APHA Scientific Session 2007

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Diabetic Foot Management

The result of Diabetic foot conditions on public health care and management of said conditions to improve health care

Public Health and MPMS

- Formation of Public Health Committee
- Identify public health concerns most relevant to podiatry
- Partner with other groups and associations to support and implement initiatives to benefit the public health

Project: Amputation Prevention Initiative

Massachusetts Public Health Association

and

Massachusetts Podiatric Medical Society

MPHA

- Protect the health and safety of all the Commonwealth's residents
- Promoting laws, policies, and programs that protect the health of families, communities, and workplaces
- Preventing disease and injury

Massachusetts Public Health Association

Working for a Healthy Massachusetts

MPHA

MPMS

- Support the advancement of knowledge and delivery of foot health care
- Facilitate and promote the interests, professionalism and recognition of its members
- To support the principles and goals of the APMA

MPMS Massachusetts Podiatric Medical Society
Massachusetts' Premier Foot Specialists

Internship Program

- *Geoffrey W. Wilkinson, MSW*
  Executive Director of the MPHA
- *Roberta R. Friedman, ScM*
  Director of Education of the MPHA
- *James J. DiResta, DPM, MPH*
  Chair, Public Health and BOT member of the MPMS
- *Gary Adams*
  Executive Director of the MPMS

Internship Aims and Tasks

- *Policy research*
- *Advocacy*
- *Public education*
- *Media coverage*

Policy Research

- Identify and quantify rates of LEA
- Identify policy initiatives recommended to prevent LEA
- Systematic review of the available literature on preventive measures available to reduce LEA
- Determine the rates of LEA in the diabetic population, and stratify the rates to this population group in Massachusetts

Advocacy

- Bring this Amputation Prevention Initiative in "health policy change" to the principals of selected organizations such as DPH, MPHA, MDA, and Third Party Payers
- Meet with public health care officials and local government leaders

Public Education

- Create a public education program on amputation prevention
- Work with the Health Promotion and Prevention section of the MPHA
- Provide public forums in collaboration with the three offices of the MPHA in Boston, Worcester and Springfield

Media coverage

- Create a media strategy with officials of MPMS Public Relations Committee and MPHA that will increase public awareness of the Amputation Prevention Initiative
- MPHA and MPMS will provide access to leaders involved in appropriate areas of care

Experts

Dr. James Wrobel, DPM, MS

Director, Outcomes Research Program – Center for Lower Extremity Ambulatory Research (CLEAR) at the Dr. William M. Scholl College of Podiatric Medicine at Rosalind Franklin University of Medicine and Science in Chicago, IL.

CLEAR
CENTER FOR LOWER EXTREMITY AMBULATORY RESEARCH

Experts

Dr. Lawrence Harkless, DPM

Founding Dean for the College of Podiatric Medicine at Western University of Health Sciences and Former, Professor of Orthopaedics and the Louis T. Bogy Professor of Podiatric Medicine and Surgery at the University of Texas Health Science Center at San Antonio, TX.

Western University of Health Sciences

Summary Description of Project and Practicum

A joint initiative project that involved researching amputation rates among diabetics in the Commonwealth of Massachusetts; developing health policy, advocacy and an education prevention program for the public

Learning Objectives

- Identify and quantify rates of LEA (lower extremity amputations), at-risk populations, and policy initiatives recommended to prevent LEA
- Begin to formulate an advocacy strategy that will bring a change in health care policy on amputation prevention to stakeholders in public health, state and local government and third party payers (quality measure)
- Create a public education amputation prevention program

Nuts and Bolts

- Field experience proposal at Schools of Public Health
- Funding
- Support: personnel, computer, phone and supplies

Harvard School of Public Health MPH Interns

- Howard Givens, M.D.
- Magdala Peixoto Labre, Ph.D.

First Phase of Initiative

Conduct a literature review of prevention strategies that have proven effective and research the rates of LEAs among people with diabetes in the Commonwealth of Massachusetts

Groups at Higher Risk for LEA

- Diabetes for 10 years or more
- Men
- African Americans
- American Indians

Diabetic patients

Increased risk factors for LEA (lower extremity amputation) result from:

- Lack of available podiatric care
- DPN (peripheral neuropathy)
- PAD (peripheral arterial disease)
- Poor Response to Infection

PAD, DPN and Poor Response to Infection are Predisposing Factors

- Leading to foot ulcers
- Difficulty in healing foot wounds
- Gangrene

Recommendation

"As the greatest risk factor for an amputation is the development of a foot ulcer, findings suggest that all people with diabetes should receive an annual foot exam and that those identified as being at risk for developing a foot ulcer be referred to a foot specialist for more frequent and thorough examinations"

Recommended Interventions

- *Increase Rates of Annual Foot Exams*

- *Ulcer Prevention*
  - Patient education
  - Clinician education
  - Glycemic control
  - Smoking cessation
  - Intensive podiatric care*

    *Debridement of calluses

    *Off Loading

Best Practices: Podiatry within a Multidisciplinary Team Model

"The use of multi-component interventions and multidisciplinary care teams seem to have the most promise for reducing LEA rates."

Proven Strategies

- Annual Foot Exams
- Referrals to Foot Specialists
- Use of Standardized Guidelines for the Management of a Foot Ulcer

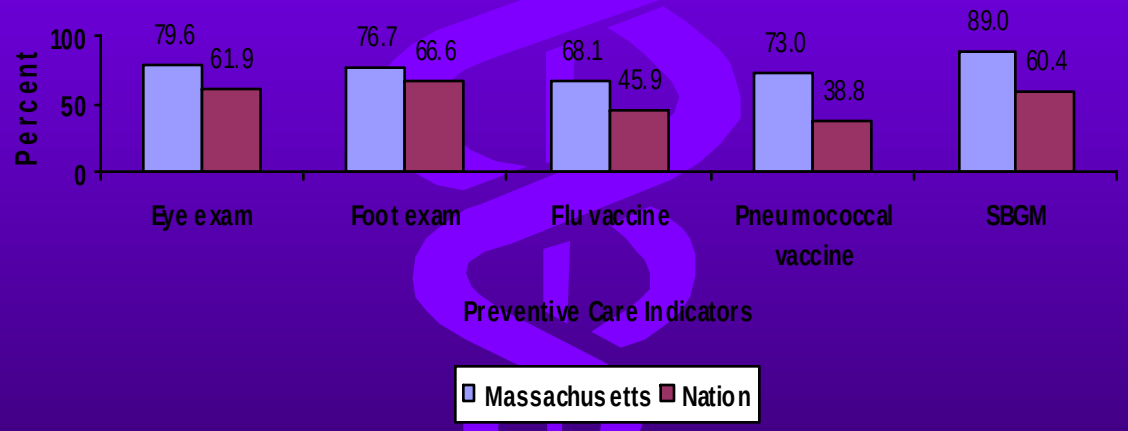
Rates of Annual Foot Exams

Rates of a Foot Exam in Last Year per 100 Adults with Diabetes in the State of Massachusetts, United States, 1995–2004[1]

Year	Sex		Age group			Total
	Males	Females	18-64	65+	Crude	Age-Adjusted
1995	62.8	59.7	62.5	60.1	61.2	62.1
1996	70.7	67.9	69.5	68.9	69.2	69.4
1997	66.9	70.0	66.6	70.6	68.4	67.3
1998	67.1	76.7	67.8	75.1	71.1	69.0
1999	62.8	68.1	64.9	65.6	65.1	65.0
2000	65.5	67.4	65.6	67.1	66.4	65.9
2001	71.8	67.9	70.1	69.2	69.9	70.0
2002	76.1	72.1	72.9	75.2	74.1	73.3
2003	79.7	74.8	76.6	77.7	77.3	76.8

[1] "Rates of a Foot Exam in Last Year per 100 Adults with Diabetes, by State, United States, 1995–2004," Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention, http://www.cdc.gov/diabetes/statistics/preventive/table3.htm.

Percent of People with Diabetes Who Receive Preventive Care in Massachusetts vs. US, 2003-2005

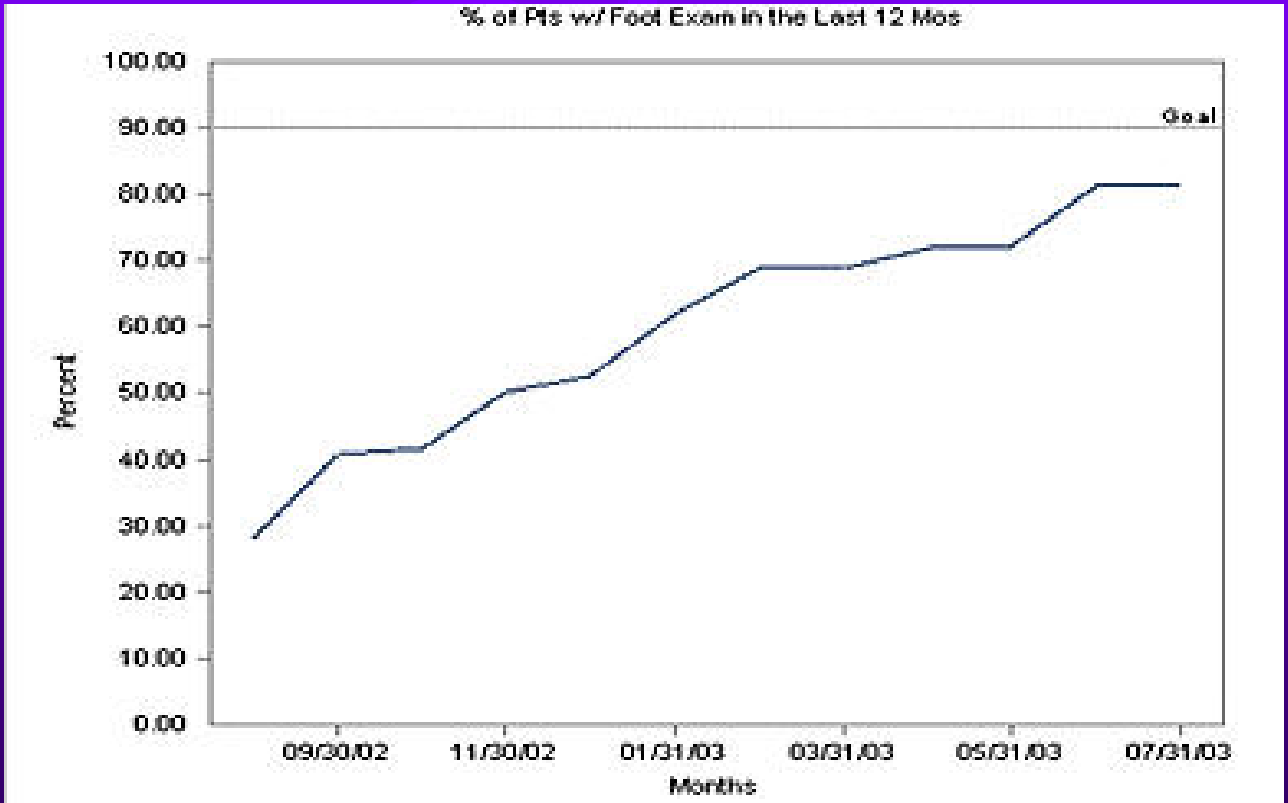


Rates of Annual Foot Exams

- 67 percent in 1999
- 76.7 percent in 2005
- Healthy People 2010 goal of exceeding 90 percent

Process Outcome

Institute for Healthcare Improvement Tracker*

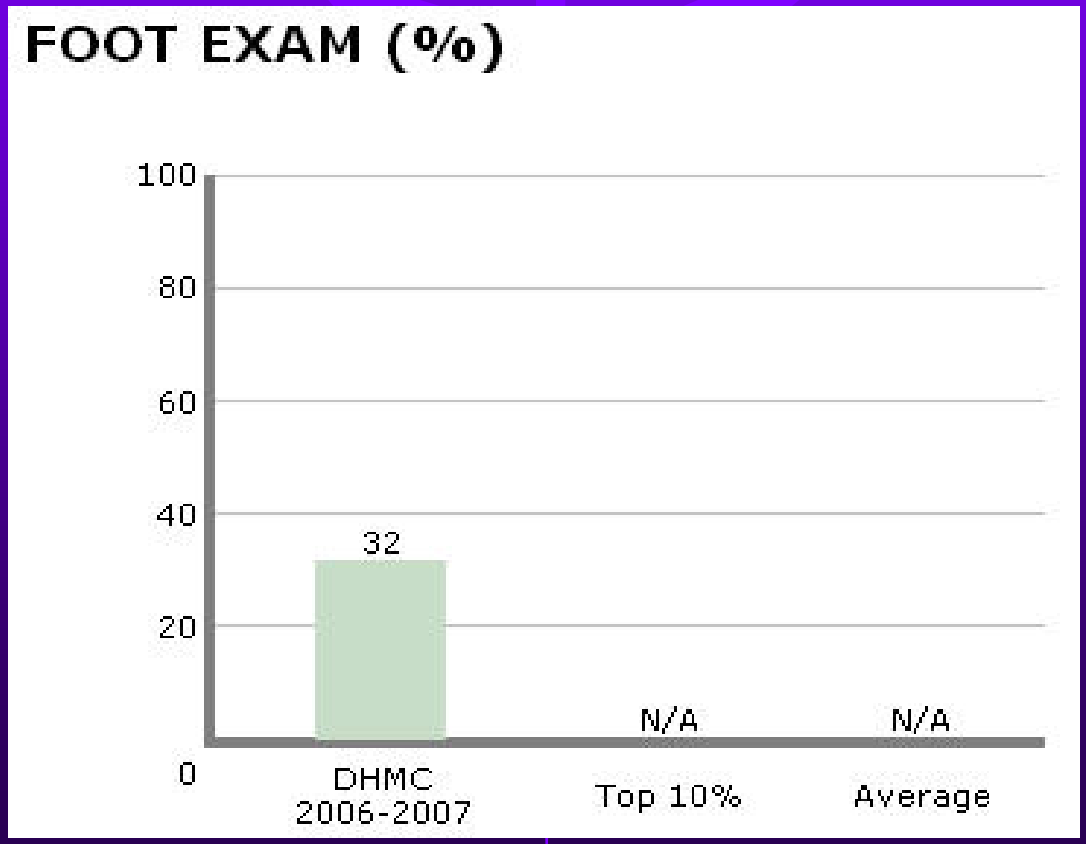


* % of diabetic patient receiving a foot exam = # documented foot exams/# diabetic patients X 100

Dartmouth – Hitchcock Medical Center*

*Lacks Podiatry Service

Quality report – Diabetes Performance Results



LEA Rates in Massachusetts

Table 1: Age-Adjusted Hospitalization Rates for Lower Extremity Amputation (LEA) among Diabetics in Massachusetts (2002-2004)[7]

Age Group	Number of Events	Population Size	Age-Specific Rate*	U.S. Population --Distribution (%)— 1940	1970	1980	2000
0- 4	0	1,180,566	0	8	8.4	7.2	6.9
5-14	0	2,487,296	0	17	20	15.3	14.6
15-24	0	2,541,528	0	18.2	17.6	18.7	13.9
25-34	47	2,665,751	1.8	16.2	12.3	16.5	13.6
35-44	277	3,135,440	8.8	13.9	11.3	11.4	16.3
45-54	818	2,779,051	29.4	11.8	11.4	10	13.5
55-64	1421	1,881,690	75.5	8	9.2	9.6	8.7
65-74	1757	1,206,593	145.6	4.8	6.1	6.9	6.6
75-84	1552	965,694	160.7	1.7	3	3.4	4.5
85+	436	392,906	111	0.3	0.7	1	1.6
Total:	6308	19,236,515					
	Crude Rate*:		32.8				
	Age-Adjusted Rate*:			21.1	26	28.1	30.8

*All rates per 100,000 population

Rate of Hospitalization for LEA

Rate of Hospitalization for LEA in Massachusetts in 2004 was 5.3 per 1,000 people with diabetes*

*1,493/281,244 x 1,000 (based on hospital discharge coding)

Moving Forward

- Funding – APMA grant (Clinical Practice Advisory Committee)
- Internship
  - HSPH
  - BUSPH
  - Dartmouth Institute (CECS)
  - Tufts – Emerson MPH
  - UMASS
- MPHA and MPMS
  - Theresa Mason (MPHA)

Second Phase of Initiative

- Identify stakeholders
  - Third party payers
  - Legislators
  - Community health groups
- Create a public education amputation prevention program

MPHA and MPMS

Working to secure commitment of two current podiatrists who are in the two year Fellowship Program at BI Deaconess who previously completed the three year residency at BI Deaconess and who concurrently are MPH students at the Harvard School of Public Health

Thank You

- MPMS http://www.massdpms.org/
- MPMS Public Health Section http://www.massdpms.org/publichealth.html
- MPHA http://www.mphaweb.org/