

# **Indian Health Service**

## **Best Practice for Diabetic Foot Care**

### **A Strategy for Primary Care Clinicians**

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Bemidji Area Indian Health Service



# Learner Objectives

1. List risk 4 factors for diabetic foot complications
2. Be able to conduct a complete diabetic foot exam
3. List 3 interventions associated with decreased risk for foot complications
4. State 4 educational objectives for patients at high risk for foot complications
5. Describe 4 components of the chronic care model related to improving diabetic foot care

# Protecting the Diabetic Foot

## A Strategy for Primary Care Clinicians (1)

- *Screening for High Risk Patients*
- Practical Interventions
- Implementation into Practice

# Why Is Foot Care Important for People with Diabetes?

- ~40% will develop peripheral neuropathy
- ~20% have an acute foot problem on foot exam
- ~15% will develop an ulceration (cost ~ \$13-30K each)
- 5-10% progress to amputation (cost ~ 50K/yr each)
- 43% with ulcer and 47% with amputation die in 5 years
- Most amputations can be prevented with resources currently available in primary care
- Most patients with diabetes get their care from primary care providers

CDC, 2008; Harris, 1993; Kumar, 1994; Borrsen, 1990; Reiber, 1999; Stockl, 2004; Rith-Najarian, 2001; Moulik, 2003

# Foot-Related Risk Factors for Ulceration

<b>Risk Factor</b>	<b>Ulcer</b>	<b>LEA</b>
Neuropathy	+	+
Deformity	+	+
Limited Joint Mobility	+	+
Prior Ulcer/LEA	+	+
PVD	+	+
Onychomycosis	+	

Pham, 2000; Lavery, 1998; Rosenbloom, 1996; Walters, 1992; Kumar, 1994; Fernando, 1991; Rith-Najarian, 1992; Mayfield 1996; Alder, 1999, Boyko, 2006

# Non-Foot-Related Risk Factors for Ulceration and Amputation

<b>Risk Factor</b>	<b>Ulcer</b>	<b>LEA</b>
Male Sex	+	+
Duration DM	+	
Age	+	
hyperglycemia	+	+
hypertension	+	+
dyslipidemia	+	+
smoking	?	?
Vision < 20/40	+	
Other complications	+	+

Moss, 1996; Alder, 1999; Palumbo, 1995; Moss, 1992; Moss, 1999; Litzelman, 1997; Lee, 1993; Boyko, 1999; Nelson, 1988; Selby, 1995; Lehto, 1996; Eggers, 1999; Boyko 2006

# Simple Criteria to Identify High-Risk Feet in People with Diabetes

- Insensate to 10-gram monofilament
  - *or Insensate to 128-Hz tuning fork*
- Foot deformity
- Prior ulcer or amputation
- Absent pulse or abnormal ABI pressure

Diabetes Care, 15:1386-89, 1992; N Eng J Med, 1995;322:269-70.

Diabetes Care, 31:1679-85, 2008; Diabetes Res Clin Pract, 70:8-12, 2005

Feet Can Last a Lifetime, NIH/NIDDK, 2002

# Screening Tests



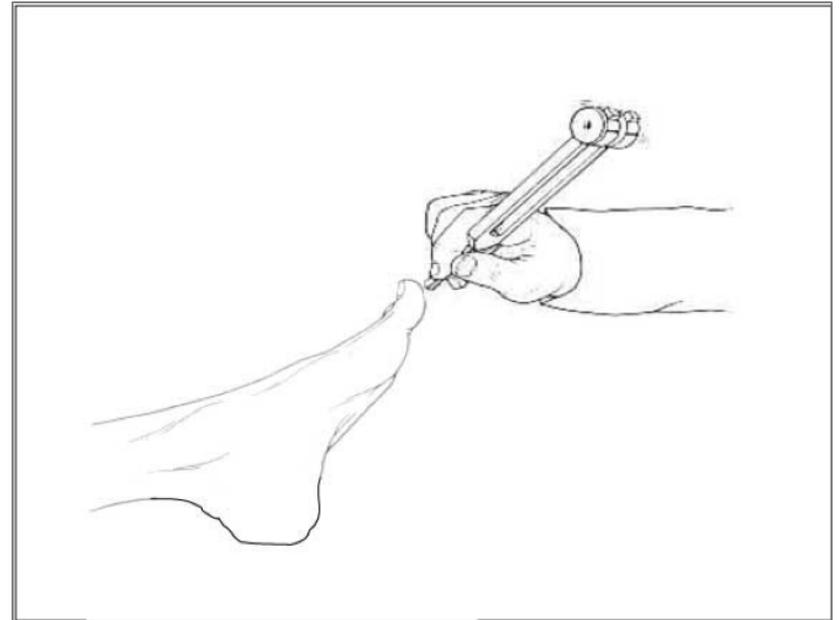
- Press perpendicular to point of bending, hold
- 1 second and release (Demonstrate on hand)
- Patient closes eyes and acknowledges sensation of pressure with a “yes”
- Test both feet, 4 sites each: Great toe and 1<sup>st</sup>, 3<sup>rd</sup>, and 5<sup>th</sup> metatarsal heads (not heel or dorsum)
- Insensate in one or more area confers risk

Perkins, Diabetes Care 2001;24:250-256 Diabetes Care, 1992;15:1386-89

# Vibration Sensation Testing

## 128 Hz Tuning Fork

- Tested over the tip of the great toe bilaterally
- An abnormal response can be defined as when the patient loses vibratory sensation and the examiner still perceives it while holding the fork on the tip of the either toe

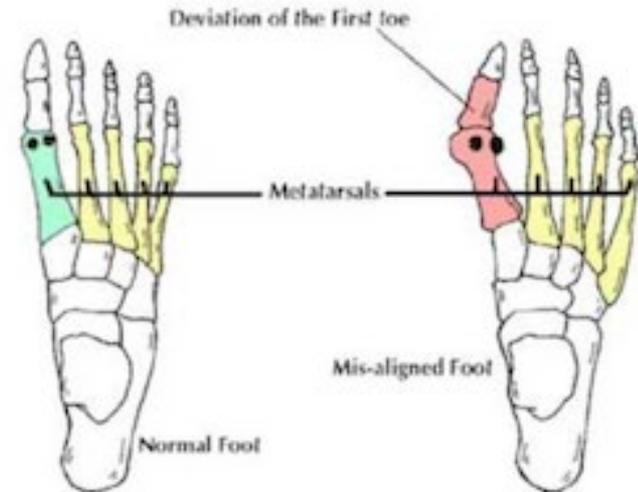


*Singh JAMA 293:217–228, 2005*

*Abbott, Diabet Med 19:377–384, 2002*

# Development of Foot Deformities

## Bunions – hallux valgus

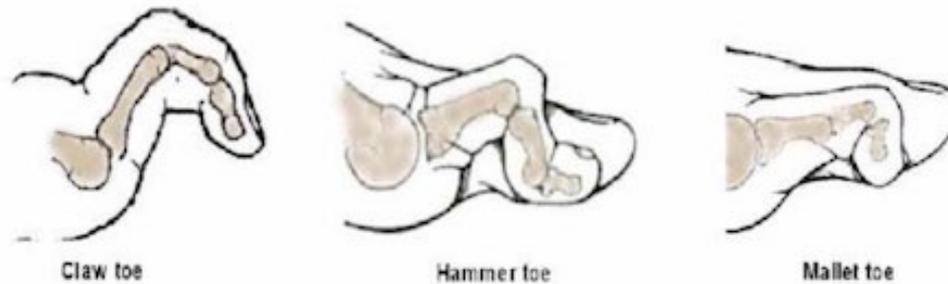


# Foot Deformities Associated with Risk for Amputation

## Bunions – hallux valgus



# Foot Deformities Associated with Risk for Amputation



# Foot Deformities Associated with Risk for Amputation

## Charcot Foot



# Selected Clinical Assessment of Peripheral Arterial Vascular Status and Abnormal Thresholds

Vascular Test	Abnormal Threshold
Pedal Pulses	Absent
Ankle Brachial Index (ABI)	< 0.8
Toe BI	< 0.6

Pham Diabetes Care 2000;23:606-11

Wang, Circulation 2005;112:3501-3508

Suominen, European J Vasc Surg 2008;35:709

# Arterial Anatomy of the Foot



Dorsalis  
Pedis  
artery



Posterior tibial artery



# Ankle Brachial Index

1. Measure Doppler brachial pressures in each arm
2. Measure Doppler Pressure in each ankle
3. **Calculate ABI:**  $ABI = \text{Ankle BP} / \text{Brachial BP}$  *Divide the ankle press by the greater of the two brachial pressures*



From Hurley et al, The Diabetic Foot, 1993

# Correlation of POAD Symptoms by ABI Category

<b>Severity Category</b>	<b>ABI Value</b>
Normal	1.0–1.4
Borderline	0.90–0.99 or > 1.4
Mild	0.70–0.89
Moderate	0.40–0.69
Severe	< 0.40

Wang, *Circulation* 2005; 112:3501-3508

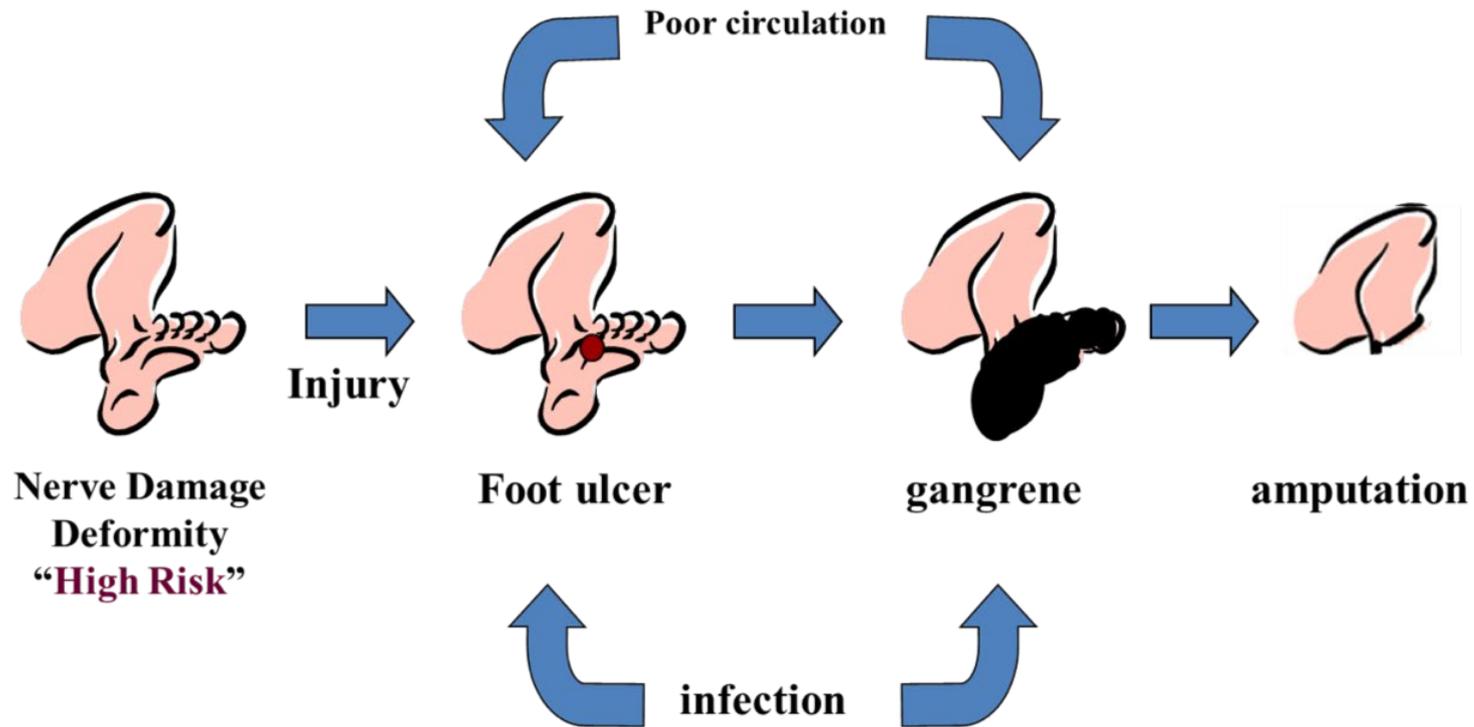
# Video of Foot Exam

# Protecting the Diabetic Foot

## A Strategy for Primary Care Clinicians (2)

- Screening for High-Risk Patients
- *Practical Interventions*
- Implementation into Practice

# Pathways to Diabetic Limb Amputation: A Basis for Prevention

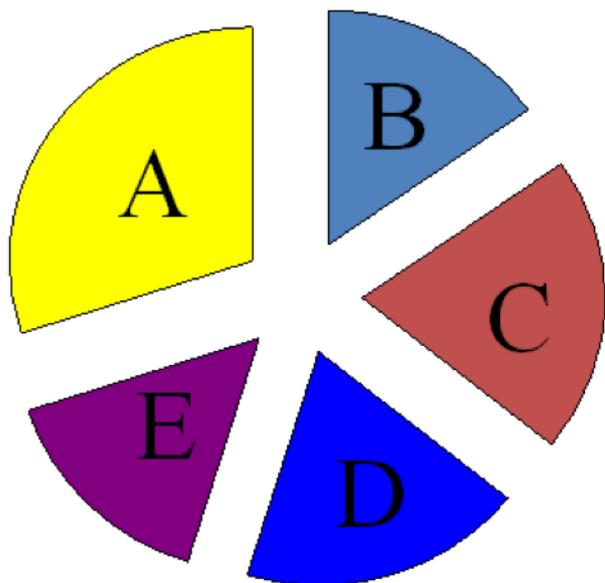


Reiber, Diabetes Care 1999;22:157-62

Pecoraro Diabetes Care 1990;13:513-21

# Component Causes Present in Casual Pathways Leading to Foot Ulcers in Persons with Diabetes

$A+B+C \rightarrow \text{Ulcer}$



Component Cause	Percentage (%)
Neuropathy	78
Minor Trauma	77
Deformity	63
Edema	37
Callus	30
Infection	1
Ischemia	35

Reiber, Diabetes Care, 1999;22:157-62

# Strategies to Prevent or Delay Development of Common Component Causes of Foot Ulceration and Amputation

<b>Component Cause</b>	<b>Intervention Strategy</b>
Neuropathy	Good glycemic control, Education on Risk for foot injury
Minor Trauma	Clear Walking Space, Nightlights, Protective footwear
Deformity	Accommodative footwear, Education to support footwear
Edema	Footwear accommodative to of edema Reduce edema: pharmacologically, compression stockings
Callus	Regular removal of callus Footwear that minimizes callus development
Infection	Education on reporting problems early
Ischemia	Reduce risk for atherosclerosis (hypertension, and lipid control, smoking cessation) Revascularize for critical ischemia

# Association of Patient Education and Amputation Prevention

<b>Program</b>	<b>Reduction in LEA Rate</b>	
Veterans, Tucson USA	70%	Malone, 1989
Kisa, Sweden	80%	Larrson, 1995
Kings College, London	44%	Edmonds, 1999
Geneva, SZ	85%	Assal, 1993
Madrid, Spain	50%	Calle-Pascual, 2001

# Evidence-Based Education and Treatment Objectives for All Patients with Diabetes

- *Low-Risk Feet*
- Control Glucose
- Control Blood Pressure
- Control Lipids
- Smoking Cessation

Dyck, 1999; Moss 1992; Moss 1999; Boyko 1999; Goldberg, 1998; Pyorala, 1997; UKPDS, 1998 Haire-Joshu, 1999

# Evidenced-Based Footcare Educational Objectives for Patients with Diabetes

## *High-Risk Feet*

- Daily washing and inspection
- Clear walking area of dangerous objects
- Appropriate footwear (selection, fitting, & use)
- Use slippers indoors – No barefoot
- Proper Nail and Callus Care (no bathroom surgery)
- Avoid extreme temperatures
- Avoid soaking
- Report problems promptly (Infections, ulcers, cuts that do not heal)



# Footwear and Prevention of Foot Lesions

- Reduced Peak Planter Pressures > 50%
- Reduced callus formation > 30%
- Ulcer recurrence rates reduced > 50%
- LEA rate reduced > 70%

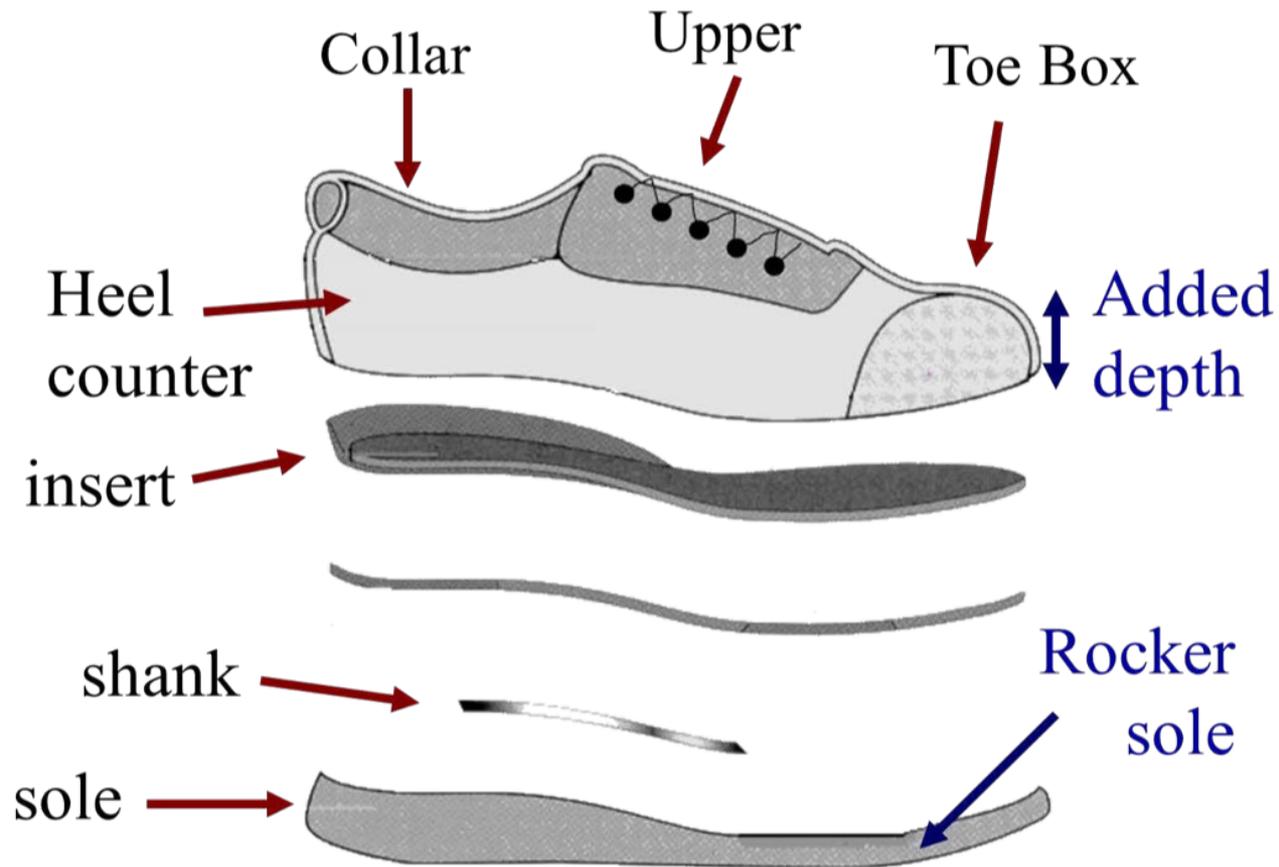
Viswanathan Diabetes Care 2004;27:474-477

Chanteleau, Diabet Med 1994;11:114-6

Ashry, J Foot Ankle Surg 1997;36:268-71

Edmonds, Q J Med 1986;60:763-71

# Footwear Anatomy 101



# Footwear Selection

- Normal feet: standard shoes
- Insensate feet: quality walking shoe or added depth shoe
  - Adjustable upper
  - Firm heel counter
  - Padded insert and collar
  - Broad sole with nominal lift
- Insensate feet + Minor deformity: added depth shoe + custom insert
- Major Deformities: custom molded shoes



# Custom-Molded Inserts and Extra-Depth Shoes



# Fitting Shoes

- Select shoes that match the shape of the foot
- Measure both feet while standing
- Fit while wearing standard socks
- Fit largest foot
- 1 cm length between longest toe and shoe tip

Tovey, Diabet Med 1984;1:69-71

# Footwear Precautions

- Break-in:
  - Start half-hour on first day
  - Then increase by half-hour increments per day
  - Inspect for redness after wearing
- Change shoes 1 to 2 times daily
- Check for foreign bodies
- Replace when worn out

# Medicare Therapeutic Footwear Benefit

- Three steps:
  1. Physician Certification for Therapeutic Footwear (MD, DO)
  2. Footwear Prescription (usually a Podiatrist)
  3. Fitting and dispensing (usually a Pedorthist)

Sugarman, Diabetes Care 1998: 777-81.

Wooldridge, Am J Public Health 1996: 935-8

The image shows two forms related to Medicare's Therapeutic Footwear Benefit. The top form is titled "Statement of Certifying Physician for Therapeutic Footwear" and includes fields for Patient Name, Address, and HCP #. It contains a certification section with three numbered items: 1. The patient has diabetes mellitus (ICD-9 code Z000.2001); 2. The patient has one or more of the following conditions (check all that apply): History of partial or complete amputation of the foot, History of chronic foot ulcers, History of pre-diabetic callus, Peripheral neuropathy with evidence of callus formation, Foot deformity, and Poor circulation; 3. I am treating this patient under a comprehensive plan of care for his/her diabetes; and 4. The patient needs special shoes (both or custom-molded shoes) and/or inserts because of his/her diabetes. Below this is a section for Certifying Physician Information with fields for Signature, Date, Name, DEA #, Physician ID #, and Medical Provider #. The bottom form is titled "Prescription Form for Therapeutic Footwear" and includes fields for Patient Name, Address, and HCP #. It has sections for Diagnosis, Change to be effected, and Additional relevant information, such as external conditions or allergies to specific materials. It also has a section for Prescribing Physician Information with fields for Signature, Date, Name, DEA #, Physician ID #, and Medical Provider #.

# Routine Podiatry Care for People with Diabetes

Associated with:

- Increased self-foot care knowledge and 30% reduction in callus
  - *Ronnema Diabetes Care, 1997;20:1833-1837*
- 54% reduction in ulceration rates in case control study of 91 diabetic patients with a history of foot ulcers
  - *Plank, Diabetes Care 2003;26:1691-1695*
- 75% reduction in LEA rates in Medicare patients with diabetes and high-risk feet who received palliate podiatry foot care services
  - *Sowell, J Am Podiatr Med Assoc 1999;89:312-7*

# Principles of Podiatry Care for People with Diabetes

- Lubricate skin
- Trim nails
- Reduce callus

Suico, 1998;; Murray, 1996 Murray, 1996

# Lubricate Dry Skin

- Autonomic neuropathy contributes to dry skin
- Instructed Patients to apply a moisturizing lotion daily
- Oil or water-based lotions are a matter of patient preference
- May need care giver to assist



## Lubricate Dry Skin (2)



# Nail Trimming: Normal Nails

- Use nail nippers, strait or curved.
- Good lighting, comfortable position, safety glasses
- Stabilize the toe with one hand, cut with the other
- Start at one edge and follow the curve.
- File any sharp edges with an emery board



# Nail Trimming: Normal Nails (2)



# Nail Trimming: Curved Nails

- Use nail nippers, straight
- Good lighting, comfortable position, safety glasses
- Start at one edge and follow the curve
- Avoid cutting into corners
- File any sharp edges with an emery board



# Nail Trimming: Thick Mycotic

- Tend to be very brittle
- Can use nail nippers or dremel to trim off sharp edges
- Best to refer to a podiatrist or certified foot care nurse



# Callus Debridement

- Good lighting, gloves, alcohol swab, and #15 disposable scalpel
- Wipe with alcohol swab, callus tissue will turn white
- Shave or pear down callus gradually
- Palpate intermittently to feel when you are close to pliable “normal” tissue, then stop.



# Callus Debridement (2)

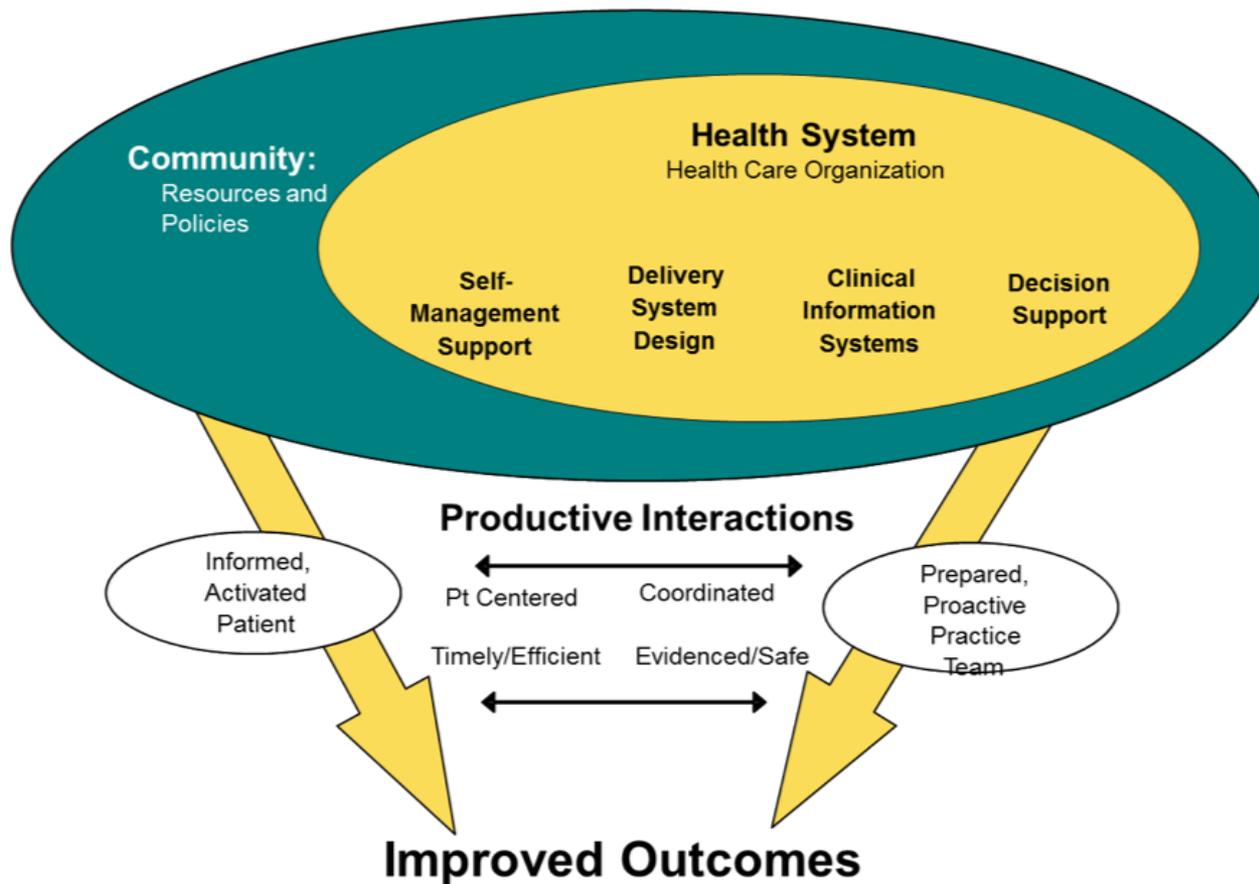


# Protecting the Diabetic Foot

## A Strategy for Primary Care Clinicians (3)

- Screening for High-Risk Patients
- Practical Interventions
- *Implementation into Practice*

# Improving Chronic Disease Care: The Chronic Care Model



# System Redesign: Foot Care Team

Physician/PCP

Nurse Educator

Registrar and Patient Scheduling

PHN



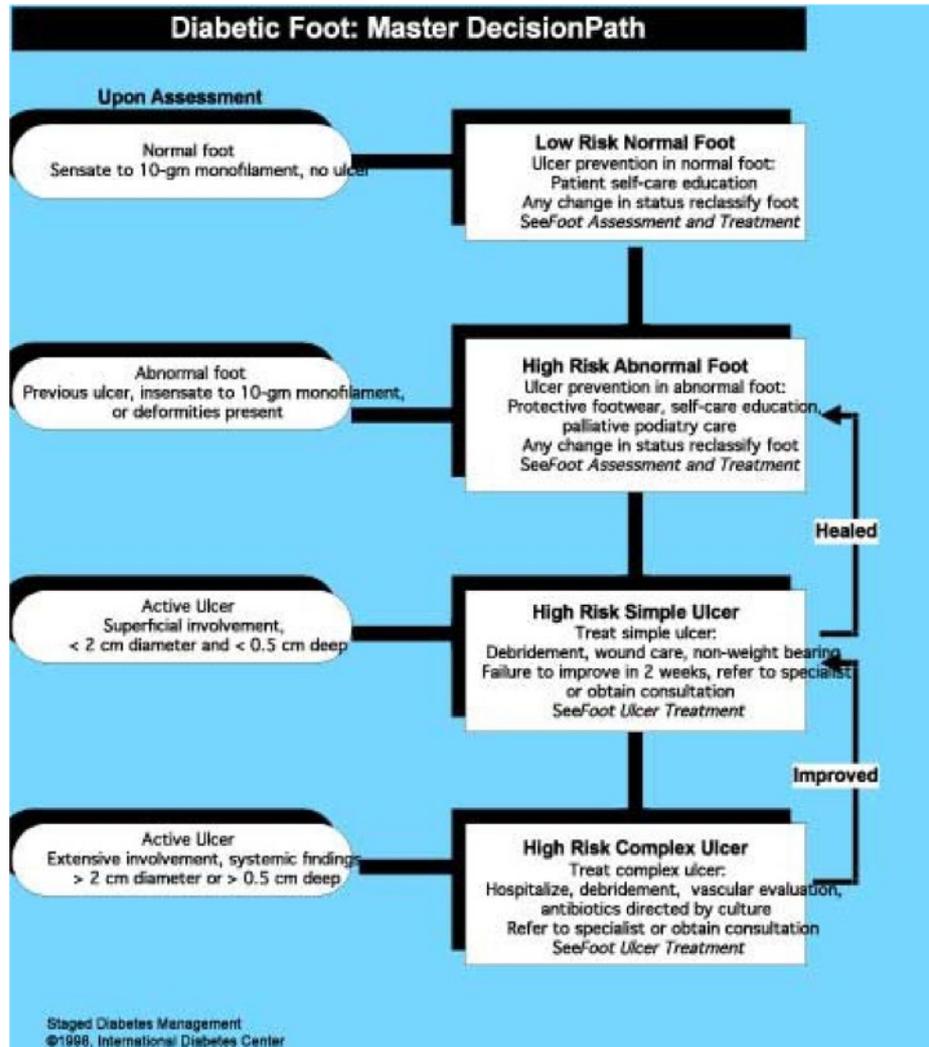
Podiatrist

CHR

Surgeon

Clinic Administration and leadership

# Decision Support Foot Care Guidelines



# 1994–1996 System Redesign Foot Care Team

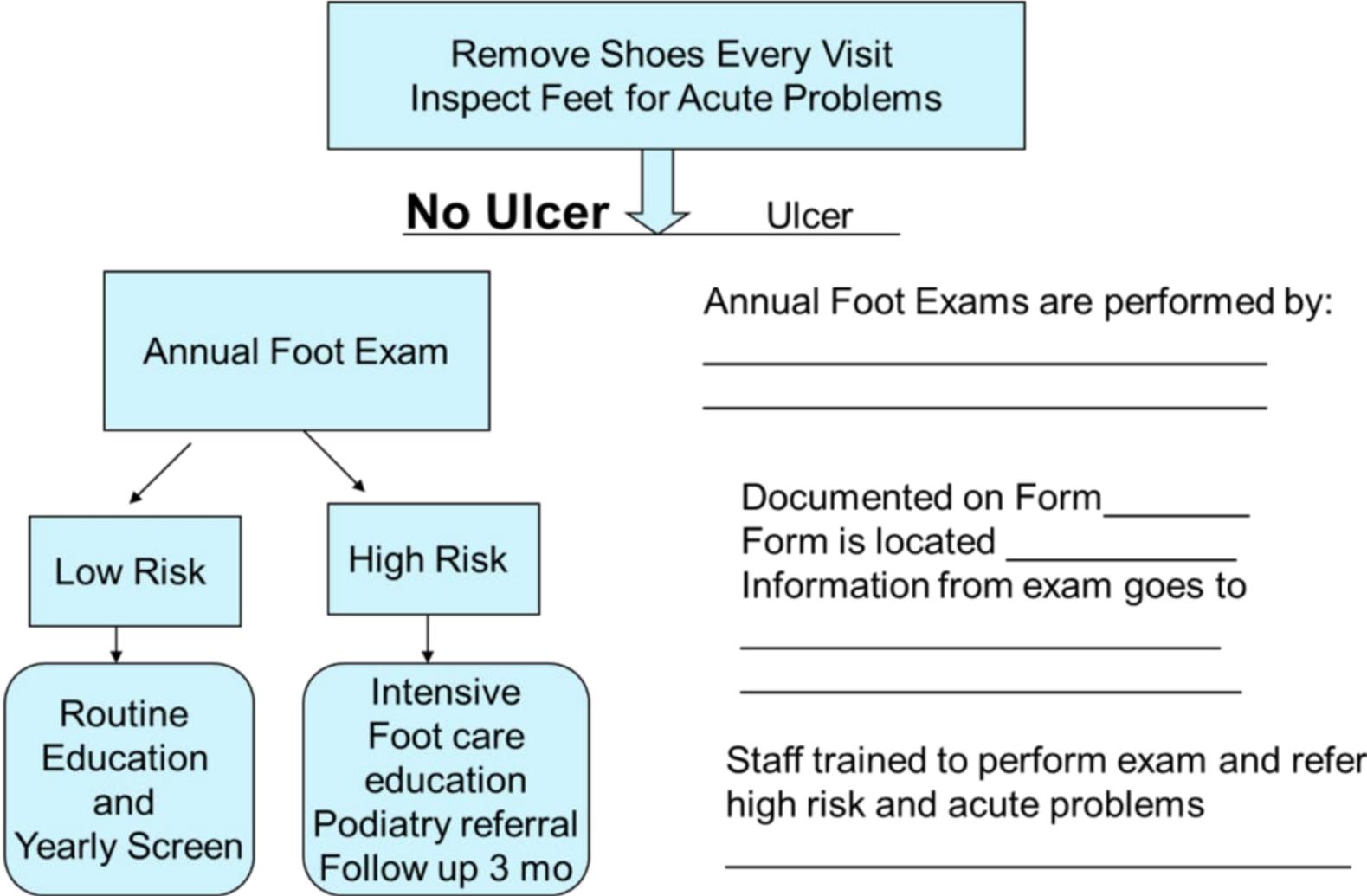
## Moving the Guideline to Practice

### Team Coordination

- Input from the team to customize Guidelines
- Delineation of roles
- Documentation
- Training needs
- Measures for monitoring and evaluation



# Example of Customization Questions



# 1994–1996 System Redesign

## Reminders and Documentation Forms

- Exam & Risk Factors
- Assessment
- Treatment plan
- Referrals

**HIGH RISK FEET**

**PCC ANNUAL DIABETES FOOT EXAM**  
(For use by Foot Care Providers)

Neurological Assessment

Vascular Assessment

Patient Education

Return To - Follow up Schedule

Return To Office

Provider Signature

# Patient Chart Tab

The screenshot displays the 'Patient Chart' tab in a medical software interface. The patient information bar shows 'Adult Male' (25), 'DIABETES' (06-Apr-2008 16:47), and 'Primary Care Team Unassigned'. The 'Progress Notes' section is active, showing a list of signed notes. A 'Template: OBJECTIVE' dialog box is open, displaying a checklist for physical exam components and a text field for significant findings.

**Template: OBJECTIVE**

- OBJECTIVE:
  - Vitals:
  - PHYSICAL EXAM:
    - PSYCH:
    - NEURO:
    - HEENT:
    - NECK:
    - RESPIRATORY:
    - CV:
    - SKIN:
    - EXTREMITIES:
    - ABDOMEN:
    - REPRODUCTIVE:
    - RECTAL:
    - NOTES:
  - RECENT LAB RESULTS:
  - ANNUAL DIABETES FOOT EXAM:
    - Dorsalis pedis pulses 2+, normal sensation to 10g monofilament, no lesions, no deformities.
  - Significant findings:
    - tenia pedis

Buttons: All, None, \* Indicates a Required Field, Preview, OK, Cancel

# Exam Selection Dialog

The screenshot displays an EHR interface for a patient named RITH NAJARIAN, STEPHEN J MD. The patient's chart shows a diagnosis of DIABETES and a date of 06-Apr-2008 16:47. The Primary Care Team is Unassigned. The Exams section is active, showing a table of past exams:

Visit Date	Exams	Result	Comments	Provider	Location
01/01/2008	HEART EXAM	NORMAL			
07/25/2007	INTIMATE PARTNER VIOLENCE	UNABLE			
01/22/2007	INTIMATE PARTNER VIOLENCE	UNABLE			

An "Exam Selection" dialog box is open, listing various exam codes and descriptions:

- 35 ALCOHOL SCREENING
- 23 AUDIOMETRIC SCREENING
- 31 AUDITORY EVOKED POTENTIAL
- 30 DENTAL EXAM
- 36 DEPRESSION SCREENING
- 03 DIABETIC EYE EXAM
- 28 DIABETIC FOOT EXAM, COMPLETE**
- 33 EYE EXAM - GENERAL
- 37 FALL RISK
- 32 FOOT EXAM - GENERAL
- 29 FOOT INSPECTION
- 08 HEART EXAM
- 34 INTIMATE PARTNER VIOLENCE
- 05 NECK EXAM

The dialog box has "Select" and "Cancel" buttons. The bottom of the EHR interface shows navigation tabs for various sections, including "Wellness", and a status bar with the provider's name and the organization "CASS LAKE HD BEM.IHS.GOV".

# Document an Exam

The screenshot displays an EHR interface for a patient named Stephen J. MD. The patient's information includes 'Adult Male', 'DIABETES', and a birth date of '06-Apr-2008 16:47'. The primary care team is listed as 'Unassigned'. The 'Exams' section shows a table with the following data:

Visit Date	Exams	Result	Comments	Provider	Location
01/01/2009	HEART EXAM	NORMAL/NEGATIVE			CHS AREA OFFICE
07/25/2007	INTIMATE PARTNER VIOLENCE	UNABLE TO SCREEN	partner present		
01/22/2007	INTIMATE PARTNER VIOLENCE	UNABLE TO SCREEN	had black eye		

A 'Document an Exam' dialog box is open, allowing for the entry of a new exam. The fields are filled with the following information:

- Exam: DIABETIC FOOT EXAM, COMPLETE
- Result: NORMAL/NEGATIVE
- Comment: linea pedis
- Provider: [Empty]

The dialog box also includes radio buttons for 'Current', 'Historical', and 'Refusal', with 'Current' selected. The background interface shows various navigation tabs such as 'Patient Education', 'Health Factors', 'Exams', and 'Immunizations / Skin Tests'. The bottom of the screen displays the user's name 'RITH NAJARIAN, STEPHEN J MD' and the organization 'CASS LAKE HQ BEM.IHS.GOV'.

# Add Patient Education Diabetes Curriculum Education – Foot Care

The screenshot displays a medical software interface with a 'Patient Education' section. A dialog box titled 'Add Patient Education Event' is open, showing the following details:

- Education Topic:** Diabetes Curriculum Education-Foot Care (Diabetes Curriculum Education)
- Type of Training:** Individual (selected)
- Comprehension Level:** GOOD
- Length:** 5 (min)
- Comment:** DFC 1-2
- Provided By:** [Redacted]
- Status/Outcome:** Goal Met (selected)

The background window shows a table of education events:

Visit Date	Education Topic	Comprehension	Status	Objectives	Comment
04/25/2008	Tobacco Use Readiness To Change	GOOD			
04/15/2008					glaucoma ed.
04/15/2008					RTC VFT
04/15/2008					dilation caution
04/15/2008					ref error
07/13/2007				AL SET Testing often to r/o hypoglycemia	
07/13/2007				AL SET Add 15-20 minutes activity daily as tolerated	
07/13/2007				AL SET Healthy choices when not using meal replacement	
02/08/2007					GLAUCOMA
02/08/2007					REFRACTION
12/12/2006					DILATION CAUTION

A 'Standard' window is also open, displaying the following text:

**DIABETES CURRICULUM EDUCATION-FOOT CARE**

**OUTCOME:**  
The individual/family will understand the importance of foot care for people with diabetes.

**STANDARD:**

- FTC-1 State one or more reasons to check feet every day.
- FTC-2 Identify two or more risk factors for foot problems.
- FTC-3 List two or more daily self-care action to prevent foot problems.
- FTC-4 Describe how to cut toenails correctly.
- FTC-5 Describe two or more things to look for when choosing proper footwear.
- FTC-6 State two or more signs and symptoms of foot and skin infections.
- FTC-7 State the reason for routine foot exams at each clinic visit and yearly foot screening.
- FTC-GS Demonstrate a personal foot exam and state a personal foot care plan.
- FTC-GM Behavior goal met (follow-up)
- FTC-GNM Behavior goal unmet (follow-up)

The interface includes a menu bar (User, Patient, Tools, Help, Options), a toolbar (Privacy, Patient Chart, Communication, RPMS, MHC, NCRP ACCESS, MHRac, Quest, Care), and a status bar (BEM.IHS.GOV, 27-Apr-2008 11:06).

# System Redesign: Foot Care Case Manager



# Information Technology Electronic Diabetes Registry



# My DM Patients – Panel Definition

The screenshot displays the IHS iCare software interface. In the foreground, the 'My DM Patients - Panel Definition' dialog box is open, showing the following configuration:

- Panel Name:** My DM Patients
- Panel Description:** Patients with Dx DM seen in past yr
- Population Search Options:**
  - No Predefined Population Search - Add Patients manually
  - My Patients
  - Patients Assigned to
  - Scheduled Appts
  - QMan Template
  - RPMS Register
  - Ad Hoc Search
- Filter Options:** *Select at least one filter*
  - Visit Date: 04/07/2007 to 04/07/2008
  - Visit Provider: [Empty]
  - Gender: [Dropdown]
  - Age: [Dropdown]
  - Community: [Empty]
  - Diagnosis: Diabetes
  - Panel: [Empty]

The background shows a 'Panel List' table with the following data:

Panel Name	Panel Description	# of Pts	Last Updated	Flag Date	Patient Name	HRN	DOB	Flag Type
My DM Pts 2007-08		195	Feb 08, 2008 08:30	Apr 05, 2008				EMERGENC ROOM VISIT

At the bottom right of the dialog box, there is a note: *\* indicates required field*. The 'Total Rows:' indicator at the bottom right shows 1 row.

# Panel List and Flag List

IHS iCare - S LAKE HOSPITAL

File View Tools Window Help Quick Patient Search:

**Panel List**

New Open Delete Repopulate Modify Share Copy

Panel Name	Panel Description	# of Pts	Last Updated
My DM Patients	Patients with Dx DM seen i...	201	Apr 07, 2008 01:05 PM
My DM Pts 2007-08		195	Feb 08, 2008 08:30 AM

Selected Rows: 1 Visible Rows: 2 Total Rows: 2

**Flag List**

Hide (F3) Show (F4) Refresh Show: Active Flags

Flag Date	Patient Name	HRN	DOB	Flag T
Apr 05, 2008			Apr 30, 1960	EMER ROOM
			Apr 30, 1960	EMER ROOM
			Jan 20, 1967	EMER ROOM
			Aug 01, 1962	HOSP ADMIS
			Aug 01, 1962	EMER ROOM
			Oct 17, 1952	EMER ROOM
			May 01, 1926	EMER ROOM
Apr 04, 2008			Apr 30, 1960	EMER ROOM
Apr 03, 2008			Apr 30, 1960	EMER ROOM
			Apr 30, 1960	EMER ROOM
Apr 02, 2008			May 15, 1949	EMER ROOM
			Jan 15, 1971	EMER ROOM

Selected Rows: 1 Visible Rows: 59 Total Rows: 59

# Performance Layout Tab

IHS iCare - My DM Patients - Panel Definition

Definition    Layout    Sharing    **Performance Layout**    Preview    Auto Repopulate Options

Current National Performance Year: 2007

Columns to display:

Grayed columns are required

DENTAL: Sealants	Add >	PATIENT: Patient Name	Up
DENTAL: Topical Fluoride-# Pts	< Remove	PATIENT: HRN	Down
DENTAL: Top Fluoride-# Apps			
DIABETES: Documented A1c*		PATIENT: Age	
DIABETES: Ideal Glycemic Control <7		DIABETES: Foot Exam	
DIABETES: Nephropathy Assessed**		PATIENT: Next Appt Clinic	
DIABETES: BP Assessed		PATIENT: Next Appt Provider	
DIABETES: Comprehensive Care		DIABETES: Diabetes Dx Ever*	
DIABETES: Influenza Vaccine		DIABETES: Poor Glycemic Cont >9.5	
DIABETES: Pneumovax Vaccine Ever		DIABETES: Controlled BP <130/80	
IMMUNIZATIONS: Active IMM 19-35 mos***		DIABETES: LDL Assessed	
IMMUNIZATIONS: Influenza 65+		DIABETES: Retinopathy (All Sites)	
IMMUNIZATIONS: Pneumovax Ever 65+		DIABETES: Depression Screening	

Columns to sort:

PATIENT: Age	Add >	DIABETES: Foot Exam ASC	Up
PATIENT: HRN	< Remove		Down
PATIENT: Next Appt Clinic			
PATIENT: Next Appt Provider			Switch Sort Direction
PATIENT: Patient Name			
DIABETES: Controlled BP <130/80			
DIABETES: Diabetes Dx Ever*			
DIABETES: LDL Assessed			
DIABETES: Poor Glycemic Cont >9.5			
DIABETES: Retinopathy (All Sites)			
DIABETES: Depression Screening			

OK    Cancel

# National Measures Tab

My DM Patients  
*Patients with Dx DM seen in past yr*  
 Properties

Total Patients = 201  
 Patient List Last Updated: Apr 07, 2008 01:05 PM  
 by

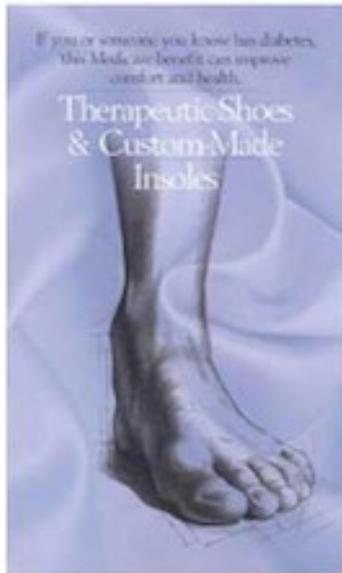
National Performance Measures data from CRS 2007  
 current as of: Apr 03, 2008 07:41 PM

▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾	▼ ▾
	Patient Name	HRN	Age	Foot Exa	Next Appt Clinic	Next Appt Provid	Diabetes	Poor Glyc	Controlled	LDL As	
			45 YRS	NO			YES	YES	YES	YES	
			43 YRS	NO			YES	NO	NO	YES	
▼			35 YRS	NO			YES	NO	NO	NO	
			75 YRS	NO			YES	NO	NO	YES	
			63 YRS	NO			YES	NO	NO	NO	
			41 YRS	NO			YES	NO	YES	YES	
			73 YRS	NO			YES	NO	YES	YES	
▼			42 YRS	NO			YES	YES	NO	YES	
			32 YRS	NO			YES	NO	NO	NO	
			57 YRS	YES			YES	NO	NO	NO	
▼			81 YRS	YES			YES	NO	YES	NO	
			54 YRS	YES			YES	YES	NO	NO	
▼			51 YRS	YES			YES	YES	YES	YES	
			56 YRS	YES			YES	YES	NO	YES	
▼			64 YRS	YES			YES	NO	NO	YES	
			78 YRS	YES			YES	NO	NO	YES	
			64 YRS	YES			YES	YES	YES	NO	
			61 YRS	YES			YES	NO	NO	YES	

Selected Rows: 1 | Visible Rows: 201 | Total Rows: 201

# Community Linkages

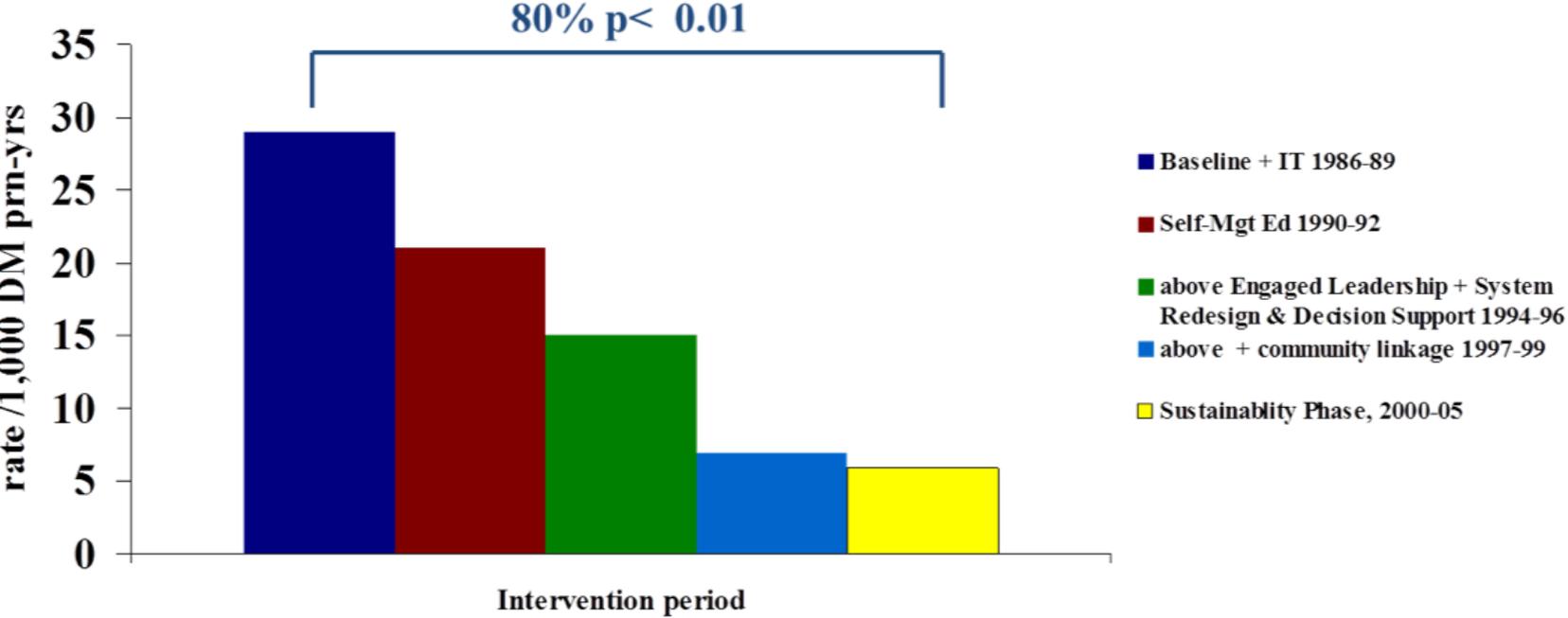
## Referrals for Therapeutic Footwear



# Community Linkage Wound Care Outreach Clinic



# Average Annual Incidence Lower Extremity Amputations (LEA) among Diabetic Patients according to Chronic Care Model Intervention Period in an Indian Health Service Primary Care Setting



1986-1996: J Fam Pract 1998;47:128-132

1997-1999: Diabetes Care 2000;23:1445-46

2000-2005: Bemidji Area IHS Diabetes Program; CCM Interventions: Lancet 2005;366:1676-7