



Welcome!

FLS Bone Health ECHO® TeleECHO Clinic

We will be recording this TeleECHO Clinic for educational and quality improvement purposes.

By participating in this clinic you are consenting to be recorded.

If you do not wish to be recorded, please email andrea.medeiros@nof.org at least one week prior to the TeleECHO Clinic you wish to attend.

Please type in your name, location, and email address in the chat.

Clinic will start in less than 15 minutes

Some helpful tips:

Please mute your microphone when not speaking

Position webcam effectively

Communicate clearly during clinic:

- ▶ **Speak clearly**
- ▶ **Use chat function**

Project ECHO's goal is to protect patient privacy

To help Project ECHO accomplish that goal, please only display or say information that doesn't identify a patient or that cannot be linked to a patient.

References:

For a complete list of protected information under HIPAA, please visit www.hipaa.com

Common HIPAA Identifier Slip-Ups and Easy Ways to Protect Patient Privacy

1st – **Names:** Please do not refer to a patient's *first/middle/last name* or use any *initials*, etc. Instead please use the *ECHO ID*.

2nd – **Locations:** Please do not identify a patient's *county, city or town*. Instead please use only the patient's *state* if you must or the *ECHO ID*.

3rd – **Dates:** Please do not use any dates (like *birthdates*, etc.) that are linked to a patient. Instead please use only the patient's *age* (unless > 89)

4th – **Employment:** Please do not identify a patient's *employer*, work *location* or *occupation*. Instead please use the *ECHO ID*.

5th – **Other Common Identifiers:** Do not identify patient's *family* members, *friends, co-workers, numbers, e-mails*, etc.

NOF Staff Disclosures

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Nothing to Disclose

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Nothing to Disclose

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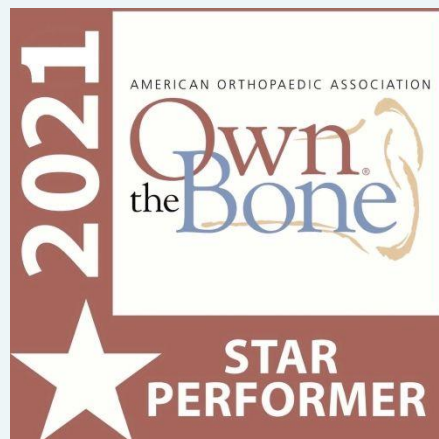
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Considerations when developing a fracture program



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Disclosures

- I have no disclosures

Objectives

Describe University of Wisconsin Fracture Liaison Service (FLS) model

Discuss FLS types and considerations when starting

Discuss early successes during development

Discuss challenges encountered

UW FLS Model

- Physician Assistant(PA) coordinator
- Housed within the Department of Orthopedics – University Hospital Level 1 trauma center with about 550 beds
- PA spent 4 months training before inpatient go live
- attended ISCD osteoporosis essentials course, became certified clinical densitometrist and worked at the institution's osteoporosis clinic housed within Endocrinology
- Joined American Orthopedic Association's Own the Bone Program
- Launched inpatient program first, outpatient program later
- Type A program: investigate, work up, treat

Multidisciplinary FLS work group

- Meets quarterly
- Ortho surgeon champion
- FLS coordinator, Endocrine osteoporosis MD, PT, Geriatrics MD, ortho administrator, RN manager, clinic director

UW FLS model

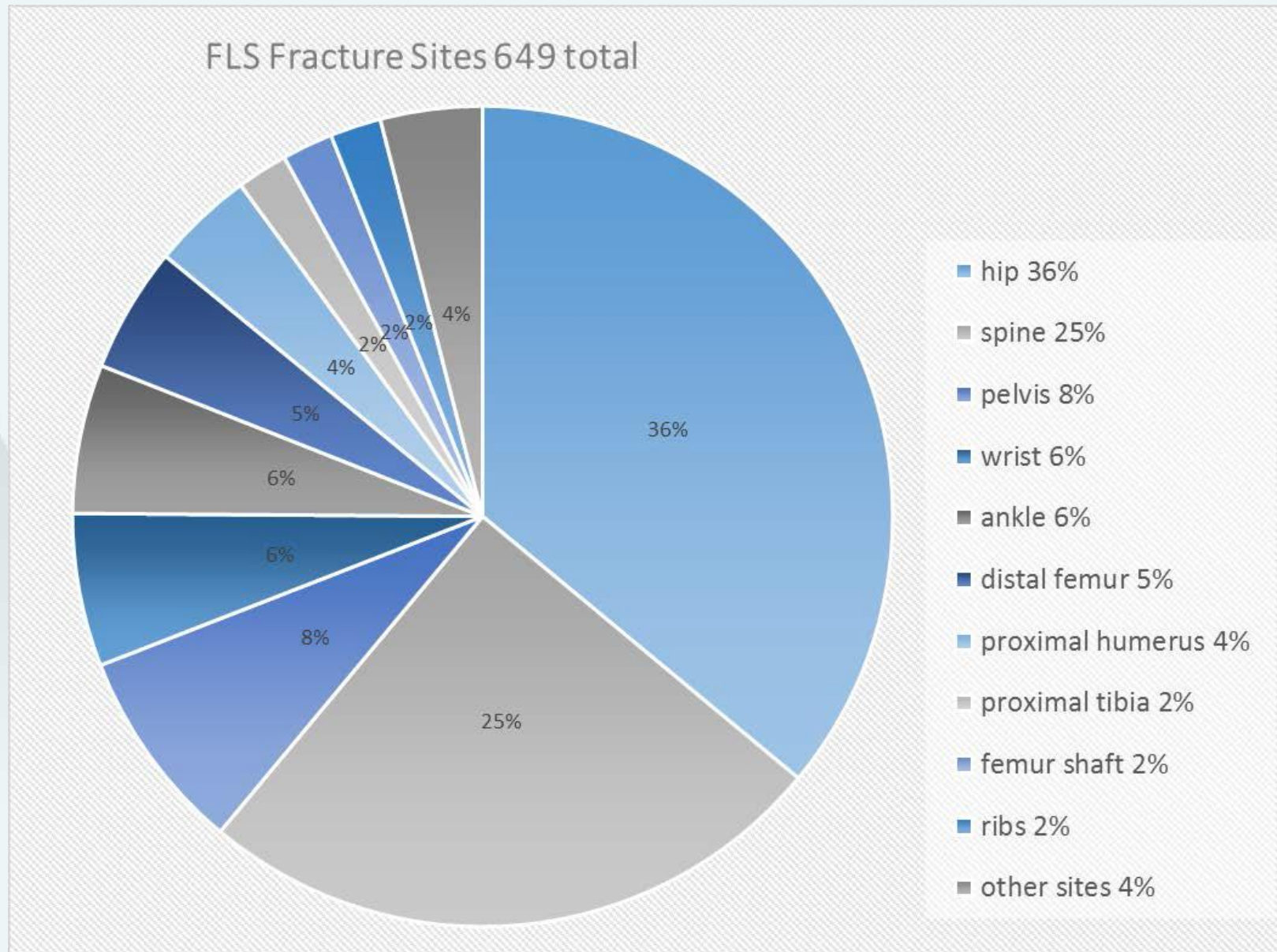
- ~ 80% of FLS consults currently are requested by Orthopedics
- **Inpatient consults**
 - Hip fracture - Admit order set has consult to FLS preselected
 - Other site fractures -Consult to FLS entered as a stand alone order
- **Outpatient consults**
 - Consult to Orthopedics - fragility fracture option on a drop down menu

UW FLS Consult Components

- Medical history/Physical Exam
- DXA
- Secondary cause lab work up
 - All: CBC, CMP, 25(OH)D, Mag, Phos, PTH, TSH
 - Additional: SPEP, testosterone, cortisol, 24 urinary calcium, TTG IgA
- Patient education – handouts given
 - High protein foods
 - Calcium and Vitamin D
 - 7 smart steps to better bone health - OTB document
- Osteoporosis medication prescribed by PA and follow up visit scheduled

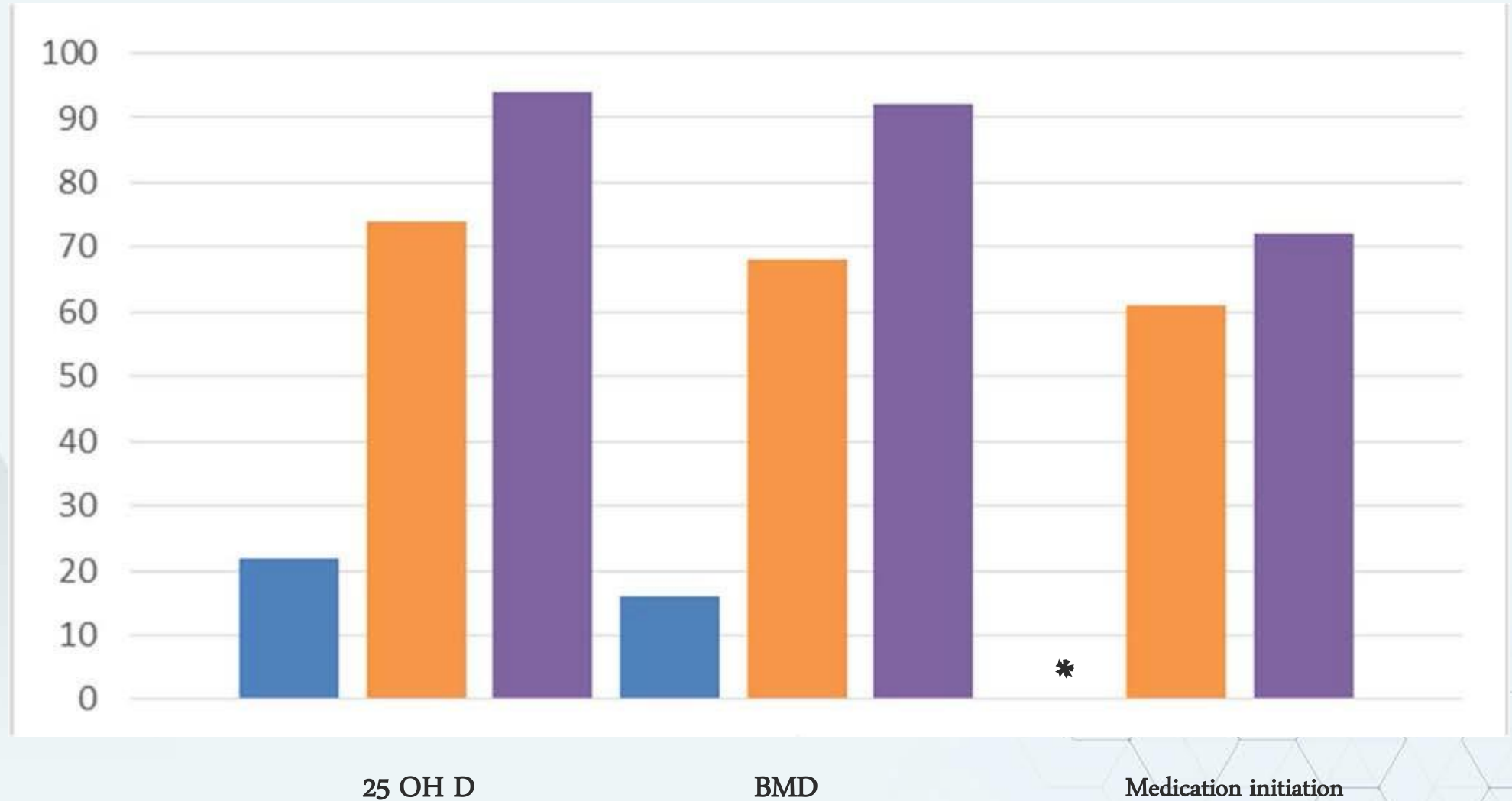
Anderson et al (2018)

UW FLS Fracture Report 10/16-10/18



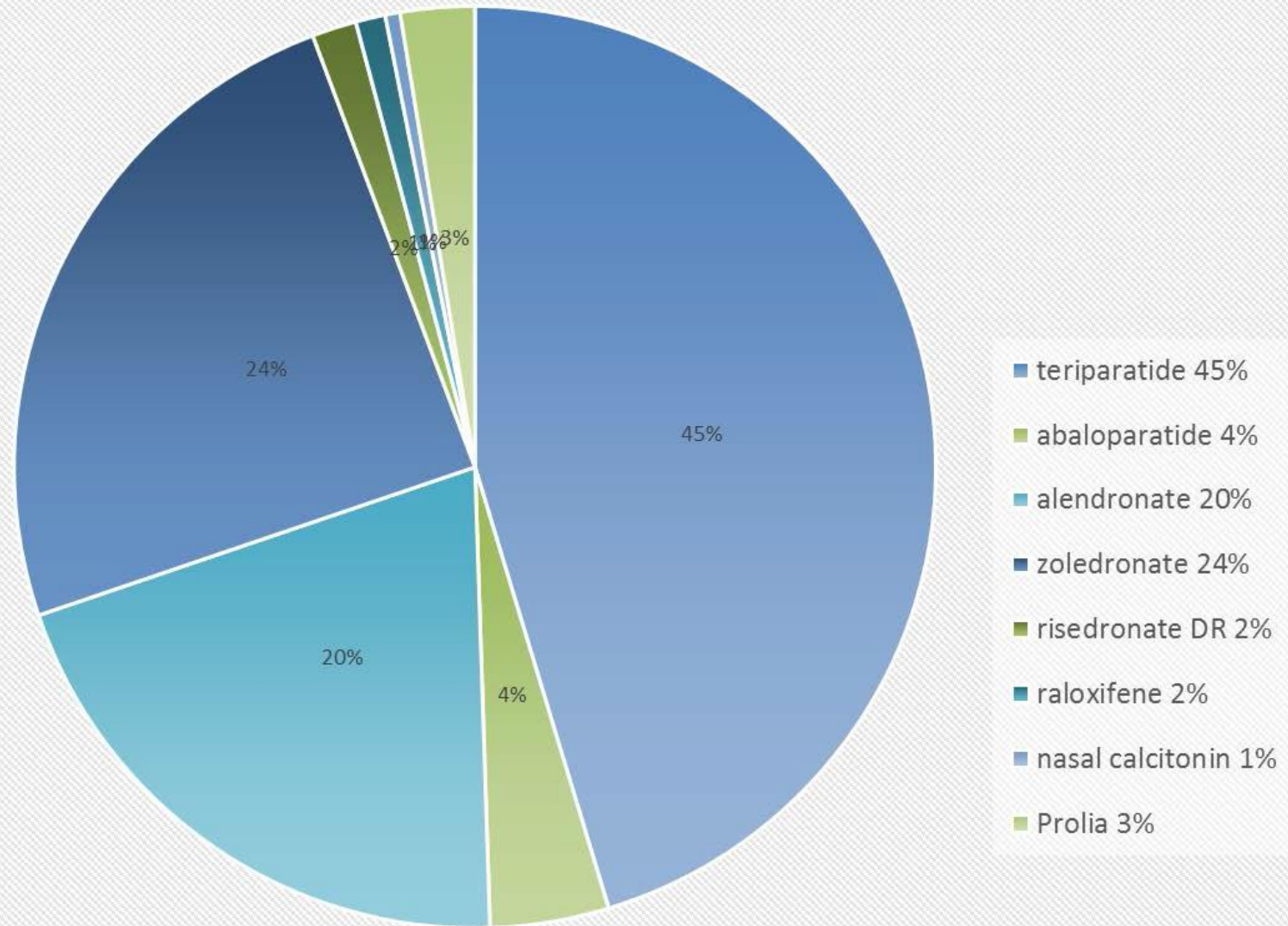
UW FLS Results The First 2 Years

Control - 845
Outside - 72
UW FLS - 268



25(OH)D testing and DXA increased with the initiation of FLS consult at the time of fracture regardless of where follow up occurred.

Osteoporosis Treatment Initiation UW FLS



N= 268: 72% started treatment; 14% refused treatment; 14% treatment not indicated

Early Successes

- Improvement in 25 OH D measurement and completion of DXA
- High treatment initiation rate
- Established a multidisciplinary service for new spine fractures: fracture care eval, bone health eval and PT same day
- Partnered with interventional radiology for direct referral pathway to FLS for patient undergoing vertebroplasty
- Monitor key metrics

Decisions when implementing FLS

What type of program to initiate?

Will you identify, evaluate and treat

Inpatient, outpatient or both

If inpatient will labs be ordered?

Secondary Fracture Prevention Programs

Type A

FLS Coordinator
Embedded in fx team
Assume entire care

Type C

In patient consult
Education
Communicate to PCP

Type B

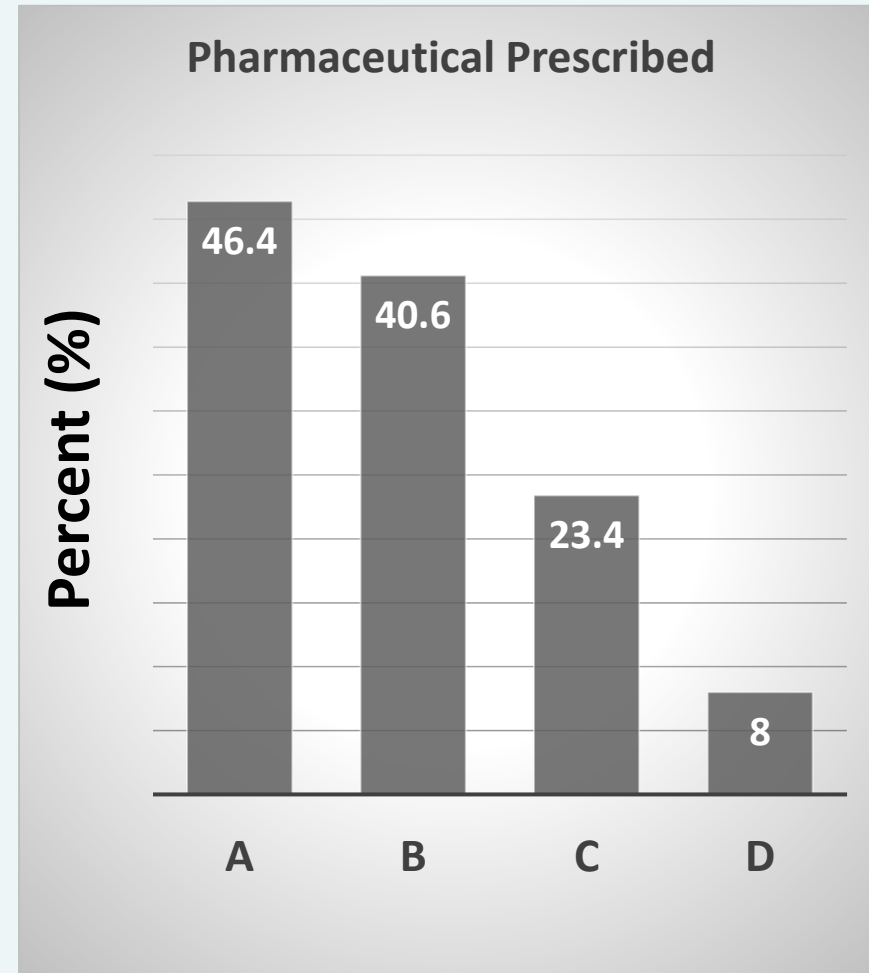
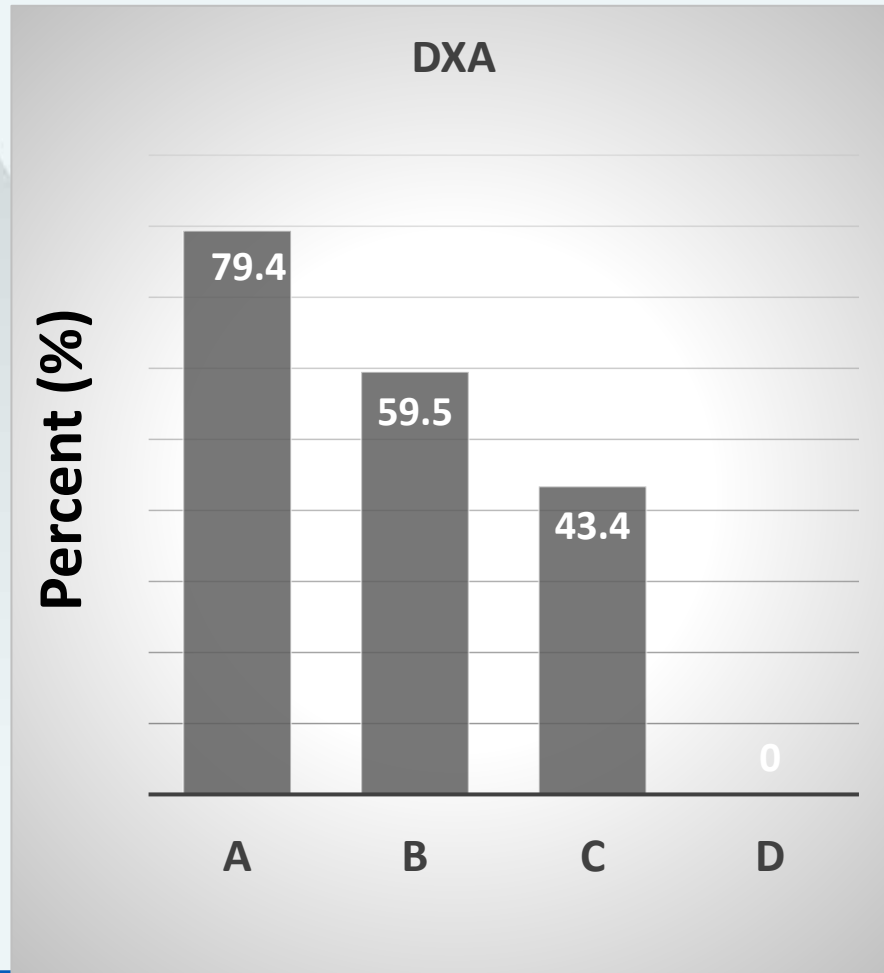
FLS Coordinator
Embedded in fx team
Refers treatment to PCP

Type D

Education
Refer to PCP
Lowest cost

Results by FLS type

Ganda K, et al (2013)



Inpatient FLS

New (medication) starts increased significantly in the postimplementation period to 43.9% of patients starting medication after hip fracture ($p < 0.001$) with a total of 58.6% of patients currently on osteoporosis medication within 12 months of hip fracture ($p < 0.001$).

Beaupre, LA et al

What department?

Orthopedics – will there be billing concerns if FLS provider sees patient on same day as surgeon

Rheumatology

Endocrinology

Primary Care

High Quality DXA

Always review images yourself

Who reports – radiology, rheumatology, endocrinology

How many DXA technicians

Is least significant change established

Staffing/referral considerations

FLS champion to lead

RN coordinator

Prescribing Provider to perform consult - what training is needed?

Local referral base for secondary causes – Endocrine, surgery, hematology, GI

PT, falls prevention

Smoking cessation, AODA

Nutrition

How will medication prior authorizations be handled? In house pharmacy team, third party, etc

In clinic injections versus infusion center

Fracture Care Programs

Will you design and build or join existing?

American Orthopedic Association Own the Bone Program

NOF FLS certificate of completion

IOF Capture the fracture

What metrics will you follow/report

DXA within 12 months of fracture

Measurement of vitamin D within 12 months of fracture

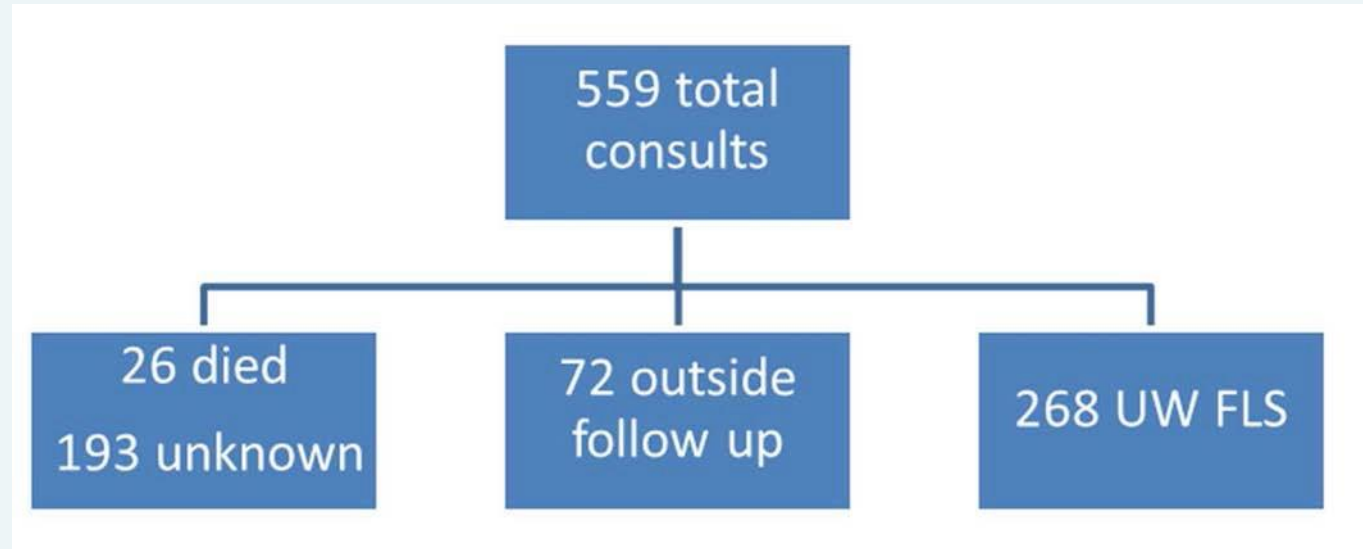
Initiation of osteoporosis medication within 12 months of fracture

Refracture rate



Challenges that we have encountered

Challenges – lost after discharge



- Study group 559 adults referred to UW FLS in the first 2 years (10/2016-10/2018)
- Control group 845 adults >50 who had a UW Health PCP and sustained a hip, vertebral or wrist fracture between 2008-2014 (before FLS)

Lost after discharge

○ Solutions

- Schedule follow up visit and DXA before hospital discharge to coordinate same day with Ortho surgeon follow up
- RN phone call to schedule follow up
- Telemedicine for out of area patients

Capture of admitted patients not on ortho service

○ Solutions

- Met with hospitalists and family medicine group to discuss how to refer
- Met with Acute Care for Elders(Geriatrics) team
- Rounding with floor PAs, NPs and ortho residents 2-3 times weekly

Capture of patients not admitted

○ Solutions

- Direct referral pathway to FLS via best practice alert that fires (EMR build) when ED provider enters ICD 10 fracture code for adult >50
- If answered yes one click sends referral and prescribes vitamin D/calcium

Medication persistence

○ Solutions

- 1 month, 3 month and 1 year follow up for daily injectable treatment
- Pre treatment bone turnover marker (BTM) for oral bisphosphonate, follow up in 3 months with repeat BTM, early change to IV Reclast if not effective or non adherence
- Schedule next Evenity and Prolia before patient leaves clinic

Secondary osteoporosis

○ Solutions

- Joint clinic ½ day per month with Endocrine osteoporosis MD and FLS PA for ‘tough cases’
- Weekly 30 minute phone call with Endocrine osteoporosis MD to discuss questions
- Direct referral to Endocrine osteoporosis clinic for management if CKD 4 or dialysis for bone biopsy (done at time of triage)

DXA access

○ Solutions

- Worked with radiology to reserve BMD spots dedicated to FLS patients
- Revised in house order so if reason for study is “orthopedic indication” patients gets access to dedicated FLS BMD slot within 2 weeks

PT and falls prevention

○ Solutions

- Start conversation early
- Tend to refer for 'bone protection' PT 3-6 months after fracture as many patients were PT fatigued after Rehab PT for fracture
- Refer to community recreation or senior center for 'stepping on' or similar so classes are closer to home

FLS 2.0/Orthopedic Bone Health Program

- Referral pathway from Interventional Radiology for patients who undergo vertebroplasty
- Multi Disciplinary clinic for spine fractures: spine provider, FLS visit and Physical Therapy same day
- ER quality improvement project: best practice alert(BPA) that fires if fracture code entered for patient age>50 refers patient to FLS and prescribes vitamin D/calcium
- Bone Health optimization consults for patients undergoing elective ortho surgery - joints or spinal procedure – this has increased significantly in the last 9-12 months-
 - “Why aren’t we preventing the first fracture?”

Summary

- FLS embedded within our orthopedic fracture care team has improved secondary fracture prevention care
- Multidisciplinary team has helped to overcome challenges
- FLS will change over time, re evaluate program at least yearly to look at metrics

Publications to date

- Paul A. Anderson, MD, Kristyn Hare, PAC, and Eeric Truumees, MD. Secondary fracture prevention in spine surgery Seminars in SPINE SURGERY VOL 30 , NO 1 MARCH 2018 p 24-31
- Hare, K, Binkley N and Anderson PA. Fracture Liaison Service Implementation at a University Hospital with Level 1 Trauma Center First Year Experience Presented at ISCD Annual Meeting, Boston MA. March 1st, 2018.
- Albanese G, Bice M, Anderson PA, Hare K, Ross AB. A Multi-Disciplinary Approach to Improving Secondary Fracture Prevention after Vertebroplasty Presented at High Value Practice Academic Alliance Annual Meeting. Baltimore, MD. September 21, 2018.
- Hare K, Binkley N, Borchardt G, et al. 2019 Orthopedic Surgical Bone Health Optimization: A Preliminary Assessment. Presented at the ISCD Annual Meeting Kuala Lumpur Malaysia March 20, 2019.
- Kadri A, Binkley N, Hare KJ, Anderson PA. Bone Health Optimization in Orthopaedic Surgery. JBJS 2020 Jan 21 [Epub ahead of print]
- Bandaru S., Hare K., Krueger, D., Binkley N. Do Patients that Fracture with Normal DXA-measure BMD have normal bone? Archives of Osteoporosis 2020 15:70.
- Anderson, P., Kadri, A., Hare, K. and Binkley N. Preoperative bone health assessment and optimization in spine surgery. Neurosurg Focus 49 (2): E2, 2020.
- Beaupre, L.A., Moradi, F., Khong, H. et al. Implementation of an in-patient hip fracture liaison services to improve initiation of osteoporosis medication use within 1-year of hip fracture: a population-based time series analysis using the RE-AIM framework. Arch Osteoporos 15, 83 (2020). <https://doi.org/10.1007/s11657-020-00751-2>

Resources

- CDC falls prevention resources <https://www.cdc.gov/steady>
- National Osteoporosis Foundation – A Reference Guide for Osteoporosis for Healthcare Professionals
- 2020 AACE osteoporosis treatment guidelines: <https://www.aace.com/files/postmenopausal-guidelines.pdf>
- Osteoporosis Canada
- www.ownthebone.org
 - Own the Bone Fact Sheet
 - Description of System Generated Reports
 - Training Webinars
 - More best practices

Contact information

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