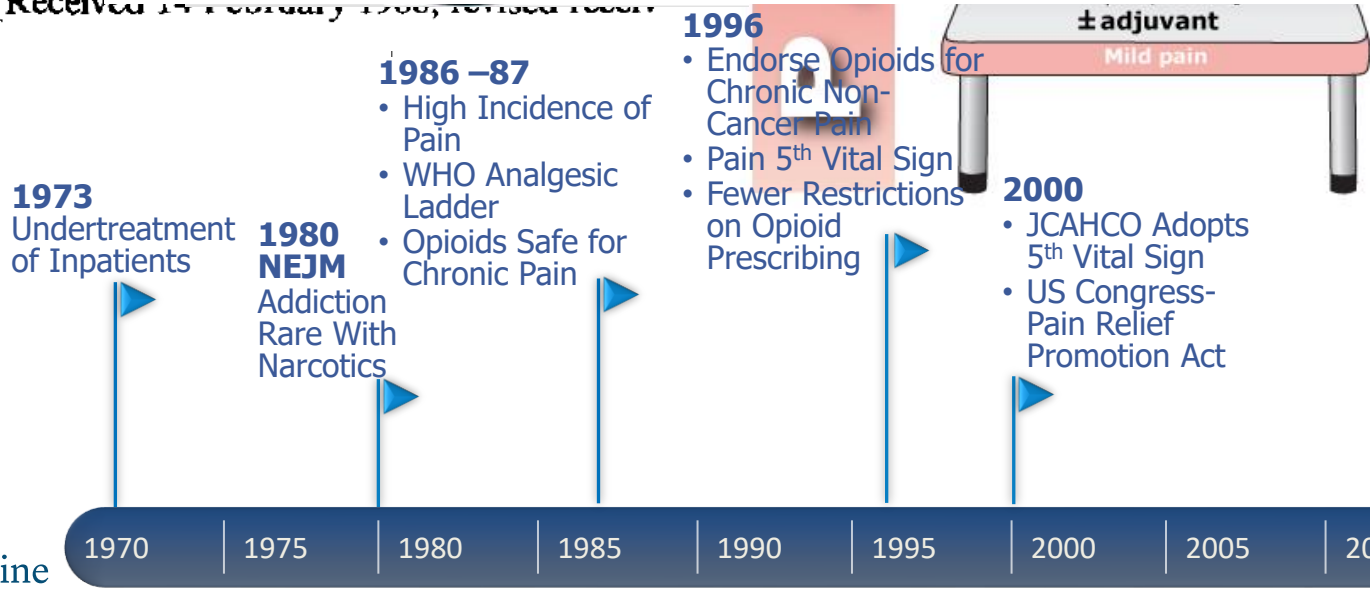


Table I
Access to interdisciplinary pain management services in different countries

Nation	Population	No. Clinics	Publically Funded Clinics	Privately Funded Clinics	No. Citizens/ Clinic	Average Wait for Admission	Change in No. Clinics in Past Decade
Australia	23 million	90	Some public, some private, some mixed	Some public, some private, some mixed	255,555	6 months (median)	Increase
Belgium	11 million	9	9	Private clinics also exist*	1,222,222	7 months	Increase
Canada	35 million	203	122	81	172,413	6 months (public), 2 weeks (private)	Increase
Denmark	5.6 million	10	5	5	560,000	18 months (public), 1 month (private)	Increase
England and Wales	56 million	138	138	Private clinics also exist*	405,797	4-5 months	Increase
France	65 million	81	78	3	802,469	1.5 months	Increase
Israel	8 million	11	8	3	727,000	3 months (mean)	Increase
Netherlands	17 million	7	0	7	2,438,571	2.5 months	Increase
New Zealand	4.4 million	10	10	Private clinics also exist*	440,000	4 months	Increase
Spain	46 million	6	6	0	7,666,666	3 months (mean)	Increase
Sweden	9.5 million	28	25	3-5	339,285	1.3 months (median)	Increase
United States (non-VHA†)	292 million	90 (est.)	0	90	3,244,444	Unknown	Decrease
United States (VHA†)	21.8 million	59	59	0	369,491	Varies	Increase

* No data on their numbers were available.

† Veterans Health Administration.

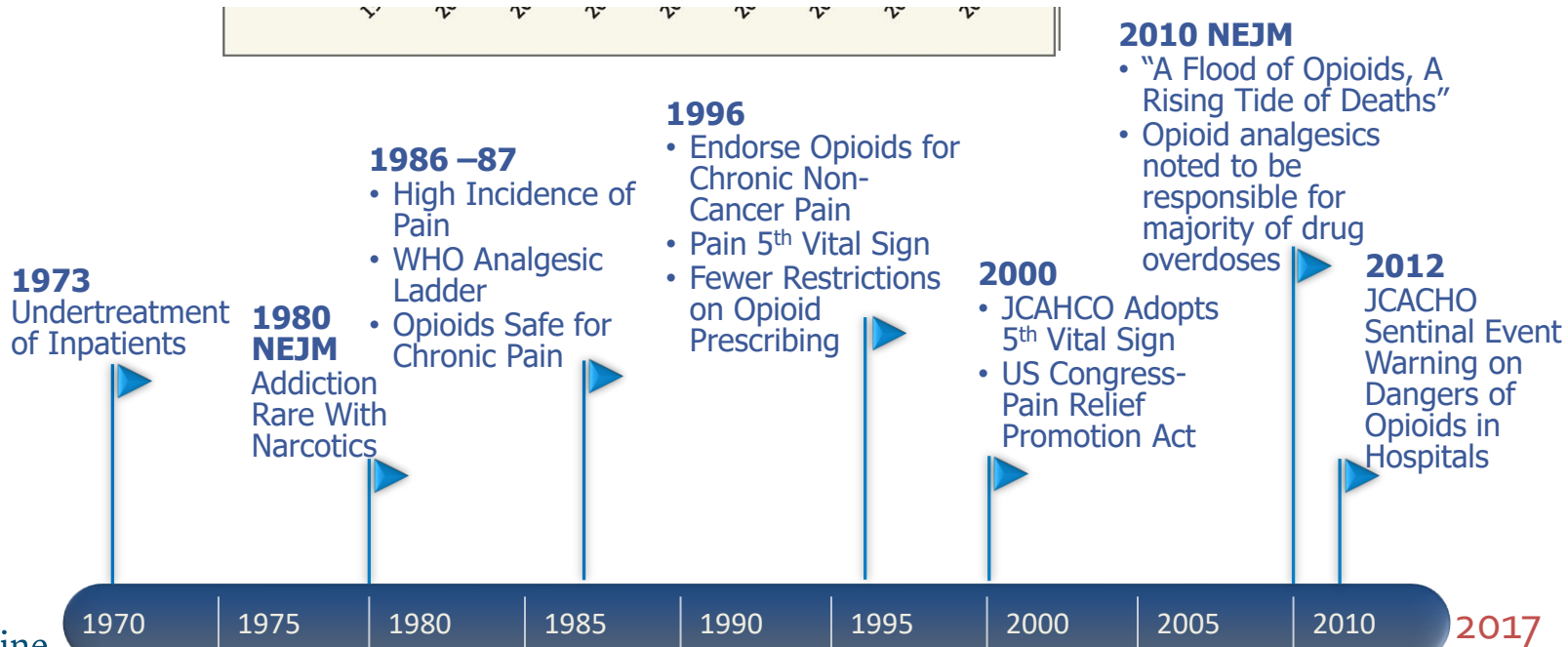
Note: These results were provided by pain societies or individuals within pain societies, and their exact accuracy cannot be verified. For some nations, the information that was provided was incomplete or represented national pain society estimates. Additionally, some of the individuals who were contacted did not respond, or replied that the data were unavailable. Finally, definitions of "interdisciplinary pain management" clearly vary between nations, although efforts were made to identify the number of programs that involve a minimum of a physician, a mental health professional, and a physiotherapist. Accordingly, the data represent estimates of access to interdisciplinary care for some nations.

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Safe use of opioids in hospitals



- Based on DSM-5 criteria, 21.7% of chronic pain met criteria for moderate Opioid Use Disorder (OUD) and 13.2% met criteria for severe OUD
 - 1 in 5 are addicted
 - 1 in 7 “severely” addicted (4 or more DSM-5 criteria)

Boscarino JA, Rukstalis MR, Hoffman SN, Han JJ, Erlich PM, Ross S, Gerhard GS, Stewart WF. Prevalence of prescription opioid-use disorder among chronic pain patients: comparison of the DSM-5 vs. DSM-4 diagnostic criteria. *J Addict Dis.* 2011 Jul-Sep;30(3):185-94.

- In a study of almost 400 patients with opioid addiction entering methadone treatment, 80% reported recent severe pain, and 37% of patients reported chronic severe daily pain

A. Rosenblum, H. Joseph, C. Fong, S. Kipnis, C. Cleland, R.K. Portenoy. Prevalence and characteristics of chronic pain among chemically dependent patients in methadone maintenance and residential treatment facilities *JAMA*, 2003;289:2370–2378.

- 1 in 5 PCP visits for pain results in an opioid prescription, a 100% increase between 2000-2010

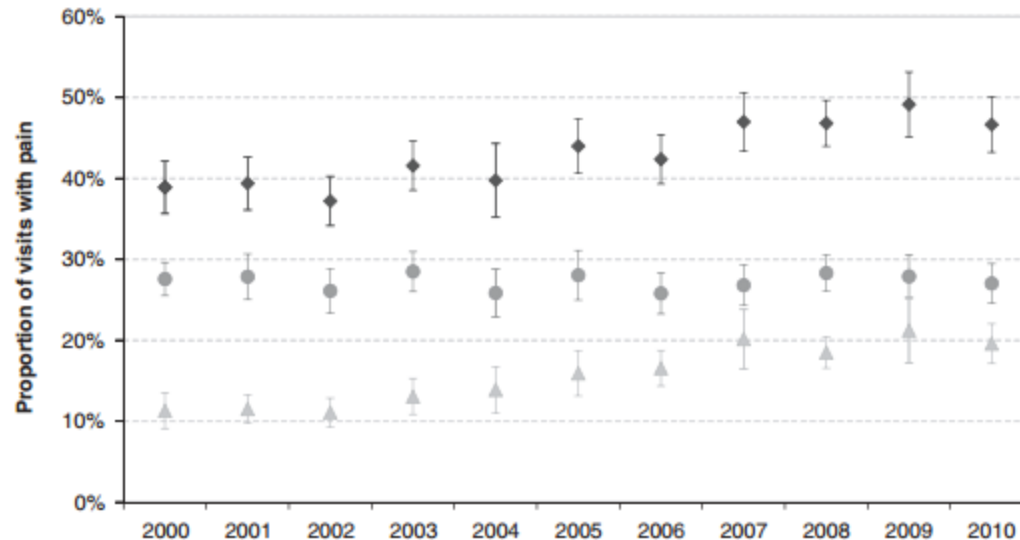


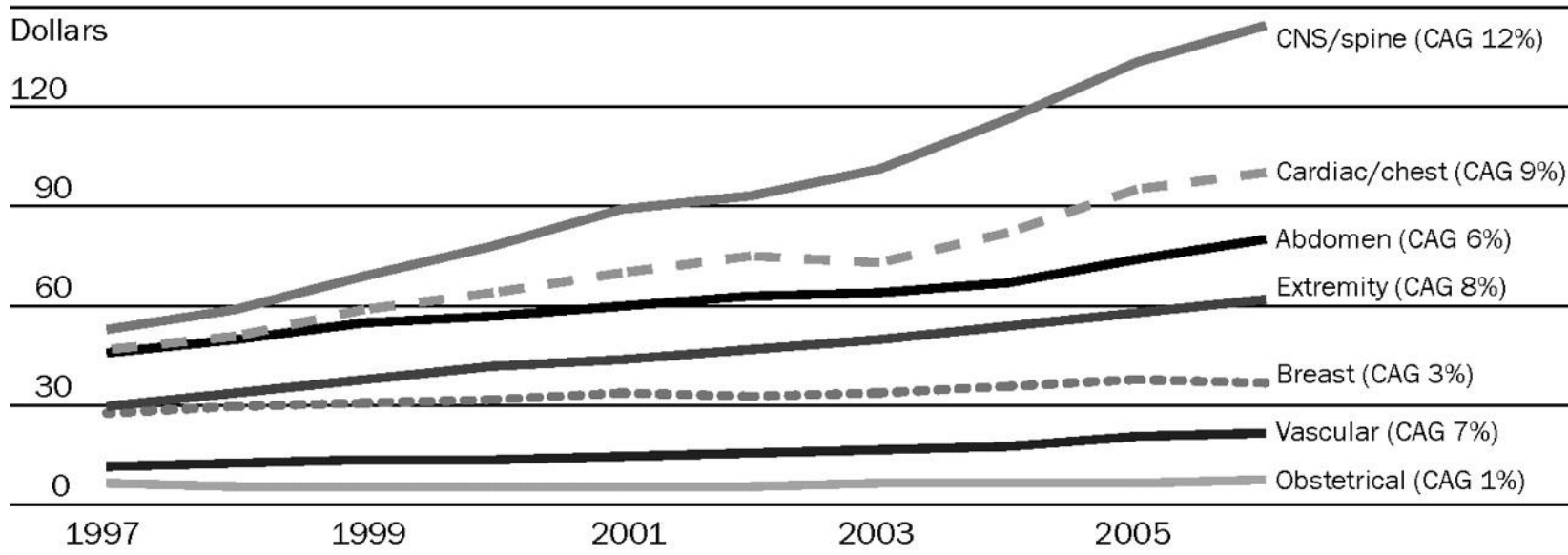
FIGURE 2. Ambulatory treatment of nonmalignant pain with opioid and nonopioid analgesics in the United States, 2000–2010. ♦, visits with any pain medicine. ▲, visits with opioid medicine. ●, visits with nonopioid medicine.



Annual Imaging Costs Per Health Plan Enrollee By Anatomic Area, 1997–2006.

EXHIBIT 5

Annual Imaging Costs Per Health Plan Enrollee, By Anatomic Area, 1997–2006



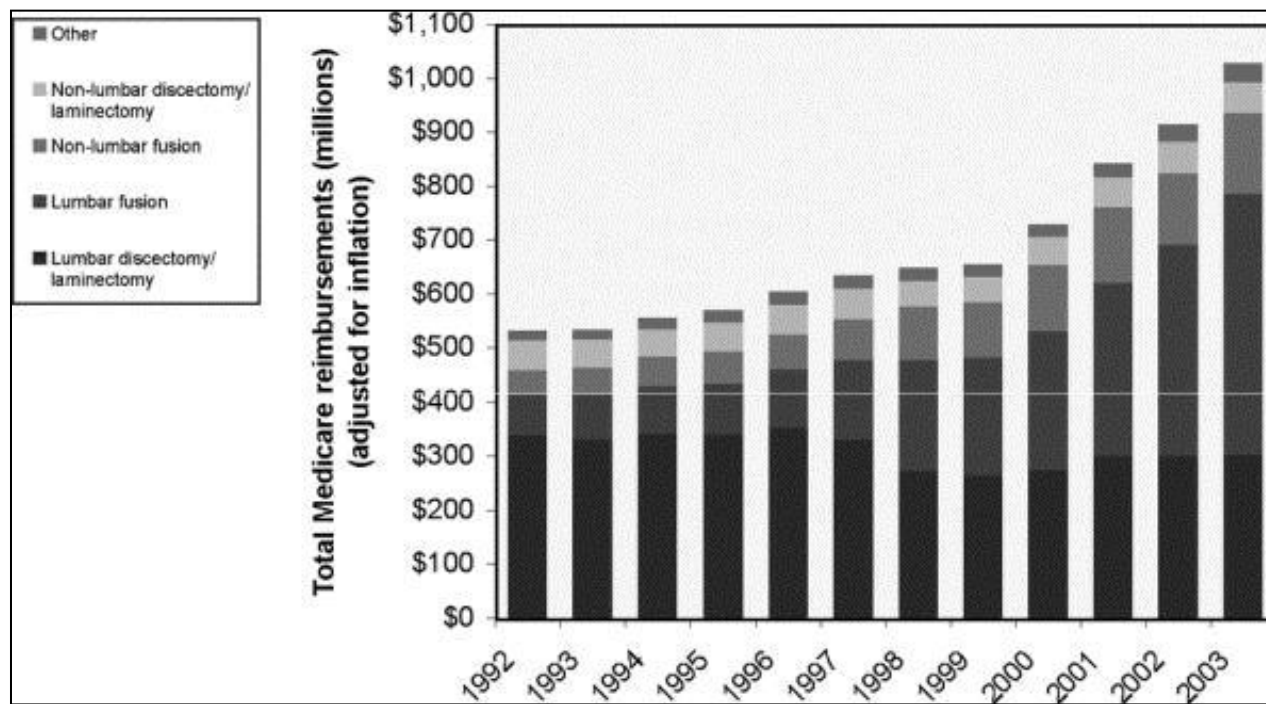
SOURCE: Group Health Cooperative data.

NOTES: Data are adjusted to a standard age distribution across all years of study. CNS is central nervous system. CAG is compound annual growth.

Smith-Bindman R et al. Health Aff 2008;27:1491-1502

Inpatient Medicare reimbursements (in millions of dollars) for back surgery in 1992-2003.

- Medicare spending on inpatient surgery more than doubled from 1992-2003, Medicare spent more than \$1 billion on back surgery in 2003.
- Spending for lumbar fusion, increased more than 500% from \$75 million to \$482 million.
- In 1992, lumbar fusion represented 14% of total spending for back surgery; by 2003, lumbar fusion accounted for 47% of spending.



- In 2009, 515 patients received 293 new opioid prescriptions for new acute pain
 - 61 (21%) still on opioids at 3 months
 - 19 (6%) still on opioids at 1 year
- Risk factors for chronic use
 - Substance abuse
 - Lower education
 - Smoking
 - Past or current psychiatric diagnosis
 - Charleston Comorbidity Index

What is the result of “Standard Care” for low back pain?

- 1997-2005 average total health expenditures increased from \$4,800 per year in 1997 to about \$6,100 per year in 2005
 - inflation-adjusted increase of 65%
- 1997-2005 U.S. adults with spine problems reported similar or worse scores for mental health, physical functioning, work or school limitations
- From 1992-2003 %persons with chronic low back pain that impaired activity increased from 3.9% to 10.2%

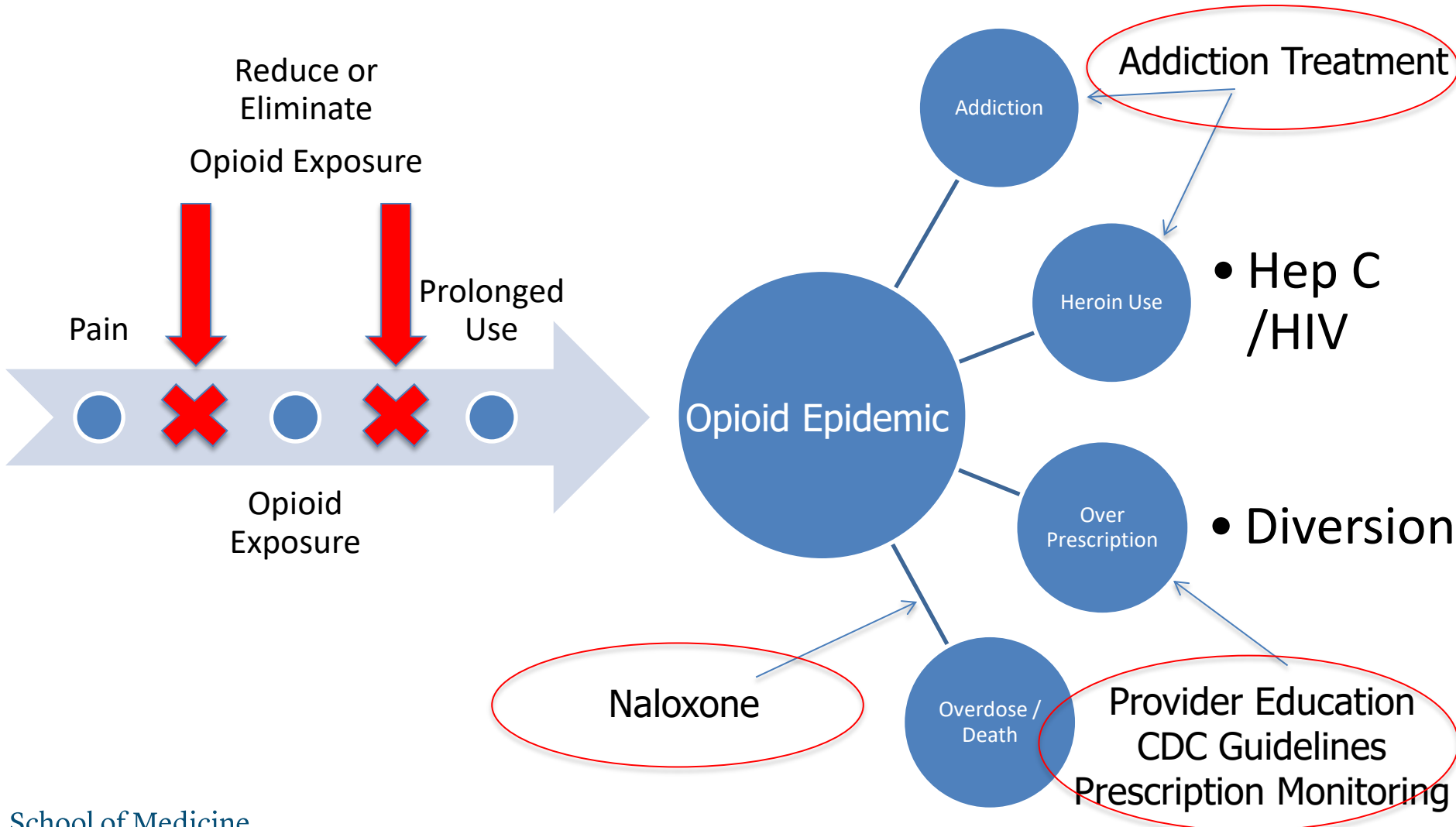
Ann Intern Med. 2011;154(3):181-189. doi:10.7326/0003-4819-154-3-201102010-00008

Freburger JK, Holmes GM, Agans RP, Jackman AM, Darter JD, Wallace AS. et al. The rising prevalence of chronic low back pain. Arch Intern Med. 2009; 169:251-8.

Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W. et al. Expenditures and health status among adults with back and neck problems. JAMA. 2008; 299:656-64.

How do you feel now?



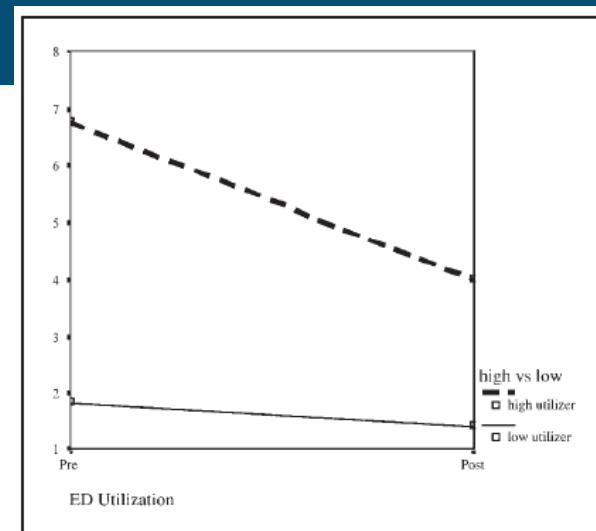


Brief Psychological Interventions Can Be Effective

TABLE 2
ANOVA for ED utilization before consultation versus after consultation

Sources of Variance	df	F	η_p^2	P value
Between subjects				
Group (high utilization vs low utilization)	1	25.96	.78	.001
Within subjects				
Time (before consultation vs after consultation)	1	10.03	.30	.004
Group × time	1	5.50	.19	.03

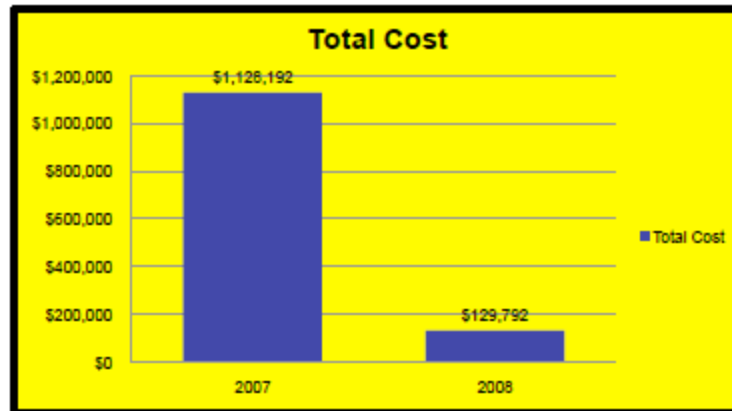
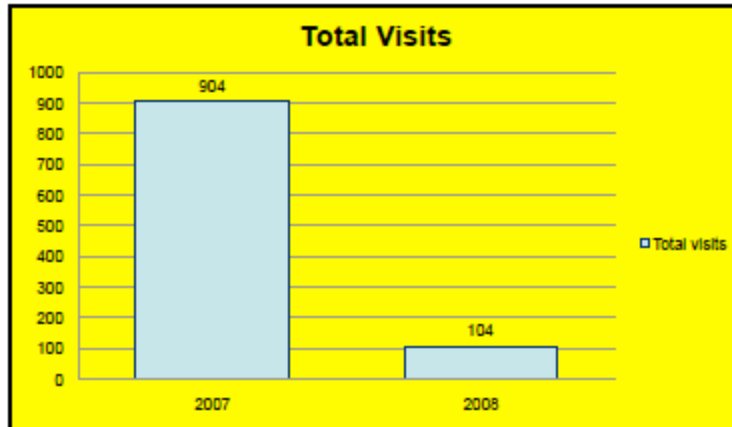
df, degrees of freedom.



FIGURE

Interaction effect between high versus low utilizers. The ED utilization of the high-utilizer group decreased after the consultation (*Post*), whereas the ED utilization of the low-utilizer group remained the same. *Pre*, Before consultation.

- Single Center retrospective analysis, examining chronic pain high-utilizers (>4 ED visits in a month)
- Intervention: 15-30 minute psychological intervention
 - Non-medical coping strategies
 - Importance in using PCP
 - Access to Free Pain Support Group
 - Follow-up call encouraging them to attend pain support group



- Six 30 minute physician visits over 1 year
- An average of three 30 minute case management visits.
- Dramatic reduction in cost and ED utilization

Project ECHO: A Revolution in Medical Education and Care Delivery

Project ECHO is a lifelong learning and guided practice model that revolutionizes medical education and exponentially increases workforce capacity to provide best-practice specialty care and reduce health disparities. The heart of the ECHO model™ is its hub-and-spoke knowledge-sharing networks, led by expert teams who use multi-point videoconferencing to conduct virtual clinics with community providers. In this way, primary care doctors, nurses, and other clinicians learn to provide excellent specialty care to patients in their own communities.



People need access to specialty care for their complex health conditions.



There aren't enough specialists to treat everyone who needs care, especially in rural and underserved communities.



ECHO trains primary care clinicians to provide specialty care services. This means more people can get the care they need.

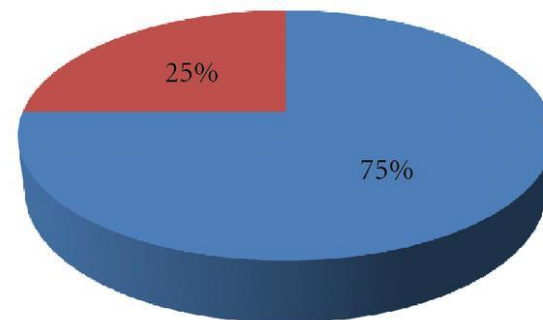


Patients get the right care, in the right place, at the right time. This improves outcomes and reduces costs.

- Project ECHO, a program from University of NM, to help primary care offices care for patients with complex conditions including chronic pain

- US Hospitals with an Acute Pain Service (APS) is predicted by hospital size and academic affiliation
 - >1,000 beds (100%), 501–1000 beds (93.7%), 200–500 beds (79%), and <200 beds (52.2%)
 - Academic 96%; private hospitals (47%,); and VA Hospitals (69%)
 - APS “on-call” service available in 25.9%

US Hospitals with an Acute Pain Service



■ Acute pain service
■ No acute pain service

- All US Hospitals – 5,795
 - >500 Beds – 266 (4.5%)
 - 200-500 Beds – 2,185 (37.7%)
 - <200 Beds – 3,620 (62.4%)
- Thus most US Hospitals lack an acute pain service
- Telemedicine could give hospitals the means to sustain an acute pain service at a markedly reduced cost



- Managing Pain can be difficult
- Getting the experts out of the restraints imposed by “physical presence” can work wonders