



# Kaiser and Enlightened Self-Interest

**Rick Dell MD CCD**

The background of the slide is a photograph of a vast blue ocean meeting a blue sky at a distant horizon. On the left side, a faint rainbow is visible, its colors blending into the blue of the sky and water. The text is centered in the middle of the image.

**I Have Nothing To  
Disclose**



# Objectives

Currently most places are doing a poor job on osteoporosis/fracture prevention

- 1) An FLS-like program lead by a care manager have been shown to work in several locations
- 2) The Kaiser Healthy Bones Program uses a FLS Model – and it works

# Objectives

3) Now Is The Time To Act

4) How to use FLS programs in Medicare to achieve a 20% reduction in the hip fracture rate by the year 2020



# Sorry state of Osteoporosis/Fx Prevention in the USA

## Get Serious

- 1) Most locations are doing a poor job on osteoporosis/fracture prevention
- 2) Most US studies show a Rx rate of <20% after a fragility fracture
- 3) But not all bad news

# **FLS programs lead by a care manager have been shown to work**

- 1) Hip fractures can be cost effectively prevented inside and outside of the USA
- 2) Scotland—McLellan's FLS Program works
- 3) Toronto – Bogoch's FLS Program works
- 4) Rest of UK is adopting the FLS model
- 5) Geisinger—Neuman's FLS Program works



# Our Healthy Bones Program at Kaiser FLS Systematic Approach Pyramid

Stepwise  
implementation  
- based on size  
of impact

Hip  
fracture  
patients

Objective 1: Improve outcomes and improve efficiency of care after hip fractures

Non-hip fragility  
fracture patients

Objective 2: Respond to the first fracture, prevent the second – through Fracture Liaison Services in acute and primary care

Individuals at high risk of  
1<sup>st</sup> fragility fracture or  
other injurious falls

Objective 3: Prevent the first fragility fracture by identify high risk with DXA and/or FRAX

# Critical Pathways

- Identify patients at high risk for hip fractures using IT Systems
- Risk stratify those patients
- Start screening those at highest risk
- Treat those that need treatment
  - Uses NPs, PAs, Ortho, PCPs
- Track for compliance of the patient
- Track for performance of the program



# Systems Approach – 10 Steps

- 1) Build a team lead by a champion
- 2) Set a goal
- 3) Identify the population
- 4) Risk stratify population – Build work list
- 5) Work done by right person at right time
- 6) Measure what you did
- 7) Look for variation and improve
- 8) Incentives versus punishments
- 9) Evolve until goals are meet
- 10) Set higher goals once goals are meet

# Healthy Bones Model Simple Method

- S – Simple in design
- I – Inexpensive to start / maintain
- M – Measurable outcomes
- P – Pays for itself
- L – Lasts (the program must survive)
- E – Evolves with time



# Osteoporosis/Fracture Prevention

## CLINICAL PRACTICE GUIDELINES

This evidence-based guideline was developed to assist Primary Care physicians, specialists and other health care professionals in the primary and secondary prevention of osteoporotic ("fragility") fractures in otherwise healthy women and older men.

### Summary of Recommendations

#### PREVENTIVE MEASURES FOR ALL ADULTS

- Calcium: 1,200 mg/d, including diet and supplements, for postmenopausal women and men aged 50 and older
- Vitamin D: 1,000 IU/day, including diet, for pre- and postmenopausal women and men aged 50 and older
- Exercise: Regular weight-bearing and muscle-building exercise
- Smoking cessation
- Home safety proofing for postmenopausal women and men at risk of falling (hip protectors not recommended)

#### OSTEOPOROSIS SCREENING

- For women aged 65 and older and men aged 70 and older:
  - order a BMD test by dual x-ray absorptiometry
  - if the Z-score is -2.0 or lower, evaluate for secondary causes

#### OSTEOPOROSIS TREATMENT

- If a patient aged 50 or older has had a fragility fracture, recommend BMD testing to verify significant bone loss and/or initiate treatment
- Initiate treatment if the T-score is -2.5 or lower based on DXA measurement at the femoral neck, total hip or AP spine.
- If the T-score is **below -1.0 but above -2.5**, use the FRAX® risk assessment tool to estimate fracture risk (see Fig. 1):
  - initiate drug treatment in those with a 10-year probability of hip fracture of 3% or higher or major osteoporotic fracture of 20% or higher
  - drug treatment is optional when the FRAX® 10-year

### Bone Mineral Density (BMD) Test

- Dual-x-ray absorptiometry (DXA) is the recommended screening test for osteoporosis.
- The lowest T-score from the measurements of the total hip, femoral neck, and lumbar spine (L1-L4 composite score) is recommended to establish a diagnosis of osteoporosis (T-score -2.5 or lower).
- The distal nondominant forearm "1/3 radiologic site" is an option for patients in whom hip and spine BMD cannot be measured or interpreted.

Note: One hip is required for DXA measurement of the hip. Use the lowest T-score if both hips are evaluated. When vertebrae affected by local structural change or artifact are excluded, the lumbar spine composite score reflects only the remaining vertebrae (e.g., L2-L4, L3-L4, etc.).

#### REPEAT BMD TESTING

- If BMD retesting is indicated based on the patient's risk factor profile, then the recommended interval between tests is 10 years.

BMD testing is generally not indicated if the outcome of the test will not change patient management.

Table 1: WHO Definition of Osteoporosis

- Normal: BMD within 1 standard deviation of the young adult reference mean (T-score -1.0 or higher)
- Low bone mass: BMD more than 1 standard deviation below the young adult mean, but less than 2 standard deviations below this value (T-score below -1.0, but above -2.5)
- Osteoporosis: BMD 2.5 standard deviations or more below the young adult mean (T-score -2.5 or lower)

# Reminders on Kaiser EMR

- Primary Screening Reminders
- Secondary Screening Reminders
- Patients Needing Anti-Osteoporosis Treatment
- Patients Without Refills Within 5 Months (Why 5 Months?)
- Routinely Give 3 Month Supplies Anti-Osteoporosis Meds



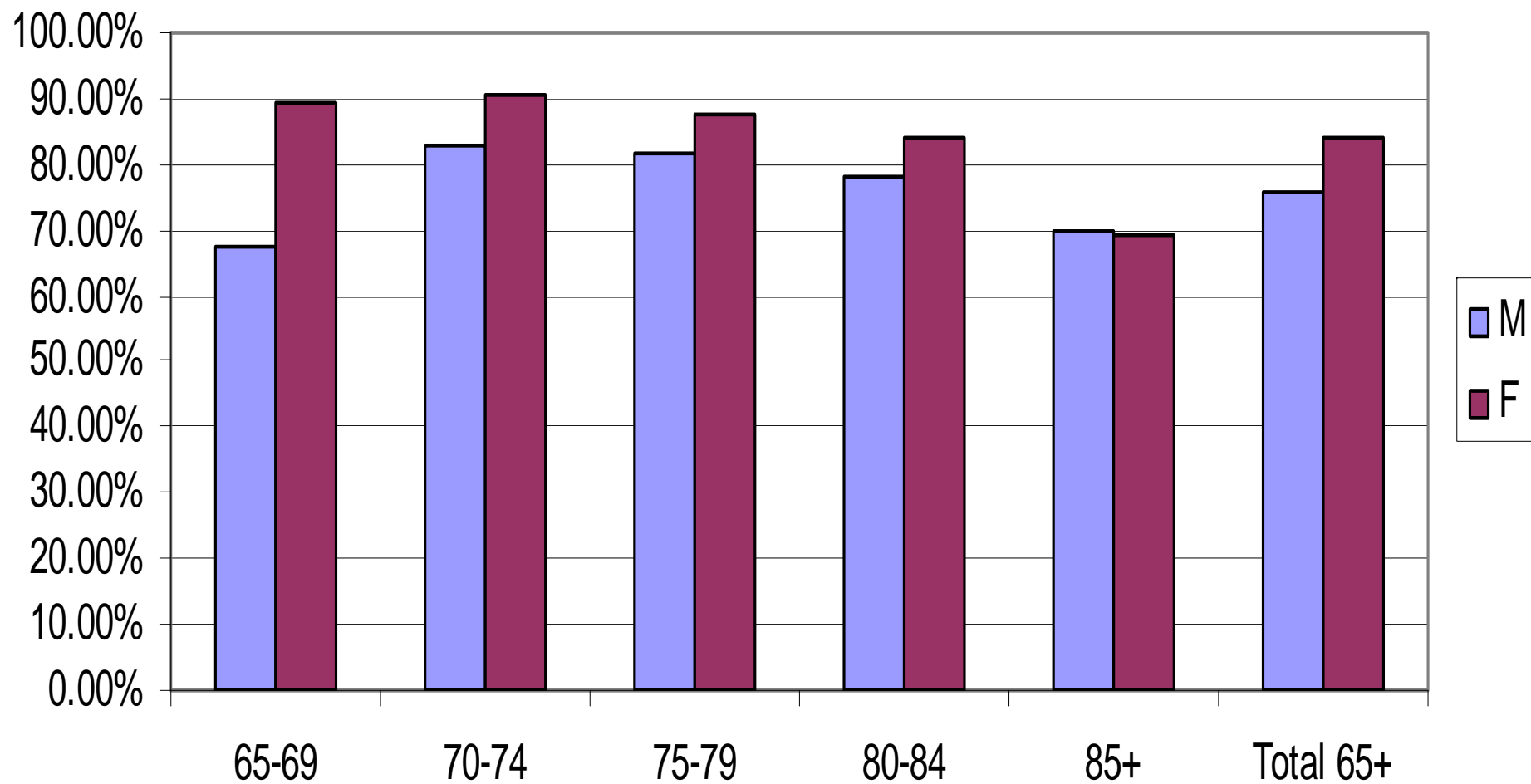
Kaiser SCAL (DXAs Done)	AGE	June 2011		
MALE	70-74	47,344		
MALE	75-79	36,111		
MALE	80-84	24,737		
MALE	85+	19,128	To Do	Done
Total Male 70+		127,320	15,964	87.5%
FEMALE	65-69	75,461		
FEMALE	70-74	55,884		
FEMALE	75-79	44,382		
FEMALE	80-84	34,317		
FEMALE	85+	34,173	To Do	Done
Total Female 65+		244,217	17,891	92.7%
			To Do	Done
Men (70+) Women (65+)		371,537	33,855	90.1%

<u>AGE</u>	<u>SEX</u>	<u>#</u>	<u>On Rx</u>	<u>% On Rx</u>
60-64	F	96,683	22,353	23.1%
65-69	F	65,177	21,022	32.3%
70-74	F	49,658	17,666	35.6%
75-79	F	36,729	14,323	39.0%
80-84	F	25,849	11,106	43.0%
85+	F	22,179	9,763	44.0%

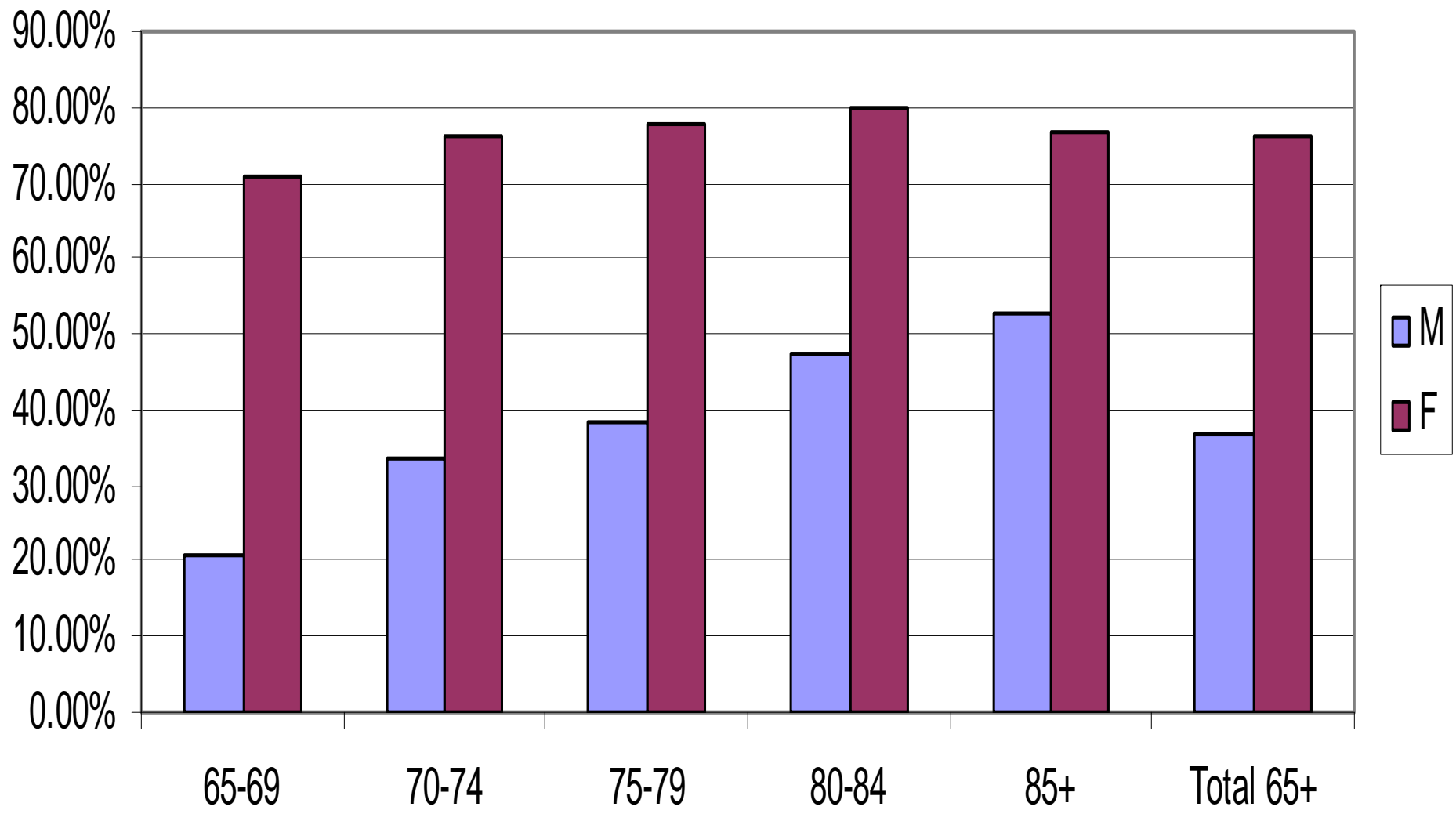


<b><u>AGE</u></b>	<b><u>SEX</u></b>	<b><u>#</u></b>	<b><u>On Rx</u></b>	<b><u>% On Rx</u></b>
<b>60-64</b>	<b>M</b>	<b>86,328</b>	<b>1,064</b>	<b>1.2%</b>
<b>65-69</b>	<b>M</b>	<b>58,032</b>	<b>1,442</b>	<b>2.5%</b>
<b>70-74</b>	<b>M</b>	<b>43,954</b>	<b>4,184</b>	<b>9.5%</b>
<b>75-79</b>	<b>M</b>	<b>31,671</b>	<b>4,169</b>	<b>13.2%</b>
<b>80-84</b>	<b>M</b>	<b>19,035</b>	<b>3,384</b>	<b>17.8%</b>
<b>85+</b>	<b>M</b>	<b>13,545</b>	<b>2,879</b>	<b>21.3%</b>

## DXAs In Fragility Fracture Patients

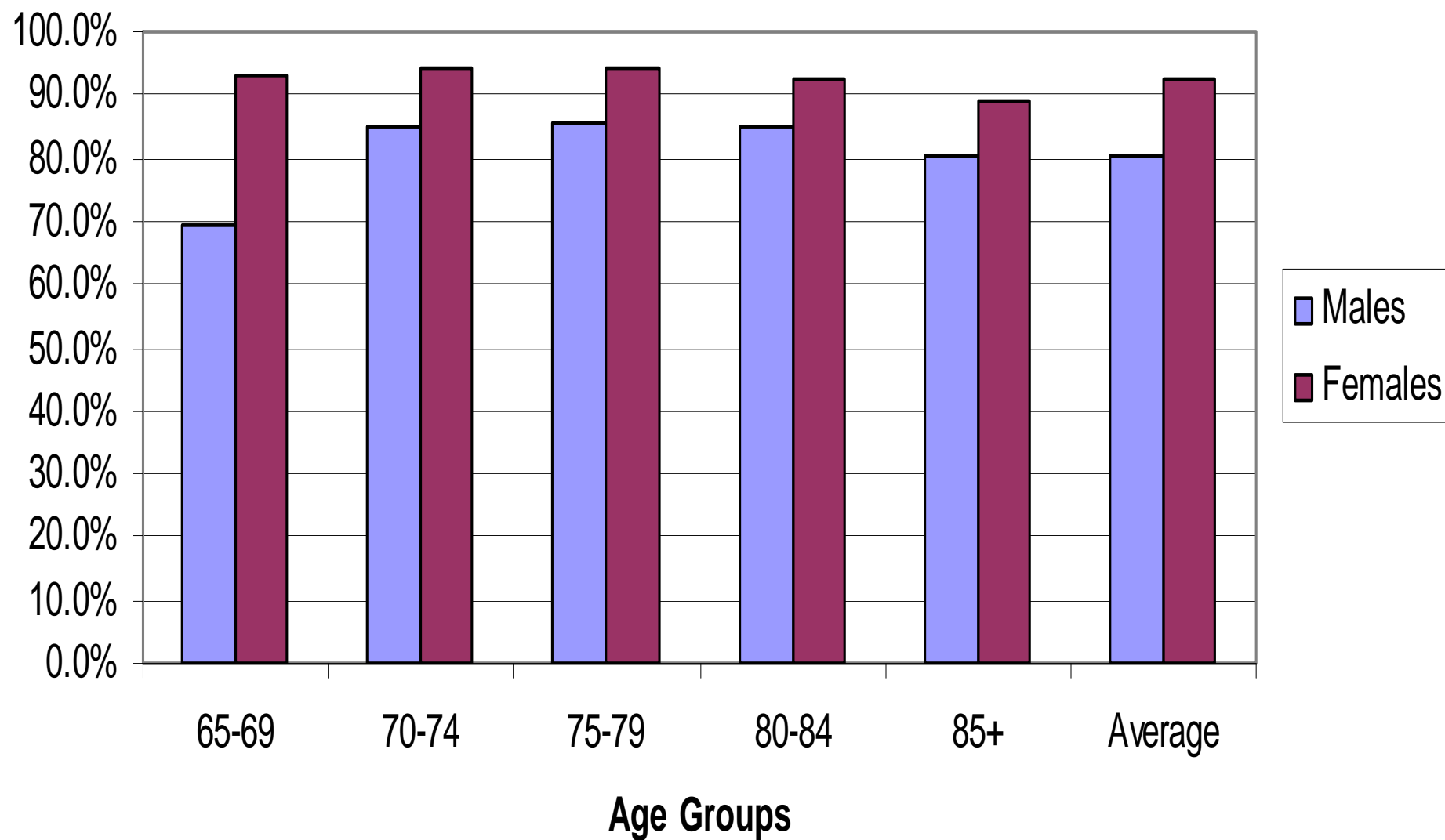


## Treatment In Fragility Fracture Patients





## DXAs and/or Treatment In Fragility Fracture Patients



# Fragility Fractures in Men

Males/Age Group	# Fxs	# DXA and/or Rx	% DXA and/or Rx
65-69	777	539	69.4%
70-74	648	552	85.2%
75-79	597	510	85.4%
80-84	492	419	85.2%
85+	523	419	80.1%
Total	3,037	2,439	80.3%

# Fragility Fractures in Women

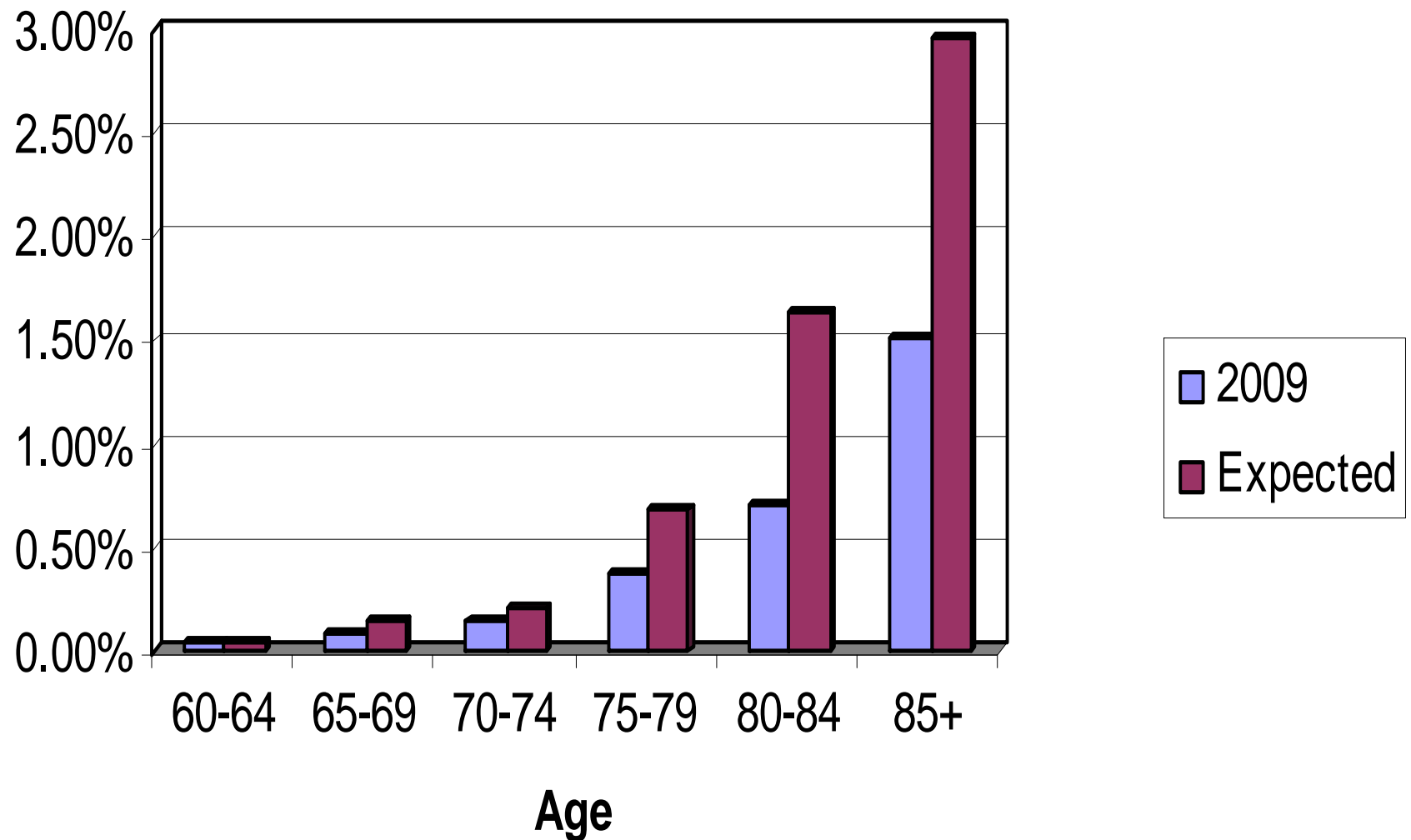
Female/Age Group	# Fxs	# DXA and/or Rx	% DXA and/or Rx
65-69	1,553	1,442	92.9%
70-74	1,495	1,409	94.2%
75-79	1,395	1,313	94.1%
80-84	1,452	1340	92.3%
85+	1,456	1,292	88.7%
Total	7,351	6,796	92.5%





# Rx Drives Reduction in Hip Fractures

## Expected Hip Fxs vs Actual 2009



	<u>60-64</u>	<u>65-69</u>	<u>70-74</u>	<u>75-79</u>	<u>80-84</u>	<u>85+</u>	<u>Total</u>
<b>Total</b>	<b>194,817</b>	<b>134,434</b>	<b>98,895</b>	<b>72,612</b>	<b>46,858</b>	<b>38,858</b>	<b>586,474</b>
<b>Expected Hip Fxs</b>	<b>104</b>	<b>194</b>	<b>201</b>	<b>498</b>	<b>765</b>	<b>1,147</b>	<b>2,908</b>
<b>Actual</b>	<b>75</b>	<b>106</b>	<b>147</b>	<b>269</b>	<b>333</b>	<b>589</b>	<b>1,519</b>
<b>Saved</b>	<b>29</b>	<b>88</b>	<b>54</b>	<b>229</b>	<b>432</b>	<b>558</b>	<b>1,389</b>
<b>Reduction</b>	<b>27.6%</b>	<b>45.2%</b>	<b>26.9%</b>	<b>46.0%</b>	<b>56.5%</b>	<b>48.6%</b>	<b>47.8%</b>



# Lessons From Healthy Bones

- Preventing Hip Fractures Saves Money
- Start With Biggest-Bang-For-The-Buck Savings
- Invest Savings Into Preventing More Hip And Other Fractures

Curr Osteoporos Rep

DOI 10.1007/s11914-010-0009-0

---

# **Is Osteoporosis Disease Management Cost Effective?**

**Richard Dell • Denise Greene**



**Now Is The  
Time To Act**



# **FLS programs in Medicare**

## **The 20/20 Vision**

**As Medicare is a closed system, it could change reimbursement and mandate screening/treatment after fractures**

**By 2020 we could see a 20% reduction in Medicare hip fractures in the USA**

# Any Questions?

