

Barriers to Osteoporosis Treatment

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Objectives

1. Define osteoporosis.
2. List features that make a patient a candidate for treatment for osteoporosis.
3. Review survey data collected from 8 inpatient and outpatient UCSD Geriatricians regarding their attitudes toward osteoporosis screening and management.
4. Identify your personal barriers to osteoporosis screening and treatment.

Case 1

A 75-year-old woman is evaluated in the hospital following primary PCI with DES placement in the mid LAD. She presented 2 days ago with findings of an anterior MI. Her medical history is significant for smoking; however, she does not follow with a primary care physician as she has “always been healthy” and is on no medications.

What will you be sending her out with on discharge?

Case 2

A 75-year-old woman is evaluated in the hospital following a fall while walking her (very cute) dog. She presented 2 days ago when she was found to have a right hip fracture, now s/p ORIF with Trauma Surgery. Her medical history is significant for smoking; however, she does not follow with a primary care physician as she has “always been healthy” and is on no medications.

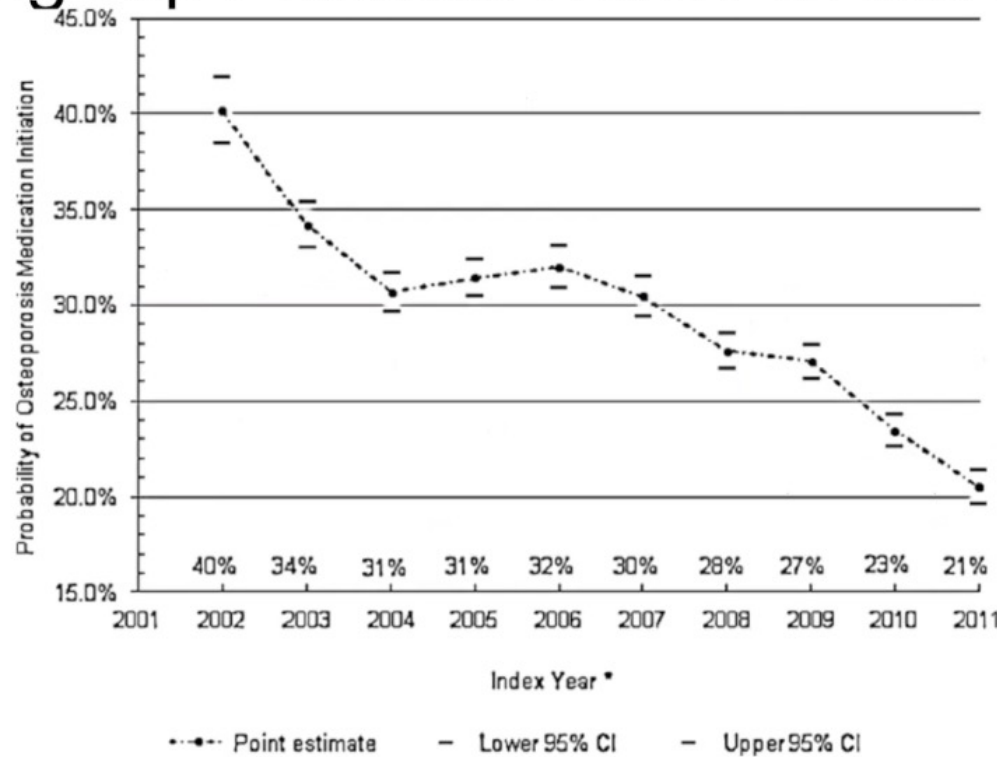


What will you be sending her out with on discharge?

A “Wow” Moment from AGS 2021



Probability of Osteoporosis Medication Use Following Hip Fracture within 12 Mo of Discharge



But SURELY not at my institution!

Active Patient 18-month Lookback ²	window ³		Denominator: Women age 50 – 90 with Dx for OP	Numerator: Women with pharmacologic Tx for OP	Rates of pharmacologic Tx in women with an OP Dx	Denominator: Men age 50 – 90 with Dx for OP	Numerator: Men with pharmacologic Tx for OP	Rates of pharmacologic Tx in men with an OP Dx
	Open	Close						
Oct 1, 2017 – Mar 31, 2019	04/01/21	04/30/21	1064	340	32.0%	119	28	23.5%
Jan 1, 2018 – Jun 30, 2019			1091	363	33.3%	127	26	20.5%
Apr 1, 2018 – Sep 30, 2019			1148	373	32.5%	127	28	22.0%
Jul 1, 2018 – Dec 31, 2019			1188	374	31.5%	130	31	23.8%
Oct 1, 2018 – Mar 31, 2020			1203	379	31.5%	135	34	25.2%
Jan 1, 2019 – Jun 30, 2020			1206	382	31.7%	138	33	23.9%
Apr 1, 2019 – Sep 30, 2020			1217	383	31.5%	139	31	22.3%
Jul 1, 2019 – Dec 31, 2020			1249	401	32.1%	144	33	22.9%
Oct 1, 2019 – Mar 31, 2021	04/01/21	04/30/21	1279	422	33.0%	145	34	23.4%
Jan 1, 2020 – Jun 30, 2021	07/01/21	07/15/21	1308	443	33.9%	151	39	25.8%
Apr 1, 2020 – Sep 30, 2021	10/01/21	10/15/21	1351	466	34.5%	158	45	28.5%

Over 65% of women and 70% of men with osteoporosis at UCSD AREN'T ON TREATMENT!

Taking a Deeper Dive

- Survey sent to 9 UCSD Geriatricians
- Given their expertise with caring for older adults, assume these providers are the MOST comfortable among PCPs with this condition.



UC San Diego
School of Medicine

**Division of Geriatrics,
Gerontology, and Palliative Care**
In the Department of Medicine

DIAGNOSING OSTEOPOROSIS

COMPLETELY CONFIDENT



FAIRLY CONFIDENT



SOMEWHAT CONFIDENT

SLIGHTLY CONFIDENT

NOT AT ALL CONFIDENT

Which of the following defines osteoporosis?

- A. BMD measurement ≤ 1 standard deviations below the young normal adult reference (T-Score ≤ -1)
- B. BMD measurement ≤ 2.5 standard deviations below the young normal adult reference (T-Score ≤ -2.5)
- C. Minimal trauma fracture of spine, proximal humerus, hip and/or forearm in a patient with osteopenia
- D. Both B and C

IDENTIFYING CANDIDATES FOR RX

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FAIRLY CONFIDENT



SOMEWHAT CONFIDENT



SLIGHTLY CONFIDENT

NOT AT ALL CONFIDENT

Is this patient a candidate for treatment?

FINDINGS:

LUMBAR SPINE (L1-4):

The bone mineral density is 0.981 gm/cm sq.

Percentage of young normal mean is 83%.

T-score is -1.7.

Percentage age-matched mean is 102%.

Z-score is 0.1.

World Health Organization and National Osteoporosis Foundation
Classification is low bone mass.

LEFT FEMUR:

The bone mineral density is 0.930 gm/cm sq.

Percentage of young normal mean is 90%.

T-score is -0.8.

Percentage age-matched mean is 124%.

Z-score is 1.3.

World Health Organization and National Osteoporosis Foundation
Classification is normal.

FRAX 10 year probability of fracture:
Major osteoporotic: 19.5 %
Hip: 4.4 %
Population: USA (Caucasian)
Based on DualFemur (right) neck BMD

Who should I treat?

- All post-menopausal women and men ≥ 50 who meet criteria for osteoporosis by DEXA or have a history of hip, vertebral or prior fragility fracture.
- Patients with osteopenia who have a 10-year probability of hip fracture $\geq 3\%$ or a major osteoporotic fracture $\geq 20\%$. (NOF Rec)

OTHER FUN FACTS ABOUT TIMING:

- Consider treating any patient who meets criteria >1 year life expectancy!
- AGS consensus to **start pharmacologic treatment for a fragility fracture 14 days after** (though no clear guidelines)

PRESCRIBING PO BISPHOSPHONATES

COMPLETELY CONFIDENT



FAIRLY CONFIDENT



SOMEWHAT CONFIDENT



SLIGHTLY CONFIDENT

NOT AT ALL CONFIDENT

PRESCRIBING MEDS OTHER THAN BISPHOSPHONATES

COMPLETELY CONFIDENT



FAIRLY CONFIDENT



SOMEWHAT CONFIDENT



SLIGHTLY CONFIDENT



NOT AT ALL CONFIDENT



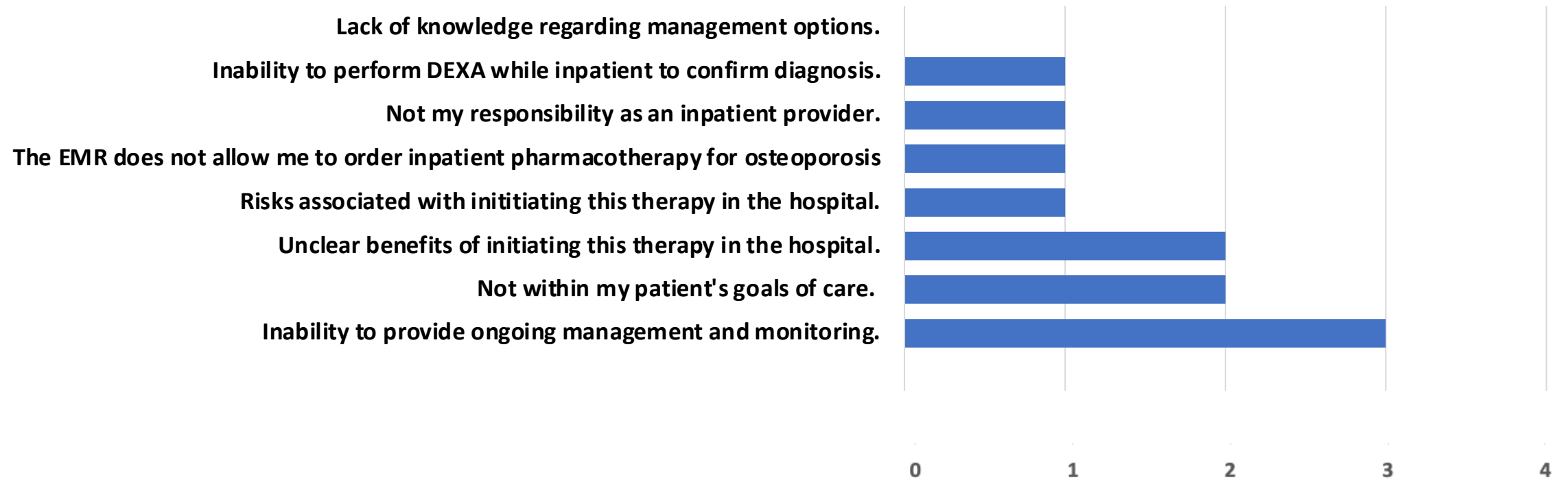
PROLIA = Only
other medication
listed that
providers felt
confident
prescribing

Who is responsible for osteoporosis??

- 100% of UCSD Inpatient Geriatricians “often” or “very often” defer management of osteoporosis to PCP if the diagnosis is discovered in the hospital.
- Of UCSD Outpatient Geriatricians, only 1 (20%) felt the PCP (i.e. the outpatient geriatrician) was primarily responsible for treating osteoporosis if diagnosed in the hospital (ex. after low trauma fracture)



Figure 1: Self-Reported Barriers to Prescribing Pharmacologic Therapy for Osteoporosis Among Inpatient (●, n=3) and Outpatient (●, n=5) Geriatricians



Major barriers listed by INPATIENT geriatricians for initiating osteoporosis treatment:

CAPABILITY	PHYSICAL	• Unclear benefits of initiating therapy inpatient. (66%)
	PSYCHOLOGICAL	
MOTIVATION	AUTOMATIC	• Not my responsibility as an inpatient provider. (33%)
	REFLECTIVE	• Risks associated with initiating therapy inpatient. (33%)
OPPORTUNITY	SOCIAL	• Not within my patient's goals of care. (66%)
	PHYSICAL	• Inability to provide ongoing management and monitoring. (100%) • Inability to confirm diagnosis with DEXA inpatient. (33%) • EMR prevents prescription of osteoporosis meds while inpatient. (33%)

WWNEJMD?

ORIGINAL ARTICLE

Zoledronic Acid and Clinical Fractures and Mortality after Hip Fracture

Kenneth W. Lyles, M.D., Cathleen S. Colón-Emeric, M.D., M.H.Sc., Jay S. Magaziner, Ph.D., Jonathan D. Adachi, M.D., Carl F. Pieper, D.P.H., Carlos Mautalen, M.D., Lars Hyldstrup, M.D., D.M.Sc., Chris Recknor, M.D., Lars Nordsletten, M.D., Ph.D., Kathy A. Moore, R.N., Catherine Lavecchia, M.S., Jie Zhang, Ph.D., et al., for the HORIZON Recurrent Fracture Trial*

The NEW ENGLAND JOURNAL of MEDICINE

CLINICAL PRACTICE

Caren G. Solomon, M.D., M.P.H., *Editor*

Management of Acute Hip Fracture

Mohit Bhandari, M.D., Ph.D., and Marc Swiontkowski, M.D.

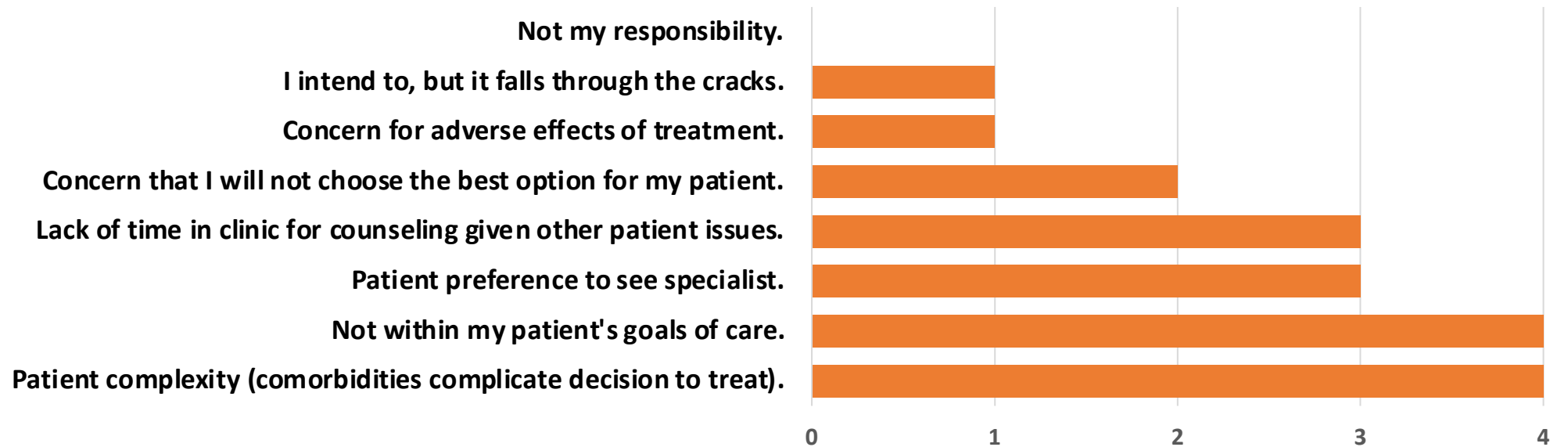
PERIOPERATIVE CARE

Comprehensive, interdisciplinary care in a geriatric ward has been shown to significantly improve mobility, activities of daily living, and quality of life, as compared with usual care in an orthopedic ward.⁴³ Although aggressive and early mobilization is strongly recommended, movement deficits can persist for several months after rehabilitation for hip fracture.^{15,43,44,45} Care also includes the provision of venous thromboprophylaxis and antibiotic prophylaxis and the evaluation for and treatment of osteoporosis.¹⁵ Osteoporosis is common in patients with hip fracture and is frequently undertreated. Calcium and vitamin D supplementation are routinely recommended after fracture, as is dual-energy x-ray absorptiometry for the assessment of bone mineral density.¹⁵ The prompt initiation of bisphosphonates after a fracture is encouraged in order to reduce the risk of a subsequent fracture; the administration of bisphosphonates has not been associated with deleterious effects on fracture healing.^{46,47}

Sources:

1. Bhandari, M., & Swiontkowski, M. (2017). Management of acute hip fracture. *New England Journal of Medicine*, 377(21), 2053-2062.
2. Lyles, K. W., Colón-Emeric, C. S., Magaziner, J. S., Adachi, J. D., Pieper, C. F., Mautalen, C., ... & Boonen, S. (2007). Zoledronic acid and clinical fractures and mortality after hip fracture. *New England Journal of Medicine*, 357(18), 1799-1809.

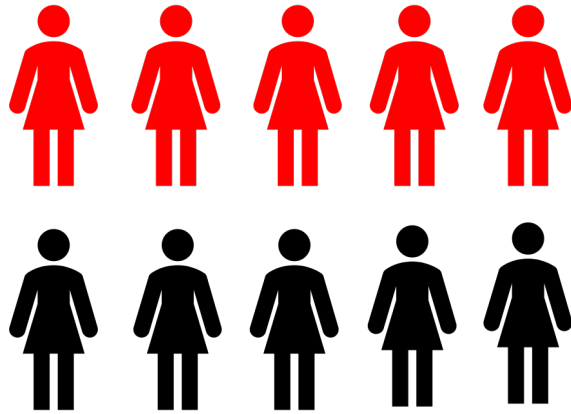
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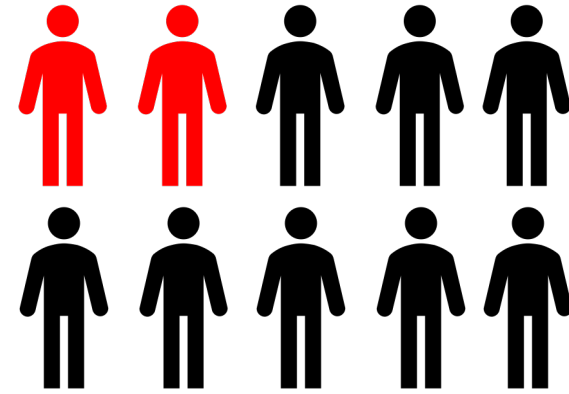
Major barriers listed by OUTPATIENT geriatricians for initiating osteoporosis treatment:

CAPABILITY	PHYSICAL	• I intend to, but it falls through the cracks. (20%)
	PSYCHOLOGICAL	• Concern that I will not choose the best option for my patient. (40%)
MOTIVATION	AUTOMATIC	• Concern for causing adverse effects with treatment. (20%)
	REFLECTIVE	• Patient complexity/comorbidities complicate decision to treat. (80%)
OPPORTUNITY	SOCIAL	• Not within my patient's goals of care. (80%)
	PHYSICAL	• Lack of time in clinic for counseling with other patient issues. (60%)

Prevalence of Osteoporotic Fractures (in remaining lifetime)



1 in 2
postmenopausal women

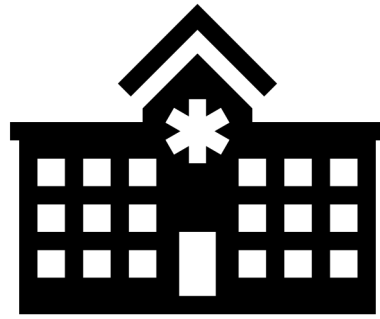


1 in 5
men over 50 years old

Osteoporotic Hip Fracture Outcomes



ONLY 40% regain
previous level of
functioning



20% require long term
nursing home care



Not to mention, mortality risk
increases by 20% in older adults the
year after hip fracture!

Goal Oriented Care—A Barrier to Action?



Rethinking the “Risk/Benefit Conversation”

Original Investigation

November 22, 2021

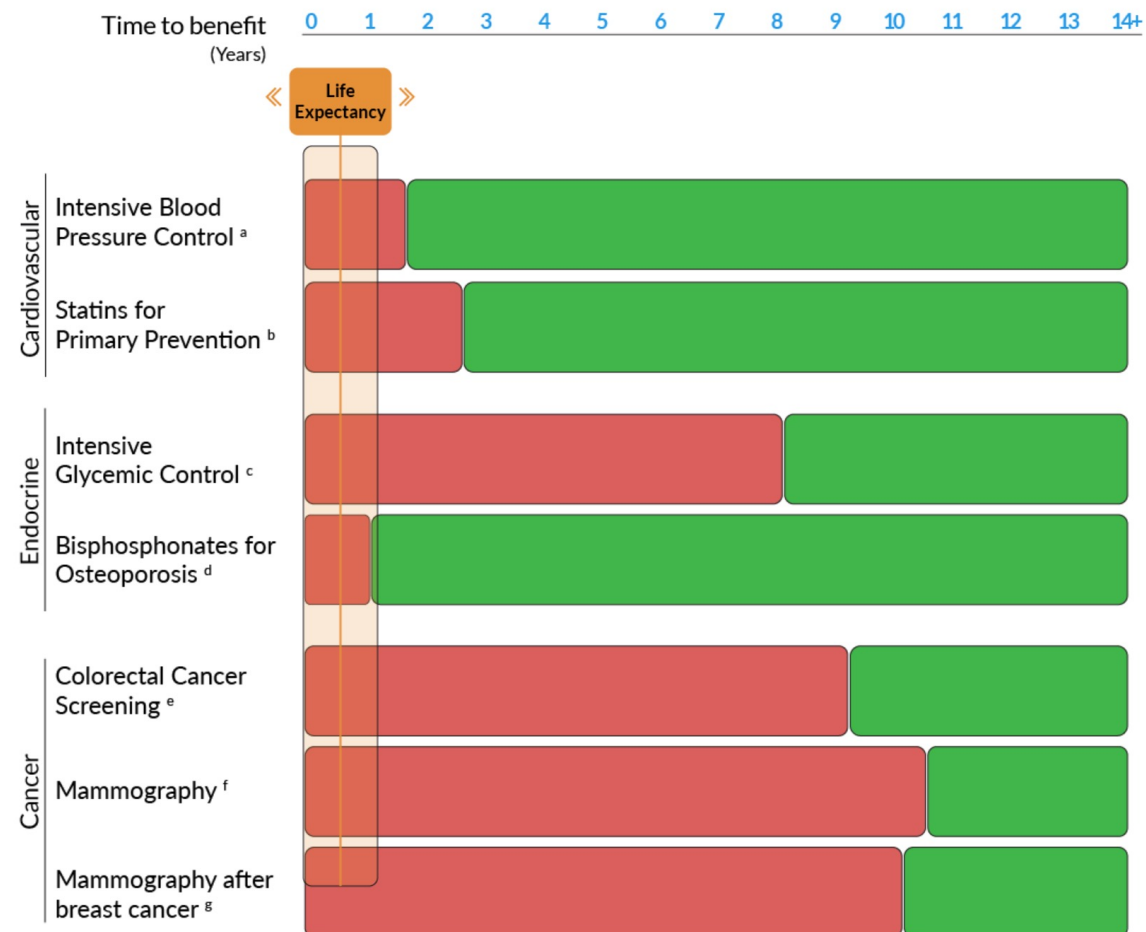
Time to Benefit of Bisphosphonate Therapy for the Prevention of Fractures Among Postmenopausal Women With Osteoporosis

A Meta-analysis of Randomized Clinical Trials

William James Deardorff, MD^{1,2}; Irena Censer, PhD^{1,2}; Brian Nguyen, BA^{1,2}; et al

» Author Affiliations

JAMA Intern Med. 2022;182(1):33-41. doi:10.1001/jamainternmed.2021.6745



Remember, osteoporotic fractures are “bone attacks” (and a HUGE deal)—Reflect on your barriers because YOU can make a difference!



Thank you!