



# CAPTURE *the* FRACTURE

## BEST PRACTICE FRAMEWORK QUESTIONNAIRE

### INTRODUCTION

*Capture the Fracture® invites Fracture Liaison Services (FLS) to apply for Capture the Fracture® Best Practice Recognition programme. As a global programme, Capture the Fracture® aims to prevent secondary fractures through the worldwide promotion of FLS. Co-chaired by Professor Kristina Åkesson (SWE) & Doctor Kassim Javaid (UK), the steering committee has developed the Best Practice Framework to recognize the achievements of existing FLS and to encourage other healthcare systems to implement their own FLS.*

### APPLICATION

*Please submit your FLS for recognition by completing the following questionnaire, saving it with the hospital name and date in the title and emailing it to [capturethefracture@iofbonehealth.org](mailto:capturethefracture@iofbonehealth.org).*

*Capture the Fracture® will display the FLS on our interactive map at [www.capturethefracture.org/map-of-best-practice](http://www.capturethefracture.org/map-of-best-practice). Completion of this form should take approximately 20 to 60 minutes depending on the level of data that is readily accessible to the FLS.*

### DEFINITIONS

- *A Fracture Liaison Service (FLS) is a service that aims to systematically identify, treat and refer all eligible patients within a local population who have suffered a fragility fracture with the aim of reducing their risk of subsequent fractures.*
- *A site is defined as a single hospital; or a regional service; or network of healthcare providers with identical service provision at each location.*
- *A fragility fracture is a fracture that occurs after trauma equivalent to a fall from standing height or less.*
- *An inpatient stay is defined as requiring a hospital bed on a ward and does not include accident and emergency and acute assessment units.*
- *A clinical vertebral fracture is a fracture of the vertebrae which comes to clinical attention on account of causing symptoms e.g. pain.*
- *A radiological vertebral fracture is a fracture detected by vertebral imaging of the vertebrae through chest X-Ray or other modalities (e.g. re-formatted CT scan, MRI scan or Vertebral Fracture Assessment technology on a DXA scanner).*
- *A service review for monitoring includes any review performed at the patient level to ascertain medication use, re-fracture and further falls.*

## DEMOGRAPHICS

In the following table, enter information about the institution/hospital/clinic and its clinicians.

A. About the Hospital		
A1.	Name of hospital:	
A2.	Name of FLS:	
A3.	Address: (include city and country)	
A4.	Site covers:	<p><b>Please select one:</b></p> <p>A single hospital</p> <p>Part of a larger hospital network or system</p> <p>Other, please specify:</p>
A5.	If site is part of a larger hospital network or system, please provide the following information:	Name of hospital system:
		Number of hospitals in system:
		Population size of hospital system:
		Name of lead clinician:
		Name of FLS coordinator for the system:
A6.	Type of site:	<p><b>Please select one:</b></p> <p>Private</p> <p>Private not for profit/charitable</p> <p>Government/public</p> <p>Public/private – mixed funding</p> <p>Teaching /university</p> <p>Non-academic</p> <p>Other type of funding – please specify:</p>
A7.	Population size served by the hospital (where applicable):	Population size:
A8.	Which acute <b>fragility fractures</b> are seen within your healthcare setting?  Examples of non-ortho inpatient fractures include: pelvis, wrists and shoulders admitted to a medical service for pain management or because a frail, elderly person cannot manage at home with the fracture.	<p><b>Please select all that apply:</b></p> <p>Hip fracture</p> <p>Inpatient fragility fractures – orthopaedic/trauma</p> <p>Other inpatient fractures - non-orthopaedic/trauma</p> <p>Outpatient fragility fractures</p> <p>Clinical vertebral fractures</p> <p>Radiological vertebral fractures</p> <p>Other fractures, please specify:</p>
A9.	Do you consent to your data being used anonymously for scientific publication?	<p><b>Please select one:</b></p> <p>No</p> <p>Yes</p> <p><b>If yes:</b></p> <p>Approval to cite country when referencing data</p> <p>Approval to cite world region when referencing data</p>
A10.	How did you hear about the Capture the Fracture® programme?	<p><b>Please select all that apply:</b></p> <p>Capture the Fracture® website</p> <p>Conference/congress, please specify:</p> <p>National societies, please specify:</p> <p>Referral, please specify:</p>

## B. User Information

B1.	Name of person completing this form:	
B2.	Email:	
B3.	Phone number:	
B4.	What is your role in service?	<b>Please select one:</b> <i>Lead clinician – speciality:</i> <i>Specialist practitioner – speciality:</i> <i>Other, please specify:</i>

## C. Lead Clinician (if different from above)

C1.	Name of lead clinician:	
C2.	Email:	
C3.	Phone number:	
C4.	What is your role in service?	<b>Please select one:</b> <i>Orthopaedics</i> <i>Endocrinology</i> <i>Rheumatology</i> <i>Geriatrics</i> <i>Gynaecology</i> <i>Other, please specify:</i>

## D. FLS Coordinator (if different from above)

D1.	Name of FLS coordinator:	
D2.	Email:	
D3.	Phone number:	
D4.	What is your role in service?	<b>Please select one:</b> <i>Clinician – speciality:</i> <i>Specialist practitioner – speciality:</i> <i>Other – speciality:</i>

## ABOUT THE FRACTURE LIAISON SERVICE (FLS)

In the following table, enter information about the FLS.

E. About the FLS Staff			
E1.	For each type of staff, please enter how much time is spent working within FLS as the whole time equivalent (WTE) percentage.  (e.g 50% for a nurse working half time and 400% for 4 full time nurses)	Resident physician/surgeon	%
		Nurse	%
		Physiotherapist	%
		Occupational therapist	%
		Clerical/administrator	%
		Other, please specify below:	%
E2.	Please provide any other comments about the staff here:		
E3.	When did an FLS start at your site?		
E4.	When did the current service model start at your site?		
F. About FLS Patient Identification			
F1.	How many fragility fracture patients were seen by your FLS in the past 12 months?		
F2.	Which patients are identified by your FLS:	<p><b>Please select all that apply:</b></p> <p><i>Hip fracture</i></p> <p><i>Other Inpatient fragility fractures within orthopaedic/trauma</i></p> <p><i>Other inpatient fractures – non-orthopaedic/trauma</i></p> <p><i>Outpatient fragility fractures</i></p> <p><i>Clinical vertebral fractures</i></p> <p><i>Radiological vertebral fractures</i></p> <p><i>Other fractures, please specify:</i></p>	
F3.	Are there any restrictions for which patients are identified by your service?	Age range:	Gender:
		Comorbidities to be specified (e.g. impaired cognitive functions):	
		Osteoporosis already managed by General Practitioner or other specialist (to be specified):	
		Fracture sites that are not eligible for inclusion:	
F4.	<b>Hip fracture</b> patients: how are they identified?	<p><b>Please select all that apply:</b></p> <p><i>FLS visits the Ortho/trauma ward</i></p> <p><i>Using ward/emergency room admission lists</i></p> <p><i>Using radiology IT systems</i></p> <p><i>Other, please specify</i></p>	
F5.	Other <b>non-hip non-vertebral</b> inpatients: how they identified?	<p><b>Please select all that apply:</b></p> <p><i>FLS visits the orthopaedic/trauma ward</i></p> <p><i>Using ward/emergency room admission lists</i></p> <p><i>Using radiology IT systems</i></p> <p><i>Other, please specify:</i></p>	
F6.	Fracture <b>outpatients</b> how are they identified?	<p><b>Please select all that apply:</b></p> <p><i>FLS visits the orthopaedic/trauma clinic</i></p> <p><i>Using clinic lists</i></p> <p><i>Using radiology IT systems</i></p> <p><i>Other, please specify:</i></p>	

## F. About FLS Patient Identification

F7.	<i>Is there a separate process for identifying fracture patients who should have received secondary fracture prevention, but did not get identified initially (i.e. quality data review, audit)?</i>	<p><b>Please select all that apply:</b></p> <p>No</p> <p>Yes for hips</p> <p>Yes for inpatient non hips</p> <p>Yes for outpatient/ clinic patients</p> <p>Yes for clinical vertebral fractures</p> <p>If yes, please describe the process:</p>
F8.	<i>Please comment on the strengths and limitations of identification by your service:</i>	

## G. About Post-Fracture Assessment and/or Treatment for Prevention of Secondary Fractures

G1.	<i>Who assesses the patient for secondary fracture prevention?</i>	<p><b>Please select all that apply:</b></p> <p>FLS Staff</p> <p>Hospital clinician – speciality:</p> <p>Referred or delegated to primary care physician</p> <p>Other, please specify:</p>
G2.	<i>Does your facility have access to DXA within the institution?</i>	<p><b>Please select one:</b></p> <p>Yes</p> <p>No</p>
G3.	<i>If not, does your facility have access to DXA elsewhere for referral?</i>	<p><b>Please select one:</b></p> <p>Yes</p> <p>No</p>
G4.	<i>If you do not have access to DXA, what are you using?</i>	<p><b>Please select one:</b></p> <p>Peripheral ultrasound</p> <p>Quantitative pQCT</p> <p>Peripheral DXA</p> <p>FRAX or other risk assessment tool</p> <p>Other, please specify:</p>
G5.	<i>Which patients with fractures are eligible to be referred to DXA?</i>	<p>All patients are eligible to be referred to DXA</p> <p>Age range:</p> <p>Gender:</p> <p>Fracture sites that are not eligible for referral to DXA:</p> <p>Other comments (ie. Do national clinical guidelines or DXA reimbursement criteria specify which fracture patients are eligible?):</p>
G6.	<i>Who assesses the need for treatment?</i>	<p><b>Please select all that apply:</b></p> <p>FLS Staff</p> <p>Hospital clinician, specialty:</p> <p>Referred or delegated to primary care physician</p> <p>Other, please specify:</p>
G7.	<i>Who discusses the results of the above assessments with the patient?</i>	<p><b>Please select all that apply:</b></p> <p>FLS staff</p> <p>Hospital clinician, specialty:</p> <p>Referred or delegated to primary care physician</p> <p>Other, please specify:</p>

## G. About Post-Fracture Assessment and/or Treatment for Prevention of Secondary Fractures

<p><b>G8.</b></p>	<p>What interventions can result from the FLS post-fracture assessment?</p>	<p><b>Please all that apply:</b></p> <p><i>Drug treatment (excluding calcium and vitamin D)</i></p> <p><i>Calcium and vitamin D supplementation</i></p> <p><i>Access to additional education programmes/resources (beyond any discussion at initial contact/or at FLS clinic)</i></p> <p><i>Clinic follow-up by appropriate specialist if abnormalities are identified on blood tests</i></p> <p><i>Other, please specify:</i></p>
<p><b>G9.</b></p>	<p>If, as a result of the FLS post-fracture assessment, the patient needs treatment for prevention of secondary fractures – how does the patient get the treatment?</p>	<p><b>Please select all that apply:</b></p> <p><i>FLS writes to the primary care physician</i></p> <p><i>FLS writes to hospital clinician</i></p> <p><i>The FLS issues the first prescription at the FLS clinic</i></p> <p><i>Other, please specify:</i></p>
<p><b>G10.</b></p>	<p>Does the FLS assess each fracture type in the same way?</p>	<p><b>Please select one:</b></p> <p><i>Yes</i></p> <p><i>No</i></p> <p><i>If no, what are the differences?</i></p>
<p><b>G11.</b></p>	<p>Please provide any further comments about post-fracture assessment &amp;/ or treatment for prevention of secondary fractures here:</p>	

## ABOUT BEST PRACTICES

The following questions are about the FLS and its success against the Capture the Fracture® Best Practice Framework. The Best Practice Framework is available at [www.capturethefracture.org/best-practice-framework](http://www.capturethefracture.org/best-practice-framework).

### H. Standard 1: Patient Identification

	What number and % of patients below (in the age range included in your service) were identified for secondary fracture prevention management in the last 12 months?	Number	<50%	50%-69%	70%-89%	90% or more	Do not know	N/A
H1.	<b>Hip fragility fracture patients</b>							
H2.	Patients admitted with <b>non-hip non-vertebral fragility fractures</b>							
H3.	Patients attending fracture clinic/ outpatient clinic with <b>non-vertebral fragility fractures such as wrist</b>							

### I. Standard 2: Patient Evaluation

	Of the fracture patients identified above, what number and % were assessed for prevention of secondary fractures by your FLS in the last full 12 month period?	Number	<50%	50%-69%	70%-89%	90% or more	Do not know	N/A
I1.	<b>Hip fragility fracture patients</b>							
I2.	<b>Inpatients with non-hip non-vertebral fragility fractures</b>							
I3.	<b>Outpatients with non-vertebral fragility fractures such as wrist fractures</b>							
I4.	What is the source of data for your answers?	<b>Please all that apply:</b> Billing database Hospital EMR/site database Database dedicated to purpose of FLS Fracture register/national data base Do not know Other, please specify:						
I5.	Comments on strengths and limitations of assessment:							

### J. Standard 3: Post-fracture Assessment Timing

	Following the fracture, what is the average time that it takes for the fracture patient below to reach a treatment decision or receive treatment for secondary fracture prevention?	Number	0-8 weeks	9-12 weeks	13-16 weeks	>16 weeks	Do not know	N/A
J1.	<b>Hip fragility fracture patients</b>							
J2.	<b>Inpatients with non-hip, non-vertebral fragility fractures</b>							
J3.	<b>Outpatients with non-vertebral fragility fractures such as wrist fractures</b>							
J4.	Opportunity for making the decision faster:							

## K. Standard 4: Vertebral Fracture

		Number	<50%	50%-69%	70%-89%	>90%	Do not know	N/A
K1.	What number and % of all patients with <b>suspected or known</b> clinical vertebral fractures underwent identification for prevention of secondary fractures in the last full 12 month period?							
K2.	What number and % of all patients presenting to the FLS with <b>non-vertebral fractures</b> were also routinely identified with lateral vertebral morphometry by DXA or plain vertebral radiology for vertebral fractures in the last full 12 month period?	<p><b>Please select all that are used:</b></p> <p>VFA</p> <p>Plain radiology</p>						
		Number	<50%	50%-69%	70%-89%	>90%	Do not know	N/A
K3.	What % of patients <b>originally identified by the Institution's Radiologists</b> to have vertebral fractures on plain X-rays, CT & MRI scans routinely underwent identification for prevention of secondary fractures in the last full 12 month period?							
K4.	For vertebral fractures, what restrictions apply if your facility is not identifying and/or assessing and/or treating these patients for prevention of secondary fractures?	<p><b>Please select all that apply:</b></p> <p>Age</p> <p>Gender</p> <p>Lack of resources</p> <p>Lack of funding</p> <p>Other, please specify:</p>						
		Number	0-8 weeks	9-12 weeks	13-16 weeks	>16 weeks	Do not know	N/A
K5.	Following identification, what is the average time that it takes for patients with any vertebral fracture to reach a treatment decision or receive treatment for secondary fracture prevention?							
K6.	If applicable, what are the barriers for finding patients with vertebral fractures?  (ie. do you follow ISCD guidance, privacy issues for accessing images?)							



## L. Standard 5: Assessment guidelines

L1.	The assessment &/or treatment for prevention of secondary fracture within your service uses protocols that:	<p><b>Please select all that apply:</b></p> <p>Have been developed <b>locally</b>?</p> <p>Reflect and are consistent with healthcare policy and guidelines agreed <b>region-wide</b>?</p> <p>Reflect and are consistent with healthcare policy and guidelines agreed <b>nation-wide</b>?</p>	
L2.	Do you use an absolute risk calculator?	<p><b>Please select all that apply:</b></p> <p>FRAX®</p> <p>Qfracture</p> <p>Garvan</p> <p>Do not know</p> <p>Other</p>	
L3.	Comments:		

## M. Standard 6: Secondary Causes of Osteoporosis

M1.	What % of patients undergo investigation (at least blood testing) to exclude underlying causes of low BMD?	<p><b>Please select one:</b></p> <p>Less than 50%</p> <p>50%-69%</p> <p>70%-89%</p> <p>90% or more</p> <p>Do not know</p>	
M2.	What is routinely tested?	<p><b>Please all that apply:</b></p> <p>Serum calcium</p> <p>Serum phosphate</p> <p>Serum alkaline phosphate</p> <p>Serum 25OH vitamin D</p> <p>Serum Parathyroid hormone</p> <p>Full blood count</p> <p>Erythrocyte sedimentation rate/ ESR</p>	<p>Liver function</p> <p>Thyroid function</p> <p>Coeliac disease screen</p> <p>Immunoglobulins/myeloma screen</p> <p>Renal function</p> <p>Other</p>
M3.	What other tests are used (ie. which bone markers)?		

## N. Standard 7: Falls Prevention Services

N1.	Does your FLS assessment include falls assessment & interventions (where necessary) to lessen future fracture risk?	<p>Yes</p> <p>No</p> <p>Do not know</p>	
N2.	If yes, what % of patients are evaluated to determine whether falls prevention services are required?	<p><b>Please select one:</b></p> <p>Less than 50%</p> <p>50%-69%</p> <p>70%-89%</p> <p>90% or more</p> <p>Do not know</p>	

## N. Standard 7: Falls Prevention Services

N3.	Are falls assessment & interventions provided by the same service personnel as determine need for treatment for secondary fracture prevention?	<p>Yes</p> <p>No</p> <p>N/A</p> <p>Please describe who provides further falls assessment:</p>
N4.	Which interventions are offered to reduce falls risk?	<p><b>Please select all that apply:</b></p> <p>Evidence based strength and balance exercise class (ie. Otago, FAME, etc.)</p> <p>Medication review</p> <p>Home environment assessment</p> <p>Eye test</p>
N5.	Are there any restrictions apply?	<p>Please select all that apply:</p> <p>None</p> <p>Age</p> <p>Gender</p> <p>Inpatients only</p> <p>Specific fracture groups</p> <p>Other, please specify:</p>
N6.	Comments:	

## O. Standard 8: Multifaceted Health & Lifestyle Risk-Factor Assessment

O1.	What percentage of patients with fragility fractures undergo a multifaceted assessment, for lifestyle risk-factors, e.g. smoking, alcohol use lack of exercise, dietary advice, etc.?	<p><b>Please select one:</b></p> <p>&lt; 50%</p> <p>50%-69%</p> <p>70%-89%</p> <p>90% or more</p> <p>Do not know</p>
O2.	Comments:	

## P. Standard 9: Medication Initiation Standard

P1.	What % of patients who are recommended for osteoporosis treatment (not including calcium and vitamin D) <b>actually receive treatment?</b>	<p><b>Please select one:</b></p> <p>&lt; 50%</p> <p>50%-69%</p> <p>70%-89%</p> <p>90% or more</p> <p>Do not know</p>
P2.	Are there differences by fracture site/ age/ gender/ residence?	

## Q. Standard 10: Medication Review

<b>Q1.</b>	What % of patients <b>already on</b> bone treatment when they had the fragility fracture, undergo medication review by your service to check whether that remains the most appropriate treatment?	<b>Please select one:</b>  < 50% 50%-69% 70%-89% 90% or more Do not know
<b>Q2.</b>	Are there differences by fracture site/ age/ residence, and what other tests are used (e.g. which bone markers)?	

## R. Standard 11: Communication Strategy

<b>R1.</b>	Who receives the report from your service which summarizes the outcomes of assessment for treatment to prevent secondary fractures?	<b>Please select all that apply:</b>  Patient Primary care physician Orthopaedic surgeon or clinician responsible for fracture care Falls service Osteoporosis specialist, please specify: Other, please specify:
<b>R2.</b>	What information is included in that report?	<b>Please select all that apply:</b>  Fracture risk score DXA – BMD DXA – vertebral fracture assessment or spine X-ray result if done instead Falls risk factors Fracture risk score (FRAX, Garvan, Qfracture, etc.) Medication compliance review (if applicable) Follow-up plan Lifestyle/health risk-factor assessment Other, please specify:
<b>R3.</b>	To whom are alternate outcomes/ assessment protocols routinely communicated?	

## S. Standard 12: Long-Term Management

<b>S1.</b>	Is there a management plan for secondary fracture prevention in place to re-evaluate fracture risk and adherence to osteoporosis treatment in those recommended for treatment?	Yes No
<b>S2.</b>	If yes, what does the re-evaluation include?	<b>Please select all that apply:</b>  Medication adherence Medication unwanted effects Re-fracture check Change in fracture risk factors Recurrent falls Other, please specify:

## S. Standard 12: Long-Term Management

S3.	Which patients undergo re-evaluation by your service?	<p><b>Please select all that apply:</b></p> <p><i>Hip fracture inpatients</i></p> <p><i>Non-hip outpatient fragility fractures</i></p> <p><i>Clinical vertebral fractures</i></p> <p><i>Radiological vertebral fractures</i></p>
S4.	At which times are patients re-evaluated after recommendation to start treatment?	<p><b>Please select all that apply:</b></p> <p><i>&lt; 6 months</i></p> <p><i>7-12 months</i></p> <p><i>13-24 months</i></p> <p><i>&gt; 25 months</i></p>
S5.	Do you time patient re-evaluation from:	<p><i>The date of the index fracture</i></p> <p><i>The date treatment is recommended</i></p> <p><i>Other, please specify:</i></p>
S6.	In what manner are patients monitored?	<p><b>Please select all that apply:</b></p> <p><i>Prescription review</i></p> <p><i>Telephone interview</i></p> <p><i>Postal questionnaire</i></p> <p><i>Clinic review</i></p> <p><i>DXA</i></p> <p><i>Other, please specify:</i></p>
S7.	Who is responsible for the long-term management of the patients?	<p><b>Please select all that apply:</b></p> <p><i>FLS coordinator</i></p> <p><i>Non-clinical specialist practitioner</i></p> <p><i>Clinician – speciality:</i></p> <p><i>Primary care physician</i></p> <p><i>Other physician, please specify:</i></p>
S8.	Comments:	

## T. Standard 13: Database

T1.	Do you have a local database at your FLS where fracture patient records are recorded?	<p><b>Please select all that apply:</b></p> <p><i>No</i></p> <p><i>Hip fracture</i></p> <p><i>Other fractures</i></p>
T2.	If yes, do you add the database information to a <b>regional</b> register?	<p><b>Please select all that apply:</b></p> <p><i>No</i></p> <p><i>Hip fracture</i></p> <p><i>Other fractures</i></p>
T3.	Do you add your fracture data to a central <b>national</b> database?	<p><b>Please select all that apply:</b></p> <p><i>No</i></p> <p><i>Hip fracture</i></p> <p><i>Other fractures</i></p>
T4.	If you answered no to any of the above, what restrictions apply?	

## Comments

*Please provide any other comments about your FLS here:*

*Please save the questionnaire with the hospital name and date in the title, and email it to [capturethefracture@iofbonehealth.org](mailto:capturethefracture@iofbonehealth.org). We will respond with a summary profile in the coming weeks.*

*Please visit [www.capturethefracture.org/fls-questionnaire-survey](http://www.capturethefracture.org/fls-questionnaire-survey) to provide valuable feedback on your application with a short questionnaire.*

*Thank you for participating!*