Royal College of Physicians

Fracture Liaison Service Database (FLS-DB)

Fracture Liaison Service Database (FLS-DB)

Annual report: Rebuilding FLSs to meet local patient need

Data from January to December 2021

January 2023

In association with

British Geriatrics Society
Improving healthcare for older people

Royal Osteoporosis Society
Better bone health for everybody

British Orthopaedic Association

Commissioned by

HQIP
Healthcare Quality Improvement Partnership

Contents

Report at a glance – key messages[1]

Demographics and data completeness

The FLS-DB team congratulates the achievement of the 70 FLSs across England and Wales that actively[2] participated with the FLS-DB audit and contributed towards this report.
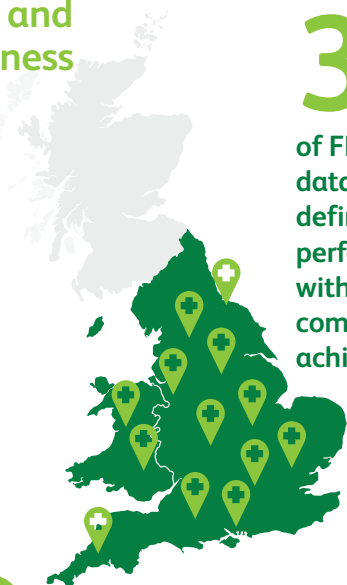
39%

of FLSs had good levels of data completeness. This is defined as eight or more key performance indicators (KPIs) with greater than 80% data completion and has been achieved against the backdrop of challenging times in the NHS.
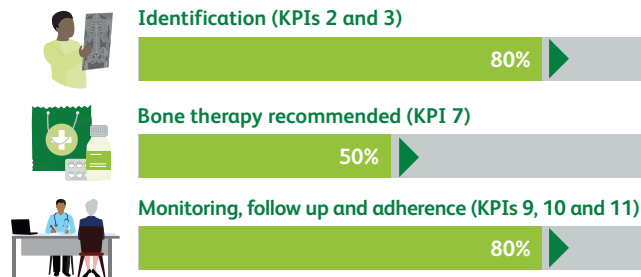
Patient records

70,384

patient records were included in 2021, compared with 70,614 in 2019.

In this year's annual report, the FLS-DB team are encouraging services to focus on KPIs 2 and 3 (identification), KPI 7 (bone therapy recommended) and KPIs 9, 10 and 11 (monitoring, follow-up and adherence) for service improvement goals (80/50/80 model).

Identification (KPIs 2 and 3)
80%

Bone therapy recommended (KPI 7)
50%

Monitoring, follow up and adherence (KPIs 9, 10 and 11)
80%

Key findings

Identification (KPIs 2 and 3)

The percentage of patient records submitted compared with the local estimated caseload has decreased from 49% in 2019 to 43% in 2021. There were 86 hospitals participating in the NHFD in 2021 that were not mapped to an FLS (52% of the total NHFD hospitals).

Bone therapy recommended (KPI 7)

More patients were recommended anti-osteoporosis medication in 2021 than in 2019 (56% vs 52%).

Monitoring, follow up and adherence (KPIs 9, 10 and 11)

All three KPIs for monitoring and follow up have improved in 2021 in comparison with 2019. For example, the percentage of patients who were followed up within 16 weeks of their fragility fracture has increased from 41% in 2019 to 47% in 2021.

Key recommendation

Identification (KPIs 2 and 3)

All FLSs submitting less than 80% of their expected caseload to the FLS-DB should review the underlying causes for this and agree an action plan to improve identification rates.

All FLSs should prioritise identifying patients with spine fractures over those with fractures below the knee, given that they have a higher risk of subsequent fractures.

Bone therapy recommended (KPI 7)

All FLSs with less than 50% treatment recommendation should review their pathways in line with NICE technology appraisals and guidance (NICE CG146, QS86, TA161, TA204, TA464, TA791), the NOGG 2021 clinical guideline for the prevention and treatment of osteoporosis and the Royal Osteoporosis Society clinical standards for FLSs.

Monitoring, follow up and adherence (KPIs 9, 10 and 11)

All FLSs should continue to aim for monitoring performance for at least 80% patients who are recommended or referred for therapy. This includes patients who receive injectable therapies after referral to other clinical teams, to ensure the treatment recommendations have been actioned.

[1]The 2021 findings have been presented against data from 2019 to compare the current performance of FLSs with pre-COVID-19 performance
[2]Defined as submitting more than 50 patient records to the FLS-DB between January–December 2021

What is an FLS and what is the FLS-DB?

A fracture liaison service (FLS) ensures that patients aged 50 and over with a broken bone after a fall have their bone health and falls risk checked and managed to lower their risk of a subsequent fracture. Made up of a team of healthcare professionals, FLSs bring clear benefits to the patient in the long term and have been shown to be clinically and cost-effective.

The Fracture Liaison Service Database (FLS-DB) collects, measures and reports on the care provided by FLSs. Since it began in January 2016, over 400,000 patient records have been entered by FLSs across the NHS in England, Wales and Northern Ireland.[3] This annual report presents the results of secondary fracture prevention care received by patients aged 50 and older following a fragility fracture between January and December 2021.

Data are displayed against the 11 FLS-DB key performance indicators (KPIs) derived from NICE technology appraisals and guidance on osteoporosis and falls (detailed on pages 9 and 10 by KPI), alongside the Royal Osteoporosis Society (ROS) clinical standards for FLSs and quality standards for osteoporosis and prevention of fragility fractures.

The FLS-DB audit team would like to thank the FLS community for its continued support and active participation in the audit, despite the well-publicised pressures on the NHS.

The FLS-DB team's vision is to support FLSs in England, Wales and Northern Ireland to deliver data-driven service improvement and become more effective and efficient in providing quality patient care.

---

[3] One service from Northern Ireland submitted data for 2021. However, its clinical data have been excluded from this report as its participation is not commissioned by HQIP.

'A great resource of information for patients, together with improvement guidelines for service providers – all contributing towards better patient outcomes!'
Kathleen Briers, FLS-DB patient representative

Resources for FLSs, patients and the public

Using the live data online: benchmarks and run charts
The FLS-DB provides FLSs and the public with live data in the form of run charts and benchmarking tables for 10 of the 11 KPIs (KPI 1 on data completeness is not included). FLSs are encouraged to use the live data to identify areas of achievement and improvement as an integrated component of regular governance meetings. This is outlined in recommendation 8 (page 8).

FLS improvement repository
To support services to learn from each other, a key aim of the FLS-DB audit is to share improvement ideas from the FLS community. The FLS-DB improvement repository hosts case studies of improvement work conducted by FLSs in relation to the audit's KPIs. Examples include data completeness (KPI 1) by Sandwell and West Birmingham Hospital Trust and identification (KPI 2) by Guy's and St Thomas' NHS Foundation Trust. The FLS-DB audit team would like to thank those FLSs that have provided case studies so far. To provide a case study to the FLS-DB audit team and share your improvement learning, contact flsdb@rcp.ac.uk for access to the template.

Patient resources

Many people have not heard of FLSs, and are unaware that breaking a bone after a fall may be due to osteoporosis. The FLS-DB works closely with patient and carer representatives who have personal experience of a fragility fracture, to develop resources that FLSs can use to improve people's understanding of what they should expect from their secondary fracture prevention care. It is pleasing to note that 74% of FLSs (52/70) that participated in the facilities audit for 2021 data, reported using the FLS-DB patient resources. Services are encouraged to distribute these publicly available resources to the people in their care to support patients and carers on their secondary fracture prevention journey.

The following FLS-DB patient resources are available:

1 Strong bones after 50 – a guide with jargon-free information for supporting people who have broken a bone following a fall.
2 Strong bones after 50 – staying on treatment – a document that explains why people with fragility fractures are recommended treatment and the importance of staying on treatment.
3 Bone health card – a resource that aims to improve the patient experience when returning home following a fragility fracture.
4 Best practice letter templates – aimed at FLSs to use when communicating with patients and GPs.
5 Six golden rules – a video encouraging patients to have follow-up conversations with their GP after being recommended to take medication by mouth for osteoporosis. FLSs are encouraged to display the video in waiting rooms – a copy of the video can be obtained by contacting flsdb@rcp.ac.uk.
6 What should happen if you or someone you know experiences a fragility fracture? – a summary of three key findings from the 2022 FLS-DB annual report displayed against actions that can be taken by patients and carers.

These resources complement existing patient information resources produced by the Royal Osteoporosis Society (ROS), in addition to ROS peer support opportunities and the free ROS specialist nurse helpline.

This FLS-DB annual report includes two recommendations specifically created for patients and carers on page 7 (recommendations 1–3).

'These clearly accessible resources, targeting patients specifically, have been invaluable in helping me to know more about and most importantly understand how I can manage my condition. I now have clear expectations and am able to communicate regarding treatment with the relevant health professionals. I appreciate the direction given to access credible information and support.'
Alison Smith, FLS-DB patient representative

National platforms using FLS-DB data

The findings from the FLS-DB can now be found on the National Clinical Audit Benchmarking and Model Health System. They allow the public and NHS staff to view FLS-DB data benchmarked by service, aiding in the process of identifying opportunities for improvement. Importantly, these tools will also be available for NHS decision makers when planning services at a regional and local level and raise awareness of the need for every health region to have an FLS as part of standard NHS care.

Furthermore, the use of the FLS-DB has been included in an integrated pathway for the secondary prevention of fragility fractures developed by the Best MSK Health collaborative. The pathway includes timepoints when data should be submitted to the FLS-DB, making entry to the database standard practice. It was also agreed that the KPIs from the FLS-DB would be used as a metric for the pathway. The secondary prevention pathway can be accessed via the National MSK Health page on the future NHS platform.

Methods

Clinical audit

The FLS-DB clinical audit aims to profile the quality of secondary fracture prevention care received by patients aged 50 and older in England, Wales and Northern Ireland[3] through a series of indicators related to the patient pathway, including, but not limited to; the identification of patients; the recommendation of bone therapy; and the follow-up of these patients.

This report describes the assessment and treatment of osteoporosis by 70 FLSs for 70,384 patients who sustained a fragility fracture in 2021[4]. Four FLSs were excluded from the report as they submitted fewer than 50 cases at the time of data extraction (Buckinghamshire Healthcare NHS Trust, Dartford and Gravesham Community FLS, Barking Havering and Redbridge University NHS Foundation Trust, Southend Hospital).

The 2021 findings have been presented against data from 2019 to compare the current performance of FLSs with pre-COVID-19 level performance (example in Fig 1). To access the 2019 and 2021 data including a full list of participating services, visit data.gov.uk.

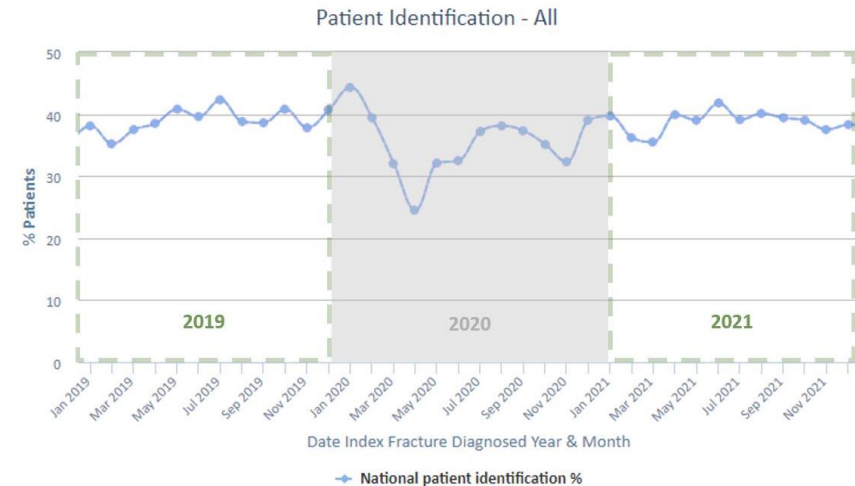Please see page 9 for the 2021 clinical audit findings.

Figure 1: run chart for KPI 2 Identification (all fragility fractures) 2019 – 2021.

Facilities audit

The FLS-DB facilities audit profiles the structure and practices applied within services to identify patients at risk of osteoporosis and falls in order to create a detailed national picture of how secondary fracture prevention is being delivered.

Please see page 17 for the 2022 facilities audit findings.

A detailed description of the methodology, including the analysis plan, is also available.

---

[4] 2021 data were 'cut' in May 2022, meaning that any data submitted for patients who sustained a fragility fracture in 2021 after May 2022 are not included in this report. Live FLS level data for all KPIs are available on the FLS-DB benchmark tables.

Recommendations for patients and carers, services and senior executive decision makers

With an ageing population, reducing fragility fractures is a rising priority for decision makers and clinical teams across England and Wales to lessen their impact on patients, their families, healthcare systems and society. There are established clinically and cost-effective tools for assessing bone health (NICE CG146, QS86) and treatments for osteoporosis (NICE TA161, TA204, TA464, TA791) for patients following a fragility fracture. The recommendations below aim to increase the provision of sustainable local FLSs to significantly reduce the risk of subsequent fractures in patients.

'FLS is the world standard for preventing fractures and helping people live well. If we end the postcode lottery, we can transform the experience of later life in this country. The Best MSK Health pathways give us our best chance at ending the inequalities and seizing the opportunities for prevention – an inspiring vision which is fully consistent with the NHS Long Term Plan.'
Craig Jones, chief executive officer of the ROS

Recommendations for patients and carers

1. Patients and carers should view the Six golden rules and Strong bones after 50 resources to learn more about the importance of improving bone health after a fracture. They are encouraged to discuss their care with their GP if they do not feel that it meets the standards described in this report and the resources.
2. Patients and carers should contact the Royal Osteoporosis Society if they have any questions or for information, advice and support, including patient information resources and the free specialist nurse helpline (0808 800 0035).

3. Patients and carers should contact their local HealthWatch if they would like to advocate for new services locally and/or contact flsdb@rcp.ac.uk if they would like to get involved with supporting FLSs at the national level via involvement in the Falls and Fragility Fracture Audit Programme (FFFAP) patient and carer panel.

In the current climate where there may be confusion about the benefits vs risks of osteoporosis treatments, the FLS-DB and ROS remain credible sources of information for guidance on standards of care and treatment.

'I feel encouraged to follow the information in these resources, to take responsibility for and challenge my own treatment and to work in cooperation with my doctor to feel more confident about my future.'
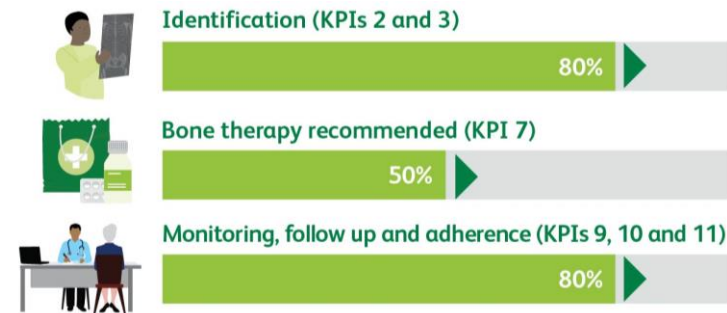**Alison Smith, FLS-DB patient representative**

Recommendations for fracture liaison services

Key performance indicators
In this year's annual report, the FLS-DB team are encouraging services to focus on KPIs 2 and 3 (identification), KPI 7 (bone therapy recommended) and KPIs 9, 10 and 11 (monitoring, follow-up and adherence) for service improvement goals (80/50/80 model).

KPI 2 – Identification (all fragility fractures)

4. All FLSs submitting less than 80% of their expected caseload[5] to the FLS-DB should review the underlying causes for this and agree an action plan to improve identification rates.

KPI 3 – Identification (spine fractures)

5. All FLSs should prioritise identifying patients with spine fractures over those with fractures below the knee, given that they have a higher risk of subsequent fractures.

KPI 7 – Bone therapy recommended

6. All FLSs with less than 50% treatment recommendation should review their pathways in line with NICE technology appraisals and guidance (NICE CG146, QS86, TA161, TA204, TA464, TA791), the NOGG 2021 clinical guideline for the prevention and treatment of osteoporosis and the Royal Osteoporosis Society (ROS) clinical standards for FLSs.

KPIs 9, 10 and 11 – monitoring, follow up and adherence

7. All FLSs should continue to aim for monitoring performance for at least 80% patients who are recommended or referred for therapy. This includes patients who receive injectable therapies after referral to other clinical teams, to ensure the treatment recommendations have been actioned.

To achieve these aims, the FLS-DB audit recommends that:

8 All FLSs should have regular monthly governance meetings that report to their organisation's executive teams, and use FLS-DB data in these meetings to prioritise areas for service improvement.

9 All FLSs should have an active service improvement team that includes at least two patients/ carers and representation from clinicians, administration and management to complete at least one quality improvement cycle every year.

10 All FLSs should use the regional benchmarking function to develop regional networks that share good practice and drive service improvement.

11 All FLSs should engage with the ROS and local decision makers to ensure their FLS is resourced based on local need. The ROS FLS implementation toolkit offers support for the development of services from business case right through to outcomes and performance measurement, including providing an FLS benefits calculation to cost pathways for the local population.

Recommendations for senior executive decision makers

12 All senior executive decision makers should hold a key stakeholder meeting to explore how local needs for fragility fracture patients can be met. Patient representatives and members of the ROS should be invited to the meeting, and it should plan for effective and sustainably resourced FLSs based and designed on the KPIs from the FLS-DB.

13 All senior executive decision makers should ensure FLSs are commissioned to deliver the Best MSK pathway for secondary fracture prevention, participate actively with the FLS-DB mandatory national audit and complete at least one quality improvement cycle per year.

---

[5] Expected caseload refers to the 'rule of 5' – a calculation used to estimate the total number of fragility fractures that an FLS should expect to see, determined by multiplying the number of hip fractures derived from the National Hip Fracture Database (NHFD) by five.

FLS-DB 2021 clinical audit key findings

All key performance indicators (KPIs) measure performance against technology assessments, guidance on osteoporosis and clinical standards for FLSs from the NICE, ROS and NOGG.

Table 1: FLS-DB KPIs for all patients with an index fragility fracture date in 2019 and 2021. Live FLS-level data for all KPIs is available in the FLS-DB benchmark tables.

KPI	Standard/rationale	2019	2021
KPI 1 – Data completeness FLSs with a good level of data completeness[6]		46%	39%
KPI 2 – Identification (all fragility fractures) The percentage of patient records submitted compared with the local estimated caseload	ROS clinical standards for FLSs, standard 1 NOGG 2021: Clinical guideline for the prevention and treatment of osteoporosis	49%	43%
KPI 3 – Identification (spinal fractures) The percentage of patients with a spine fracture as their index fracture site compared with local estimated caseload	ROS clinical standards for FLSs, standard 1 NOGG 2021: Clinical guideline for the prevention and treatment of osteoporosis	24%	23%
KPI 4 – Time to FLS assessment The percentage of patients who were assessed by the FLS within 90 days of their fracture	NICE CG146, NICE CG161, NICE QS86, ROS clinical standards for FLSs, standard 2	69%	67%
KPI 5 – Time to DXA[7] The percentage of patients who had a DXA ordered or recommended and were scanned within 90 days of fracture	NICE CG146, ROS clinical standards for FLSs, standard 2	46%	32%
KPI 6 – Falls assessment The percentage of patients who received a falls assessment or were referred or recommended for a falls assessment	NICE CG161, NICE QS86, ROS clinical standards for FLSs, standard 2	59%	58%

[6] Analysis has been updated to reflect the proportion of FLSs with at least 80% of KPIs with complete data (defined as at least 80% of data inputted for each KPI).

[7] Dual-energy X-ray absorptiometry (DXA) is a bone density scan. See page 12 for further information.

KPI	Standard/rationale	2019	2021
KPI 7 – Bone therapy recommended The percentage of patients who were recommended anti-osteoporosis medication	ROS clinical standards for FLSs, standard 4 NICE TA161, NICE QS149	52%	56%
KPI 8 – Strength and balance training The percentage of non-hip fracture patients over 75 who had started strength and balance training within 16 weeks of their fracture	NICE CG161, NICE QS86, ROS clinical standards for FLSs, standard 3 & 4 NOGG 2021: Clinical guideline for the prevention and treatment of osteoporosis	6%	5%
KPI 9 – Monitoring contact 12–16 weeks post fracture The percentage of patients who were followed up within 16 weeks of their fracture	NICE QS149, statement 3. ROS clinical standards for FLSs, standard 4, and ROS quality standards for osteoporosis and prevention of fragility fractures, standard 5	41%	47%
KPI 10 – Commenced bone therapy by first follow up The percentage of patients who had commenced (or were continuing) anti-osteoporosis medication within 16 weeks of their fracture	NICE QS149, statement 3. ROS clinical standards for FLSs, standard 4, and ROS quality standards for osteoporosis and prevention of fragility fractures, standard 5	26%	32%
KPI 11 – Adherence to prescribed anti-osteoporosis medication at 12 months post fracture The percentage of patients who had confirmed adherence to a prescribed anti-osteoporosis medication at 12 months post fracture	NICE QS149, statement 3. ROS clinical standards for FLSs, standard 4, and ROS quality standards for osteoporosis and prevention of fragility fractures, standard 5	19%[8]	23%[9]

---

[8] Patients first seen in 2018 and followed up in 2019.

[9] Patient first seen in 2020 and followed up in 2021.

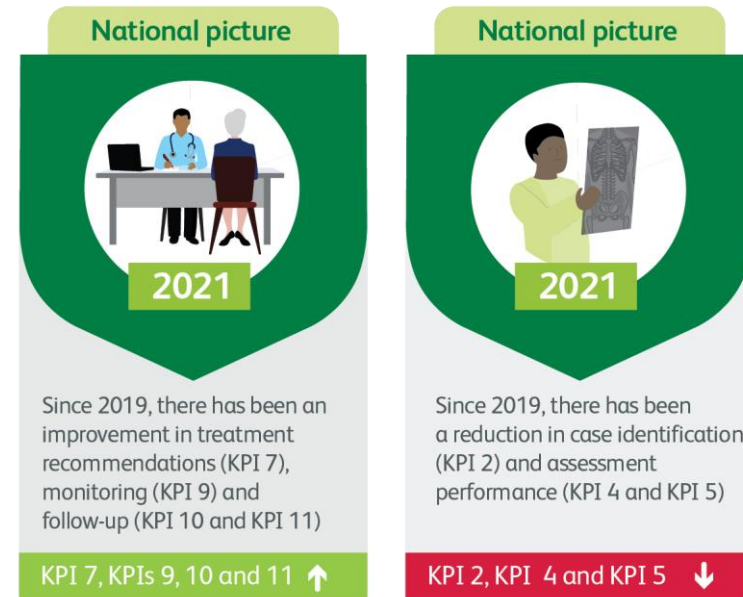## Clinical audit key findings commentary

This report presents data on adults with fragility fractures diagnosed in 2021, a very challenging year for the NHS. While secondary fracture prevention figures are not yet matching pre-COVID delivery in England and Wales, there are nevertheless some outstanding examples of improvement in FLS delivery. The FLS-DB will continue to work with the ROS to support individual improvement projects and business cases to ensure consistent establishment of secondary fracture prevention so that all adults aged 50 and over with a diagnosed fragility fracture receive basic bone health and fall prevention management.

This section of the report comments on the identification, assessment and treatment of 70,384 patients who sustained a fragility fracture in 2021. Data were submitted by 70 FLSs. This compares with 67 FLSs entering 70,614 patient records in 2019.

National picture

Overall, nationally there has been a reduction in case identification (KPI 2) and assessment performance (KPI 4 and KPI 5). Conversely, there has been an improvement in treatment recommendation (KPI 7), monitoring (KPI 9) and follow up (KPI 10 and KPI 11) when comparing national data from 2021 with 2019.

While this report focuses on changes in national averages for each KPI, a signification variation between FLSs remains, with a negative impact on patient safety. Some FLSs are managing to deliver effective care across the KPIs, but this is not consistent within England and Wales. For example, while the average rate of identification for 2021 was 43%, at a service level this ranged from 4% to 103%. This presents an opportunity to understand and address unexpected variation in performance through service improvement teams. **Sharing the learning from FLSs that are managing to deliver higher performance provides a critical opportunity to support all FLSs to meet their full potential to benefit patient lives.**

National picture — 2021: Since 2019, there has been an improvement in treatment recommendations (KPI 7), monitoring (KPI 9) and follow-up (KPI 10 and KPI 11) — KPI 7, KPIs 9, 10 and 11 ↑

National picture — 2021: Since 2019, there has been a reduction in case identification (KPI 2) and assessment performance (KPI 4 and KPI 5) — KPI 2, KPI 4 and KPI 5 ↓

Critically, the quality of secondary fracture prevention from 86 acute hospitals has not been assessed due to their lack of participation with the audit.

The FLS-DB works closely with the ROS and recommends using the tools that they have produced, as described in recommendation 11 on page 8.

'We know that, for colleagues practising within FLS, learning, networking and connections are crucial. That's why the Royal Osteoporosis Society is here to provide access to all the peer support and information on best practice that you need.'
Craig Jones, chief executive officer of the ROS

Identification

KPI 2 – Identification (all fragility fractures)

In 2021, 29 FLSs (41%) submitted more than 1,000 cases and 28 (40%) entered more than 50% of their expected caseload, with five FLSs (7%) submitting more than 80% (North Tees and Hartlepool NHS Foundation Trust, Oxfordshire Fracture Prevention Service, Yeovil Hospital, Royal United Hospital Bath, University Hospitals Bristol NHS Foundation Trust).

This is a reduction from 2019, where 32 FLSs (48%) submitted more than 1,000 cases, 32 FLSs (48%) submitted more than 50% of their expected caseload and eight FLSs (12%) submitted more than 80% (Nottingham FLS, The Ipswich Hospital NHS Trust, Dorset County Hospital, Royal United Hospital Bath, Yeovil Hospital, Oxfordshire Fracture Prevention Service, University Hospitals Bristol NHS Foundation Trust, Guy's and St Thomas' NHS Foundation Trust).

KPI 3 – Identification (spinal fractures)

All FLSs submitted at least one patient with a spine fracture in 2021, with 12 FLSs (17%) submitting at least 50% of the expected number of patients with a spine fracture. Findings were comparable in 2019 – 66 FLSs (99%) submitted at least one patient with a spine fracture, with 12 FLSs (18%) submitting at least 50% of the expected number of patients with a spine fracture. FLSs can find recommendations aimed at improving identification for KPI 2 and KPI 3 on page 8 (recommendations 4 and 5).

Assessment

Rapid assessment and treatment initiation is vital for patients at high risk of another fracture. Patients who need treatment should start it as soon as possible after their fracture given the high imminent risk of a subsequent fracture.

A bone density scan or DXA uses low dose X-rays to see how dense (or strong) bones are. DXA scans usually take less than 20 minutes and are painless, quiet and not claustrophobic. They can help to decide whether patients will benefit from drug treatment.

KPI 4 – Time to FLS assessment and KPI 5 – Time to DXA

In 2021, 37 FLSs (53%) assessed more than 80% of patients within 90 days of their fracture. FLSs were still struggling to perform a DXA on patients within 90 days, with only four FLSs (6%) (University Hospital Lewisham, Guy's and St Thomas' NHS Foundation Trust, Sherwood Forest Hospitals and Bromley Healthcare) performing a DXA on over 80% of patients aged under 75 years referred within 90 days.

In 2019, assessment performance was lower with 29 FLSs (43%) assessing more than 80% of patients within 90 days of their fracture date, but higher for DXA delivery with 10 FLSs (15%) able to deliver a DXA for over 80% of patients aged under 75 years within 90 days of fracture diagnosis.

KPI 6 – Falls assessment

Interventions that reduce falls risk are integral to reducing fracture risk for patients. In 2021, 24 FLSs (34%) assessed falls risk in over 80% of patients including 6 FLSs (9%) that achieved 100% in *patients aged 75 years and over* and 3 FLSs (4%) in those aged *under 75 years*. In 2019, 29 FLSs (43%) were assessing falls risk in over 80% of patients including 5 FLSs (7%) achieving 100% in patients *aged 75 years and over* and 4 FLSs (6%) in those *aged under 75 years*.

KPI 8 – Strength and balance training

More robust research data are urgently needed to clarify the role of strength and balance in the FLS patient group. Only one FLS (Hillingdon Hospitals NHS Foundation Trust) had started more than 50% of their patients on a strength and balance programme within 16 weeks of their fracture in 2021.

Treatment

KPI 7 – Bone therapy recommended

Bone therapy is the cornerstone of FLS intervention, leading to a significant reduction in fracture risk. In 2021, 45 FLSs (64%) recommended treatment to at least 50% of the patients submitted,

remaining stable since 2019 with 41 FLSs (61%) recommending treatment to at least 50% of patients. In 2021, seven FLSs (10%) recorded that anti-osteoporosis therapy was *'inappropriate'* for over 50% of their patients. The rates of patients declining anti-osteoporosis therapy were less than 15% in all FLSs.

FLSs reporting high rates of patients deemed *'inappropriate'* for anti-osteoporosis therapy should review their treatment pathways and types of patients identified to increase the proportion eligible for therapy and make their FLS more efficient. Eight FLSs (11%) did not know the treatment recommendation for more than half of their patients. FLSs reporting high rates of *'don't know'* for treatment recommendation should review the options for treatment recommendation in the dataset that include *'referred to GP to decide prescription'* and *'referred for further clinical opinion'*.

FLSs can find a recommendation aimed at improving treatment recommendation for KPI 7 on page 8 (recommendation 6).

Bone therapies are most effective if patients start early and stay on therapy. Active monitoring of all patients recommended anti-osteoporosis therapy, including injectable therapies or those referred to their GP/further clinical opinion, is important to ensure patients have actually initiated as well as understood issues around tolerability and adherence that may require treatment switching.

Services should share FLS-DB produced resources with patients to emphasise the importance of adherence to their recommended bone therapy, such as the Strong bones after 50: staying on treatment guide and the Six golden rules video.

KPI 9 – Monitoring contact 12–16 weeks post fracture, KPI 10 – Commenced bone therapy by first follow up, and KPI 11 – Adherence to prescribed anti-osteoporosis medication at 12 months post fracture

In 2021, monitoring performance by FLSs improved at both 16 and 52 weeks. Forty FLSs (57%) followed up at least 50% of patients, suggesting increased awareness that monitoring is a critical component for an FLS. Twenty FLSs (29%) reported over 50% of patients had started bone therapy within 16 weeks of fracture and 13 FLSs (19%) reported over 50% of patients were still on therapy 1 year after fracture.

The national picture has therefore improved from 2019, when 34 FLSs (51%) were following up at least 50% of patients, 15 FLSs (22%) reported over 50% of patients had started bone therapy within 16 weeks of fracture and 11 FLSs (16%) reported over 50% of patients were still on therapy 1 year after fracture.

FLSs can find a recommendation aimed at improving monitoring, follow up and adherence for KPIs 9, 10 and 11 on page 8 (recommendation 7).

The number of services providing amber (orange) and green grades of performance in 2021 compared with 2019 and 2018 are shown in Fig 2.
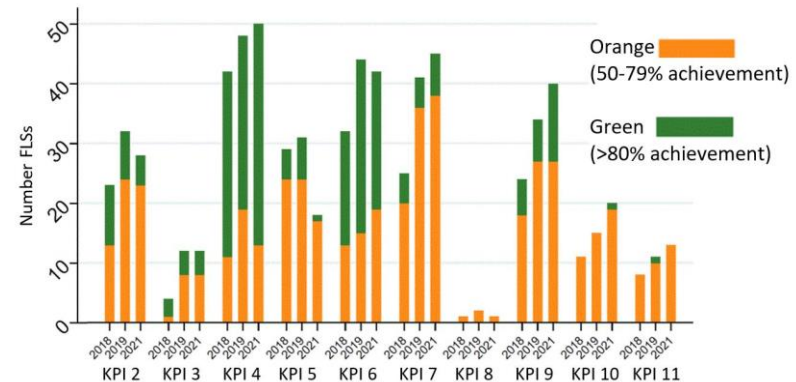

Figure 2: The number of services providing amber and green grades of performance in 2021 compared with 2019 and 2018.

How to use the FLS-DB to make service improvements

All FLSs are encouraged to use the FLS-DB data to make service improvements. On 12 May 2022, the FLS-DB team hosted their first interactive webinar focusing on how FLSs can use the live data to identify an area for improvement, and highlighting the importance of involving patients in projects. By following the steps in the infographic below and watching an excerpt from the webinar, the FLS-DB team hopes to inspire FLSs to use the FLS-DB data to make service improvements.

Examples of improvement projects completed by FLSs can be found in the FLS-DB improvement repository. The FLS-DB team are here to support FLSs with their service improvement journey so please do not hesitate to get in touch via flsdb@rcp.ac.uk.

Senior executive decision makers should also support FLSs in their improvement cycles as outlined in recommendation 13 on page 8.

Step 1: Identify your team → Step 2: Look at the FLS-DB data for your trust and identify a KPI to improve → Step 3: Use QI tools to carry out your project → Step 4: Use FLS-DB data to review your results → Step 5: Learn from this cycle and plan the next one

Figure 3: Service improvement steps for FLSs.

Impact of health inequalities

Health inequalities lead to poorer health outcomes and avoidable morbidity and mortality. Patients from households with lower incomes are more likely to have a hip fracture and have poorer outcomes after hip fracture. Patients with osteoporosis have been shown to have lower understanding about their health than the general population. Access to FLS and bone therapy should be equitable, resources to support patients should be available and FLS care pathways should recognise that patients require a personalised approach to assessment, decision making and support.

'Osteoporosis isn't experienced by everyone in the same way. There are stubborn health inequalities around the UK, which cause unmet need that is even more urgent to address. Strikingly, people from lower income households experience osteoporosis even more severely, so we need to design services with their needs firmly at the front of our minds.'
Craig Jones, chief executive officer, ROS

Age, gender and care home residence
In response to the need to better understand the impact of health inequalities, the FLS-DB has examined differences in performance based on age, gender and care home residence for 2021 data. Please see page 18 for the audit's future plans to address health inequalities.

Both age and gender influence the frequency of fracture; the site of fracture; inpatient vs outpatient setting of fracture management; the need for a DXA scan and treatment choice. However, they should not affect falls assessment, time to DXA scan (for those referred) or monitoring of patients.

Men were slightly less likely than women to have a falls assessment if aged under 75 years (55% vs 58%) but more likely if aged 75 years and older (61% vs 59%). Men were less likely to complete a DXA scan within 90 days of fracture than women (29% vs 33%). Older care home residents (aged 75 years and older) were less likely to be followed up by 16 weeks after their fragility fracture than care home residents aged under 75 years (21% vs 27%).

Increased mortality, multiple health conditions and palliative care may account for some of these observed differences, however, further work is required to gain a deeper understanding of the factors contributing to these findings and to find out how these differences vary between FLSs. Please follow the guidance on this webpage for instructions to access FFFAP data if this area is of interest for research purposes.

Geography
Finally, the maps of England and Wales on page 16 (Fig 4) demonstrate the regional variations in participation with the FLS-DB (non-participating acute hospitals are shown in grey) and the variable identification rates (shown in red, amber and green). There are clear regions without participation where the regional focus should be to plan for an FLS that is resourced based on local need. For regions with good levels of participation, the maps demonstrate FLSs with good, moderate and low levels of identification and can be used to a) identify communities of FLSs that can work together to improve their levels of identification and b) identify higher performing FLSs that can mentor other sites to improve.

'As a patient it is exciting to read here how data are now presented by the audit such that future developments can begin to address access to services, personal care pathways and health inequalities'
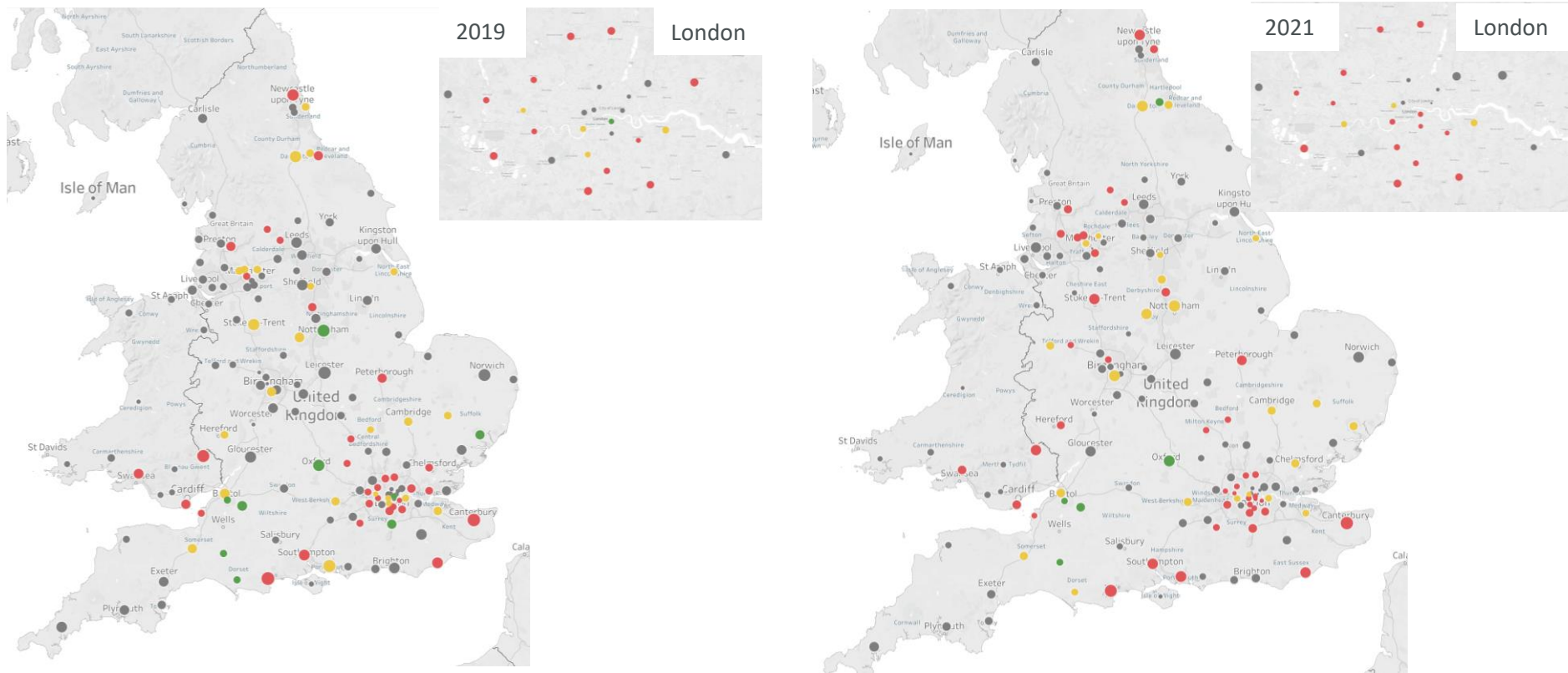**Alison Smith, FLS-DB patient representative**

Figure 4: Map of England and Wales[1] showing expected size of local fragility fracture population and achievement of case identification in 2019 and 2021.

The size of the circle relates to the expected local fragility fracture caseload.

Not covered by an FLS submitting data or submitting too little data to the FLS-DB to be able to benchmark effectiveness of any potential FLS.

Covered by an FLS submitting less than 50% of their estimated fragility fracture caseload to the FLS-DB.

Covered by an FLS submitting 50–79% of their estimated fragility fracture caseload to the FLS-DB.

Covered by an FLS submitting at least 80% of their estimated fragility fracture to the FLS-DB.

FLS-DB 2022 facilities audit key findings

The data in this section of the report summarise the answers to the facilities audit questions. 70 FLSs completed the facilities audit in May 2022 covering the time period January–December 2021. The FLSs served an average population of 494,945 people. This represents a 27 % increase in population size compared with findings in 2019 from 63 FLSs which served an average population of 391,309.[9]

Service delivery

As integrated care systems become more developed, this mix is an important source of expertise and experience as FLSs become interfaced across primary and secondary care.

2021

- 3%
- 16%
- 81%
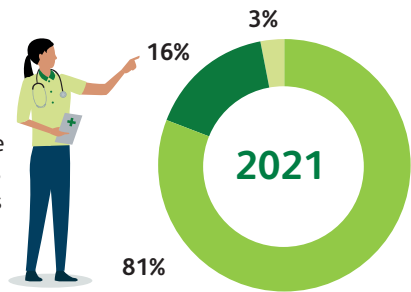
- Acute setting
- Community-care based services
- Another healthcare setting

Governance meeting

28 FLSs (40 %) reported that they did not hold a regular governance meeting in their service. Governance meetings are essential for driving service improvement and an opportunity to engage with local patients.

Recommendations 8 and 9 on page 8 set out best practice for governance meetings.

FLSs that held a governance meeting at least every

6 weeks
19 | 70

2-6 months
20 | 70

12 months
3 | 70

FLSs that involved a patient representative in their governance meetings
7 | 70
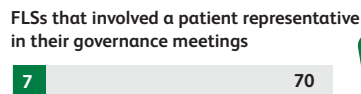
Falls assessment

It is reassuring to see the high level of falls assessment in this vulnerable patient group. FLSs should share their falls assessment tools so others can adapt them for local use.

■ 2021 ■ 2019

FLSs conducting
66%
67%

FLSs referring
26%
27%

FLSs not conducting
9%
6%
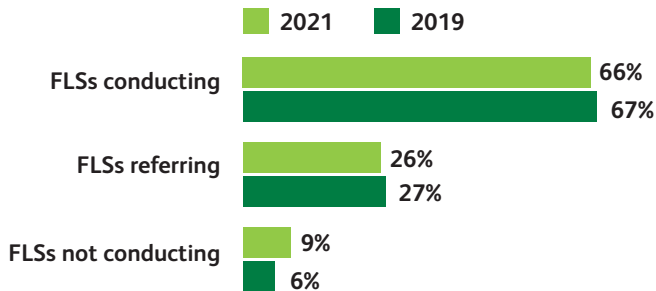
Whole time equivalents (WTE)

The ROS recommends 1 WTE nurse with 0.5 administrators to serve a population between 40,000-46,000. The table shows that current averages do not meet this recommendation.

	2021	2019
Nurses	1.59 WTE	1.33 WTE
Administration	0.45 WTE	0.42 WTE
Average population served (aged over 50)	494,945	391,309

Monitoring patients

In 2021, of those services that carried out monitoring (56/70), nearly 100 % included monitoring of patients' medication adherence, persistence and adverse effects as part of their service scope. Almost half (49 %) of FLSs reported that more than one person was responsible for the monitoring of patients. Relying on primary care to deliver monitoring is a potential risk as the care of these patients cannot be benchmarked if their data are not uploaded to the FLS-DB.

■ 2021 ■ 2019

FLS coordinator
49%
57%

Primary care physician
36%
35%

Specialist nurse
57%
59%
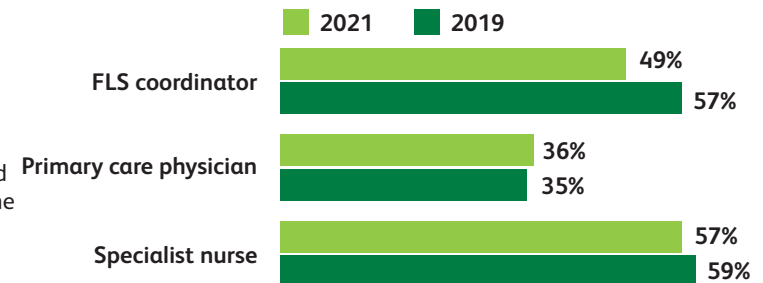
Healthcare professionals responsible for monitoring patients where multiple answers could be selected.

Patient/carer surveys conducted

There has been an increase in the use of patient/carer surveys in FLSs. Surveys help to assess patient experience of your service. Poor patient experience is often a predictor of poor adherence to treatment. The ROS patient experience questionnaire is a useful template for developing a patient/carer survey.

Patient/carer surveys conducted
2021 | 64%
2019 | 48%
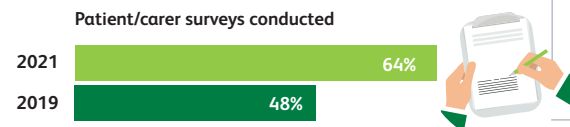
FLS prescribes bone sparing treatment

There has been a slight increase in FLSs directly prescribing treatment, however, further work is needed to understand the impact on longer term adherence and efficiency.

FLS prescribes bone sparing treatment
2021 | 29%
2019 | 25%
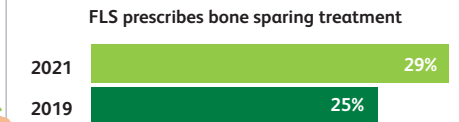
Vacancies

1/5 of FLSs had a staff vacancy that lasted longer than 6 months in 2021.

Approximately 1/3 of nurse time is spent on administrative tasks that could be semi-automated. FLSs should review their current practices to identify tasks that could be performed with better IT/digital support.

[9] Northern Ireland services included in the facilities audit analysis for 2019 and 2021

Future developments

Patient resources

Men with osteoporosis

Many patients see osteoporosis as a disease affecting women and there may be a perception of stigma surrounding men having the condition. In 2021, 22% (15,791) of the patient records were for men, showing that they too experience fragility fractures. The FLS-DB team, including patient representatives from the FFFAP patient and carer panel, have agreed to prioritise patient-facing resources that aim to raise awareness of the condition in men, encouraging individuals to get checked and treated after breaking a bone following a fall and to seek treatment options.

'The recognition and identification of the very significant personal mental cost of fractures through isolation and immobility and the need for increased resources and support, I find a highly significant development aspect of this audit.'
Alison Smith, FLS-DB patient representative

Mental health and osteoporosis

Experiencing a fragility fracture is often the first sign of a long-term condition that restricts mobility and the ability to maintain social connections which could lead to loneliness and depression. Most resources produced by healthcare organisations focus on the physical health of patients with osteoporosis, and the FLS-DB team and the FFFAP patient and carer panel are now keen to meet the need for patient-facing resources focusing on mental health and osteoporosis.

Health inequalities

For the first time in the FLS-DB audit, results have been presented for the KPIs by age, gender, care home status and geography on page 15. The FFFAP is aiming to scope out the collection, analysis and reporting of further information about health inequalities in the future by reporting on social deprivation and ethnicity.

The FLS-DB aims to provide services with the data they need to improve and demonstrate their efficiency.

This report summarises the performance of FLSs in England and Wales.

Get in touch

For further information please contact us – we want to hear from you.

www.fffap.org.uk   flsdb@rcp.ac.uk   @RCP_FFFAP

Royal College of Physicians

Fracture Liaison Service
Database (FLS-DB)