Royal College of Physicians

Fracture Liaison Service Database (FLS-DB)

Fracture Liaison Service Database

Annual report: Variable resilience of FLSs during the COVID-19 pandemic

Data from January to December 2020

January 2022

Report at a glance – key messages

Demographics and data completeness

We congratulate the achievement of the **69 FLSs** across England and Wales that submitted data which contributed towards this report.

35%

of FLSs had good levels of data completeness, defined as eight or more key performance indicators (KPIs) with greater than 80% data completion.

Patient records

62,207

patient records were included in 2020, a 10% decrease from 69,771 in 2019.

Patient records

Of the 62,207 records, the index fracture site was:

9% spine

25% hip

66% other

COVID-19

Unsurprisingly, in a year of additional pressures and redeployment due to the COVID-19 pandemic, there has been a decrease in achievement for most of the key performance indicators (KPIs).
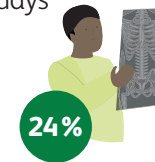
Key findings

Lower identification rates

Approximately 7,500 (10%) fewer patients were submitted in 2020 compared with 2019, with marked variation between services.

10%

Fewer patients receiving DXA scans within 90 days

Only 24% of patients received a DXA scan within 90 days in 2020, compared with 46% in 2019.

24%

At least 90,000 patients in England and Wales who should have anti-osteoporosis therapy are not receiving it

Few services are achieving effective secondary fracture prevention as measured against the targets of 80% identification, 50% treatment recommendation and 80% treatment initiation and adherence at 12 months.

90,000

Key recommendation

FLSs should discuss the local pathways for fragility fracture patients with orthopaedic, geriatric and radiology colleagues at least every 4 months to ensure identification approaches remain effective and efficient (eg in a monthly governance meeting [KPI 2 & 3]).

FLSs should review their methods for fracture risk assessment to ensure delays in DXA assessment do not affect rapid treatment initiation in high-risk patients (eg in a monthly governance meeting). FLSs should consider how to address potential DXA backlogs / waiting lists caused by the COVID-19 pandemic based on regional or national guidance.

Closing this care gap will require more than service improvement. Trust/health board management and commissioners should support FLSs to engage with their local integrated care system / health board to prioritise and resource FLSs based on local need.

Achievements

However, achievement in four out of the 11 KPIs improved despite the pressures that services were under. This is a tribute to the hard work and commitment shown by fracture liaison services and should be commended.

Falls and Fragility Fracture Audit Programme

The Fracture Liaison Service Database (FLS-DB) is run by the Care Quality Improvement Department (CQID) of the Royal College of Physicians (RCP). It is part of the Falls and Fragility Fracture Audit Programme (FFFAP), one of three workstreams alongside the National Hip Fracture Database (NHFD) and National Audit of Inpatient Falls (NAIF).

Healthcare Quality Improvement Partnership

The FLS-DB is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. Its aim is to promote quality improvement in patient outcomes, and in particular to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh government and, with some individual projects, other devolved administrations and crown dependencies www.hqip.org.uk/national-programmes.

The Royal College of Physicians

The Royal College of Physicians (RCP) is a registered charity that aims to ensure high-quality care for patients by promoting the highest standards of medical practice. It provides and sets standards in clinical practice, education and training, conducts assessments and examinations, quality assures external audit programmes, supports doctors in their practice of medicine, and advises the government, the public and the profession on healthcare issues.

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Foreword by the Royal Osteoporosis Society

It's a pleasure to endorse this sixth Fracture Liaison Service Database (FLS-DB) audit report on patient data in England and Wales. The Royal Osteoporosis Society (ROS) is the only UK-wide charity that supports people living with osteoporosis, their families, friends and carers. As such, we're very proud to be so closely associated with the Falls and Fragility Fracture Audit Programme (FFFAP), with our members bringing a strong patient voice to the FFFAP Patient and Carer Panel.

Members of the ROS are especially grateful to healthcare professionals in the NHS for the resilience they have shown during this pandemic. In a year of extraordinary pressures, I want to congratulate the 69 FLS teams who contributed to the audit across England and Wales by submitting over 62,200 patient records. With an eye on the future, the pandemic has changed the way we all deliver services. Increasingly, eye-catching and innovative models of FLS delivery are emerging in COVID-19 recovery plans, giving us great hope that we can end the spiralling costs and devastating personal impact of secondary fractures.

The FLS model is a proven game changer. A British-born success story, copied across the world because it's so good at improving outcomes for osteoporosis patients. When we launched the new All Party Parliamentary Group (APPG) on Osteoporosis and Bone Health, we made sure its first act was to launch an inquiry into how to extend the benefits of an FLS to everyone over 50 across the country. The inquiry's findings will be a solution-focused blueprint on how to end the postcode lottery for FLSs and reduce health inequalities.

Coverage is key, but this report shows we also have work to do on quality. In 2020, most services were not yet achieving the standards on

identification, treatment initiation and follow-up to ensure adherence. We know backlogs caused by the pandemic will worsen the picture and cause more delays. Meeting the standards is going to be crucial if we're to help the 90,000 people every year who are missing out on the osteoporosis treatment they need. That's why the ROS is speaking with ministers about what can be done to level up access and quality across the UK.

We hope FLSs will use the insights in this report to their full effect. Data can help services learn from patterns in their own performance, but also, crucially, learn lessons from their neighbours. We know channels for sharing information on 'what works' are crucial in osteoporosis treatment – and this report is the gold standard when it comes to learning, transparency and accountability around FLSs.

With the advent of the Best MSK Health programme, integrated care systems (ICSs) in England and health boards in Wales, we see major opportunities for raising the profile of the FLS model and all it can achieve. We won't stop until there's a quality-assured, high-performing FLS available to everyone over 50 in this country. Thank you for your work in showing the impact this important model has on the lives of people living with osteoporosis.

Craig Jones
Chief executive of the Royal Osteoporosis Society

Patient story

I am a new patient voice on the impressive Falls and Fragility Fracture Audit Programme (FFFAP), which continues its great work building on past achievements and currently aiming for fracture liaison service (FLS) improvements post-COVID-19 pandemic.

From my patient experience, while I do think that FLSs have improved hospital care of osteoporosis patients, I have also personally experienced some inconsistencies and difficulties accessing treatments and care via different FLSs.

For example, in one instance, back in 2018, I was due to be seen in my local FLS clinic for my usual 6-monthly consultation and bone treatment injection, but unexpectedly received a letter cancelling the appointment, followed by a second letter discharging me as a patient. Attempts to resolve this by me, my GP and even the Royal Osteoporosis Society (ROS), were unsuccessful, but thankfully my GP referred me instead to a different FLS hospital service with a shorter waiting list. They gave me the treatment in their clinic in time – although this did mean over six times more in journey length to get to the new FLS hospital clinic. Then, over a year later, I received a phone call out of the blue from the original FLS nurse, querying why I had not had the bone treatment.

Later, during the first COVID-19 lockdown in 2020, I received a letter that I was on the NHS clinically extremely vulnerable list (due to having limited lung capacity with loss of height due to osteoporosis vertebral fractures). I also received notification that the FLS clinics were now closed, just as my next bone treatment injection was due. I contacted my GP and the ROS helpline, thankfully both still available. My GP 'stepped up' and took over new responsibility for this treatment (something which was previously

not allowed in my part of the country). Although my GP prescribed it, I had to arrange for collection from my local pharmacy and then store the medication in my fridge and self-inject it. I had never done a subcutaneous injection previously and had to purchase new fridge thermometers and watch YouTube videos via a link on the ROS website. I was very nervous and in the end my husband gave me the injection. It was only later he told me he had been nervous too and had practised with a large darning needle stabbing a pack of bacon from the fridge first!

When clinics reopened later in 2020, I had telephone consultations, rather than being seen in hospital clinics. I was phoned at home to avoid hospital footfall. My DXA bone scan was also delayed by about 6 months, but did eventually take place in hospital. It was a difficult time medically for everybody and I felt very proud, hearing how FLS staff had instead been working on the COVID-19 wards during the clinic closure.

I have recently moved house in 2021 and am now in the process of registering with new local medical care in a different area, which I am very nervous and worried about. It would be fantastic for NHS care to come back stronger and improved after the pandemic and in particular for patients to have confidence in smooth-running and consistent care all around the country, particularly regarding FLS services. I am sure that the FFFAP and the Fracture Liaison Service Database audit work will continue to facilitate improved care and support for osteoporosis patients.

Karen Whitehead
FFFAP Patient and Carer Panel member

Introduction

What is an FLS?

A fracture liaison service (FLS) provides secondary prevention for fragility fractures (defined as a fracture following a fall from standing height or less).

These services systematically identify and assess the patient's risk of subsequent fractures, then treat and refer the individual to other specialties in order to reduce the risk of further fractures and falls. FLSs can bring qualitative benefits to the patient in the long term and have been shown to be cost-effective.

The Fracture Liaison Service Database (FLS-DB) began collecting patient data in 2016. To date, 75 FLSs have submitted patient data from over 300,000 patients across the NHS in England and Wales. In 2020 we welcomed services across Northern Ireland into the FLS-DB (data not included in this report). The past year has also seen the National Office of Clinical Audits (NOCA) in Ireland develop a Fracture Liaison Service Database, making the FLS-DB the first and largest national secondary fracture prevention patient-level audit in the world. The outputs from the FLS-DB are being used by the Getting It Right First Time (GIRFT) programme as part of wider activity to improve the effectiveness of musculoskeletal services.

This annual report presents the results of analysis on secondary fracture prevention care received by patients aged 50 and older in England and Wales in 2020. The year 2020 was a particular challenge across the NHS, as shown in last year's report which found that 58% of FLSs were affected by low capacity due to redeployment (FLS-DB, 2021). **The results in this report should be read within the context of the COVID-19 pandemic.** This report examines the quality of patient care using the 11 FLS-DB key

performance indicators (KPIs), which are complemented by the data presented in the benchmark tables and run charts publicly available on the FLS-DB website.

These KPIs were derived from NICE technology appraisals and guidance on osteoporosis and falls, alongside the ROS clinical standards for FLSs and quality standards for osteoporosis and prevention of fragility fractures. We also explore the results of the vertebral fracture sprint audit.

As ever, we would like to thank the FLS community for their continued support and efforts despite the well-publicised pressures on the NHS.

Live data

The FLS-DB team encourage the use of the live data by teams locally to identify areas of achievement and improvement. The data is available in the form of live benchmarking tables for 10 of the 11 KPIs (data completeness is not included); and the run charts.
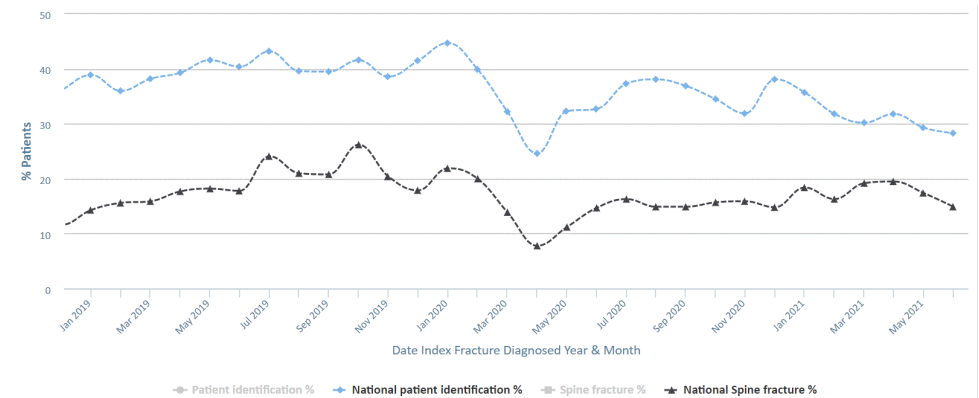
FLS improvement repository

We continue to update the FLS improvement repository for services to share case studies of their services across the audit's KPIs. We would like to thank those FLSs that have provided case studies so far. If you would like to submit a case study, there is a case study template for services to complete and send to flsdb@rcp.ac.uk.

The improvement repository also contains external links to resources such as NHS England and Improvement's statistical process control tool to measure the effectiveness of change as part of quality improvement projects.

Patient resources

In the last report we highlighted the bone health card alongside the best practice letter templates for FLSs to use when communicating with patients and GPs. The FFFAP Patient and Carer Panel have recently co-produced a video titled 'six golden rules' to encourage patients to have follow up conversations with their GP after being recommended to take medication by mouth for osteoporosis.

Methods

A detailed description of the methodology, including the analysis plan, is available on the RCP website.

This report describes the assessment and treatment for osteoporosis in 62,207 patients who sustained a fragility fracture in 2020.

Summary of recommendations

All adults aged 50 and over with a diagnosed fragility fracture should have a falls and bone health assessment soon after the fracture (NICE CG161,

NICE QS86). A decision should also be made about whether treatment is necessary for falls risk and osteoporosis. These basic and fundamental steps will enable the prevention of fractures and their associated repercussions such as pain, loss of independence, diminished quality of life, and increased healthcare use. Sustainable local healthcare systems should be in place to ensure patients at risk of further fractures receive this level of care within the NHS.

The COVID-19 pandemic has led to considerable variation in the delivery of NHS-led care to reduce the risk of another fracture in individuals who present with a fracture. The current performance of FLSs in the FLS-DB for identification (39%), treatment recommendation (53%) and treatment adherence (23%) leads to fewer than 12,000 patients on anti-osteoporosis treatment at 12 months. With an estimated 320,000 fragility fractures every year in England and Wales, the targets of 80% identification, 50% treatment recommendation and 80% treatment adherence indicate that over 100,000 patients should be on this treatment. **This means that there are over 90,000 patients who should be on anti-osteoporosis therapy and are not receiving it**, resulting in thousands of avoidable admissions for fractures, long-term loss of independence for people affected, and a high risk of patient death.

The introduction of integrated care systems (ICSs) offers the increased potential for FLSs to be managed regionally in order to optimise osteoporosis care pathways by reducing variation in service delivery (eg overcome reliance on services with one staff member in a trust/health board), and enabling more integrated and personalised care by combining primary and secondary care pathways.

ICSs, local commissioners and FLSs should use this report to identify areas for improvement and investment to optimise the effectiveness of post-fracture care delivery and reduce the number of preventable fragility fractures in high-risk populations.

Recommendations for patients/carers

1. Patients should view the <u>Stronger bones after 50</u> and <u>Staying on treatment</u> resources. Individuals are encouraged to discuss their care with their GP if they do not feel that their care meets the criteria described in these resources.
2. Patients should contact the <u>Royal Osteoporosis Society,</u> local <u>HealthWatch</u> or FLS service if they would like to support their local services to improve by sharing their own lived experience of osteoporosis and/or fragility fracture.

Recommendations for fracture liaison services

General recommendations

3. FLSs should form a multidisciplinary team including patients to understand how to achieve the aim of 80% identification of expected caseload, 50% recommended treatment and 80% starting treatment within 16 weeks and on treatment at 12 months, and identify and prioritise the actions which need to be taken, including restarting pre-COVID aspects of care.
4. FLSs should engage with their local integrated care system / health board to ensure FLS resource is prioritised 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 and is available <u>here</u>.

KPI recommendations

5. **Identification**: FLSs should discuss the local pathways for fragility fracture patients with orthopaedic, geriatric and radiology colleagues at least every 4 months to ensure identification approaches remain effective and efficient (eg in a monthly governance meeting [KPI 2 and 3]).
6. **Assessment**: FLSs should review their methods for fracture risk assessment to ensure delays in DXA assessment do not affect rapid treatment initiation in high-risk patients (eg in a monthly governance meeting). FLSs should consider how to address potential DXA backlogs / waiting lists caused by the COVID-19 pandemic based on regional or national guidance.
7. **Monitoring**: FLSs should monitor attainment of key performance indicators 9–11 to assess for potential impact on patients' early and late adherence to anti-osteoporosis medication where virtual/non face-to-face FLSs models are in use.
   > KPI 9 – Monitoring contact 12–16 weeks post fracture
   > KPI 10 – Commenced bone therapy by first follow up
   > KPI 11 – Adherence to prescribed anti-osteoporosis medication at 12 months post fracture

Vertebral fracture sprint audit (VFSA) recommendations

Please see the vertebral fracture sprint audit findings on page 19.
8. Collectively, FLSs should develop best practice pathways for the identification, assessment and resourcing for radiological vertebral fragility fractures (VFFs).

Quality improvement (QI)

QI is the systematic approach to improving services.
9. FLSs should review the team's capability and capacity to produce at least one quality improvement cycle report every year using the FLS-DB improvement repository template, and this QI project should be delivered in a multidisciplinary team that includes at least two patients.

10. FLSs should participate in local, regional or national learning events and networks to support knowledge sharing and learning across the whole FLS team.
11. FLSs in England should engage with at least one relevant Getting it Right First Time workstream or QI team locally to work on one quality improvement that has a measurable impact on patient outcome.

Recommendations for commissioners and local health boards

12. If there is an FLS commissioned in the locality, commissioners and health boards should:
    a. Ensure the FLS participates actively with the FLS-DB within 3 months of commissioning.
    b. Annually review the FLS reporting indicators in the commissioned specification and adjust as needed to map to the key performance indicators used by the FLS-DB.
    c. Ensure the FLS has the capacity and capability to deliver on the recommendations for FLSs, prioritising relative to local need.

To register an FLS with the FLS-DB, please click the button below:

Register

13. If there is not an FLS commissioned in the locality, commissioners and health boards should:
    a. Contact the ROS service improvement leads (fls@theros.org.uk) by September 2022, for support to quantify the impact of effective secondary fracture prevention in the local population and to ensure that the priority for FLS commissioning reflects local population need for the next commissioning round.
    b. Host a key stakeholder meeting inviting patient representatives, as well as members of the ROS, to design the local specification for an effective FLS using the KPIs from the FLS-DB.

Recommendations for executive teams for NHS trusts and health boards

The FLS-DB is a mandatory National Clinical Audit and Patient Outcomes Programme (NCAPOP) audit. As part of the NHS contract, NHS trusts and health boards are required to participate in NCAPOP audits that are relevant to the services they provide. This includes all trusts and health boards with adult trauma and orthopaedic and older people's services. Those trusts and health boards that are not currently participating in the FLS-DB audit should be able to demonstrate an action plan to address this by September 2022. Fig 1 shows a map of the participation in the FLS-DB and coverage of the services, helping to identify whether you do or do not have an FLS covering your local population.

Executive teams

14. If there is an FLS covering the local fracture population, executive teams should:
    a. Actively oversee effective participation in the FLS-DB audit by September 2022.
    b. Ensure the FLS has the capacity and capability to deliver on the recommendations for FLSs.

The ROS FLS implementation toolkit has useful resources to support – accessible here. You can also contact the ROS service improvement leads (fls@theros.org.uk) for support with costing the pathway to ensure that the service is fully resourced.

15. If there is not an FLS covering the local fracture population, executive teams should:
    a. Work with local commissioners/ ICS to complete a local needs assessment to prioritise an effective and efficient local FLS with good patient outcomes and experience within 12 months.

Contact the ROS service improvement leads (fls@theros.org.uk) for support with an FLS benefit calculation.
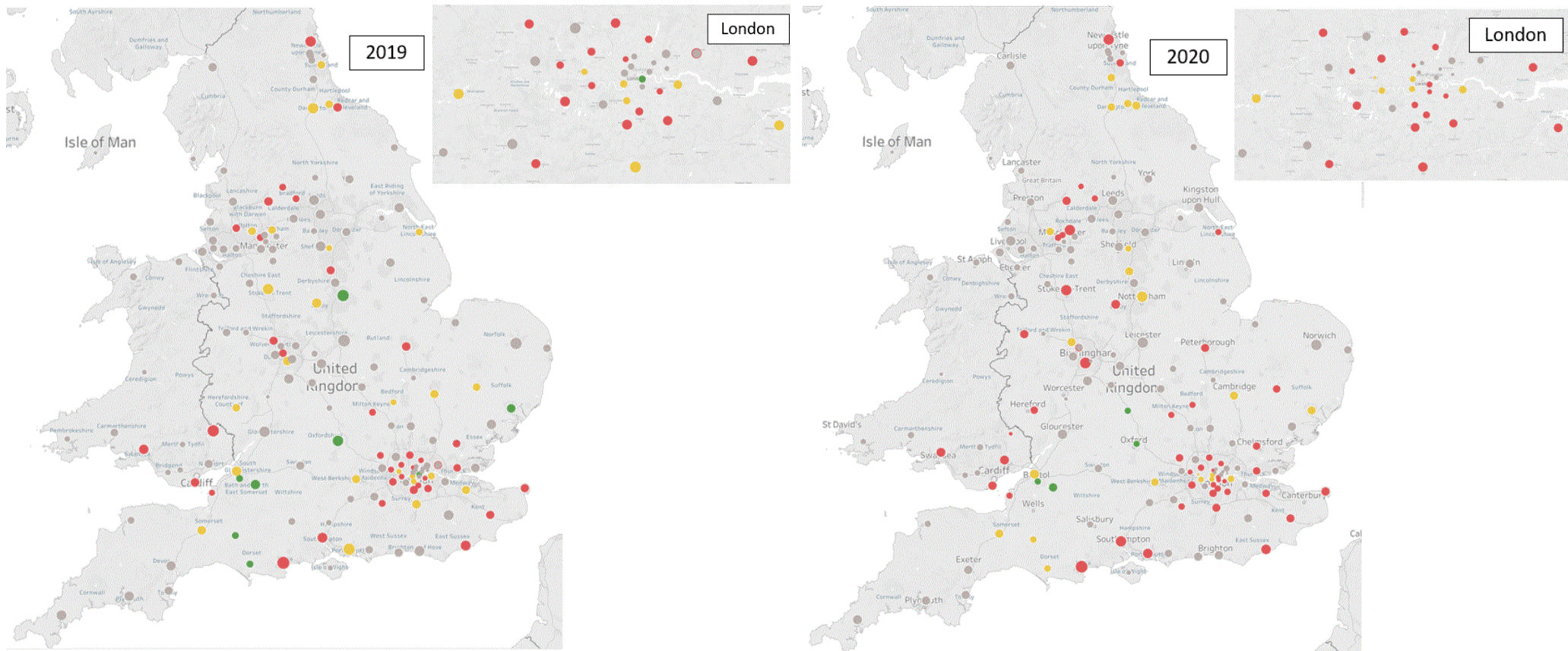
Fig 1. Map of England and Wales showing expected size of local fragility fracture population and achievement of case identification in 2019 and 2020.

Key – hospitals where patients are:

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.

National performance against KPIs: summary

All key performance indicators (KPIs) measure performance against technology assessments, guidance on osteoporosis and clinical standards for FLSs from the National Institute for Health and Care Excellence (NICE), the ROS and the National Osteoporosis Guideline Group (NOGG).

Table 1: KPIs for the FLS-DB for all patients with an index fragility fracture date in 2019 and 2020. FLS level data for all KPIs is available on the RCP website.

KPI	Standard/rationale	2019	2020
KPI 1 – Data completeness FLSs with a good level of data completeness[1]		69%	66%
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 2017: Clinical guideline for the prevention and treatment of osteoporosis	49%	39%
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 2017: Clinical guideline for the prevention and treatment of osteoporosis	24%	17%
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%	65%
KPI 5 – Time to DXA 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%	24%

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[1] Defined as all KPIs greater than 80% complete.

KPI	Standard/rationale	2019	2020
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%	56%
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%	53%
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 2017: Clinical guideline for the prevention and treatment of osteoporosis	6%	6%
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 5	41%	46%
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 5	26%	29%
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 5	19%[2]	23%[3]

[2] Patients first seen in 2018 and followed up in 2019
[3] Patients first seen in 2019 and followed up in 2020

Key findings

The COVID-19 pandemic has had a variable effect on FLSs in England and Wales. Compared with 2019 data, five new FLSs (Imperial College Healthcare NHS Trust, King's College Hospital – Denmark Hill Site, Shrewsbury and Telford Hospital NHS Trust, The Northern Care Alliance – Bury Community Services and Walsall Healthcare) are actively participating with the FLS-DB and three FLSs are no longer participating. The number of services providing amber (orange) and green grades of performance has fallen in 2020 compared with 2019 but is still greater than 2018 as illustrated in Fig 2.
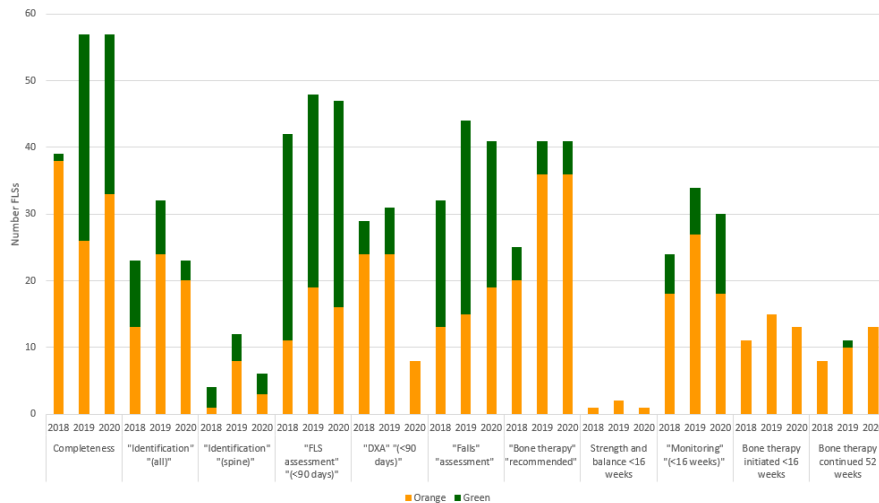
Fig 2. Change in number of FLSs achieving KPIs from 2019 to 2020.
Colour coding of green as 80% or more achievement, amber as 50–79% achievement and red as <50% achievement; except for: i) KPI 1 where data completeness is measured by the number of KPIs with more than 80% complete data, red shows 0–4 KPIs, amber shows 5–7 KPIs and green shows 8–10 KPIs and ii) KPI 7 where green shows >50% and red <50% achievement. (Red colour coding is for information and has not been included in this figure).

The number of identified fragility fractures (KPI 2) and spine fractures (KPI 3) has reduced. This could be due to reduced FLS capacity brought about by FLS redeployment and staff illness or a real reduction in fragility fractures compared with the number of hip fractures, as KPI 1 and 2 are linked to hip fracture counts using 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) returns by five).

The pandemic may have affected the ratio between hip and other fragility fractures. To examine this further we analysed the absolute difference in cases identified in 2020 vs 2019 by FLS. The average was 171 fewer fragility patients identified per FLS but there was a wide variation between FLSs (see Appendix 2). COVID-19 affected services differently, therefore, how they approach recovery will need to be individualised.

In our last two reports, there has been a high-level recommendation for FLSs to focus on at least one KPI for service improvement, while maintaining existing performance in other KPIs. A comparison for the 64 FLSs with data for both 2019 and 2020 is shown in Fig 3. It is worth noting that the majority of services only experienced a decrease in performance in 1–3 out of the 11 KPIs, with a large number improving in others. This demonstrates maintenance of performance in the face of COVID-19 and associated redeployment and reduction in capacity.

While the KPIs for FLS assessment within 90 days (KPI 4), falls assessment (KPI 6) and proportion recommended treatment (KPI 7) remained stable, there was a marked reduction in DXA activity. In the 60 FLSs with data in 2020 and 2019, there was a 60.5% reduction in the number (5,921 vs 14,986) and proportion of patients recommended DXA receiving a scan within 90 days. This is likely to reflect reduced DXA capacity during the pandemic.
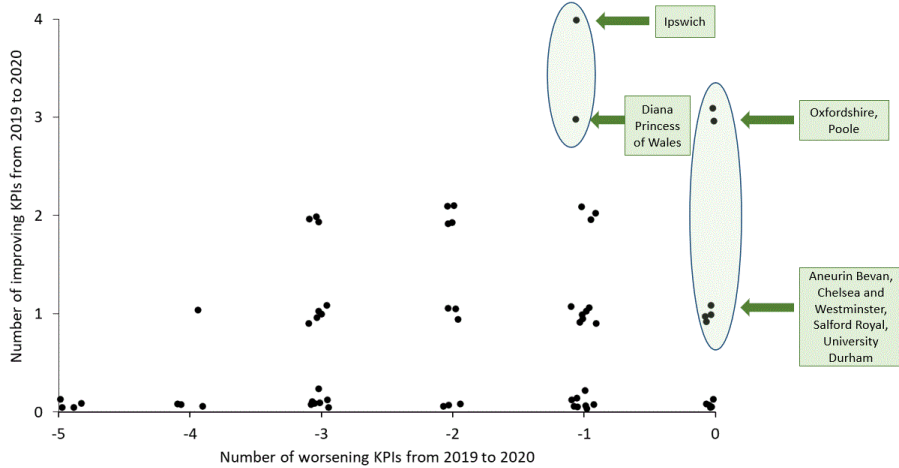
Fig 3. Comparison of improvement vs decreasing performance of KPI achievement between 2019 and 2020 by FLS. Green circles highlight: six FLSs improved without decreasing in performance in other KPIs and two FLSs decreased in performance in one KPI but improved in three and/or four KPIs (individual FLSs are listed).

Although there is variability nationally on delivering a follow up within 12–16 weeks, the FLS-DB has shown that there has been a reduction in time to first follow-up. When the audit started in 2016 the average time to follow up was 189.4 days. This has reduced to an average of 114.4 days for patients identified in November 2020, that is a 40% reduction in time to first follow up.
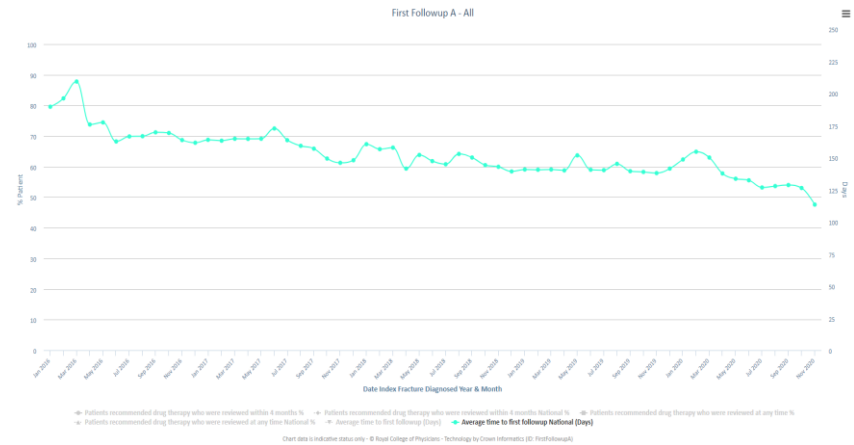
Fig 4. A screenshot from Crown Informatics run charts on www.fffap.org.uk/FLS/charts.nsf FLS-Reporting v2. © Copyright 2016–2021 HQIP/RCP Falls and Fragility Fracture Audit Programme. Click to see the live run chart.

Data completeness, demographics, and facilities

There were 62,207 records entered in 2020, and 372 re-fractures. Seventy-five FLSs have entered data since the audit opened in 2016, with 69 FLSs in 2020 compared with 72 submitting data in 2019.

Seven FLSs submitted fewer than 50 records for 2020 and were therefore excluded from the report (see Appendix 3).

Of the 61 FLSs that submitted facilities audit data the average population served was 540,662, with 1.31 whole-time equivalent (WTE) nurses and 0.38 administrators per FLS, compared with 1.33 WTE nurses and 0.42 administrators in 2019. This is an increase in the average population served by FLSs of 39% since 2019, while nurse and administrative time remained at a similar level.

Fifty three of the 61 FLSs that completed the facilities audit delivered their service in the acute setting, with the remaining 13% (8/61) being community care-based services. 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.

FLSs were asked about the barriers they faced to vertebral fracture identification. The responses show that still developing the pathway (48%, 29/61), lack of standardised practice/language for radiology reporting (39%, 24/61) and services not being funded to identify vertebral fractures (38%, 23/61) are the main obstacles for FLSs when identifying vertebral fractures. The vertebral fracture spotlight in the next section of the report details the importance of identifying and treating vertebral fractures.

A total of 69% of FLSs (42/61) routinely provide a falls assessment as part of their service; 25% of FLSs refer patients on for falls assessment and 7% do not routinely provide falls assessment.
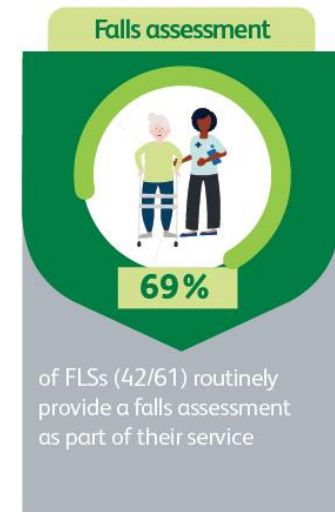
The number of FLSs directly prescribing has slightly risen from 16 FLSs in 2019 to 17 in 2020. Alternative methods of prescribing include other clinicians prescribing, or FLSs recommending therapy to geriatricians/ primary care.
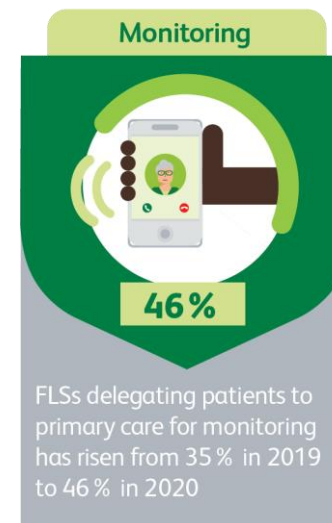
Most FLSs (75%, 46/61) continue to have multiple people who are responsible for monitoring patients. There were 62% of FLSs where FLS coordinators were responsible for monitoring, 51% where the task was carried out by specialist nurses, 46% delegated monitoring patients to primary care and 46% by a rheumatologist/geriatrician. FLSs delegating patients to primary care for monitoring has risen from 35% in 2019 to 46% in 2020.

Patient records

62,207

62,207 patient records were submitted in 2020

Population served

~550,000

The average FLS serves a population of 540,662 patients, with 1.31 whole-time equivalent (WTE) nurses and 0.38 administrators

Falls assessment

69%

of FLSs (42/61) routinely provide a falls assessment as part of their service

Monitoring

46%

FLSs delegating patients to primary care for monitoring has risen from 35% in 2019 to 46% in 2020

This means that there is no single mechanism to identify whether the patient has continued with their treatment. This is important because poor persistence with osteoporosis medications is common and increases the risk of subsequent fractures. A clear responsibility for the effective long-term monitoring of patients is required. Of the services that conducted their own monitoring, over half (54%) included monitoring of patients' medication adherence, persistence and adverse effects as part of their service scope. These results continue to illustrate the importance of a joint approach across primary and secondary care, as well as across departments, to ensure an efficient and safe patient pathway.

Formal patient/carer surveys have been undertaken by 44% of FLSs (27/61). Of those that did surveys, 26% (7/27) used the ROS patient experience questionnaire template. FLSs that do not currently run a patient/carer survey are able to use this template. We are pleased to report 67% of FLSs (41/61) use the FLS-DB patient resources.

In 2019 the FLS-DB found that 57% of FLSs had a governance meeting at least every 6 months. This has decreased to 50% (30/60). 40% (12/30) of this number met the 2021 report's recommendation of having governance meetings once every 6 weeks to review KPI measures. However, due to the delay in the reporting schedule from January to May 2021 for publication, this will continue to be monitored.

Of the 61 FLSs that completed the facilities audit, only 10% (6/61) had patients represented in governance groups or involved in reviewing FLS documentation and information.

Governance meetings

50%

of FLSs have a governance meeting at least every 6 months

Case studies across KPIs are available online, on the FLS-DB improvement repository, providing examples of improvement projects that have and have not worked. To submit a case study please complete the form on the link above and send it to flsdb@rcp.ac.uk.

Vertebral fracture spotlight

Rationale

Vertebral fractures are important as they are a powerful predictor of future fractures, especially hip fractures, for which there is an associated increased relative risk of 2.4. The potential consequences of undiagnosed vertebral fractures will go on to affect individuals, families, and the NHS. Using existing radiological images to identify individuals with a vertebral fragility fracture is one pathway to increasing vertebral fracture case-finding.

Recognising that many FLSs did not have the capacity or capability to include patients with opportunistic radiological vertebral fractures as part of their scope, the vertebral fracture sprint audit was developed to compare current case-finding across services. Future data collection in this area should consider how FLSs can produce data-driven service development plans while keeping estimated service costs in mind to ensure that the quality of care for vertebral fracture patients is improved.

The Royal Osteoporosis Society guidance, _Clinical guidance for the effective identification of vertebral fractures_, was used as the gold standard.

The Royal College of Radiologists (RCR) audit review in 2019 found that there was a lack of compliance with all audit standards (target for all was 100%): 79% of reports commented on the vertebrae, 26.2% of reports mentioned fracture severity, the recommended terminology 'vertebral fracture' was used in 60.1% of reports, and 2.6 % of reports recommended appropriate onward referral. The results of the audit review led to new guidance for radiological reporting of vertebral fragility fractures.

Key finding and recommendation

Finding	Recommendation
FLSs are using different types of radiological studies to identify potential vertebral fragility fractures (VFF), with cross-sectional imaging identifying higher rates of VFF than plain films.	Collectively, FLSs should develop best practice pathways for the identification, assessment and resourcing for radiological vertebral fragility fractures (VFFs).

Summary of results

Participation

Twenty-six FLSs completed the vertebral fracture sprint audit. The average age of patients was 73.5 years. A total of 1,422 images were reviewed. Vertebral fractures were identified using variable methods (Fig 6) and a mixture of CT (35.09%), MRI (13.5%), plain X-rays (50.9%) and VFAs (0.14%). 4.92% of scans were part of an oncology referral.

Reporting of vertebral fractures

Of 732 confirmed fractures, 211 (28.83%) used the recommended terminology 'vertebral fracture', while 459 (62.70%) used other terms suggesting fracture (such as 'vertebral deformity' 'end plate fracture' 'endplate fracture' 'endplate infraction' 'vertebral collapse' 'compression fracture' 'biconcave fracture' 'height-loss' 'wedge fracture' 'anterior wedging' 'wedge fracture' 'end plate' 'endplate' 'osteoporotic collapse' 'vertebral body' 'compression') but not confirming the presence of a fracture. A total of 62 (8.47%) did not use either the recommended term 'vertebral fracture' or terms suggesting the presence of a vertebral fracture.

Of the 459 patients with confirmed vertebral fractures where a label besides the recommended terminology was used, a significant number (286; 62.31%) were then referred for further investigations and management while 173 (37.69%) were not referred. However, of the 211 patients where the recommended 'vertebral fracture' terminology was used, a *lower* number (79; 37.44%) were referred onwards while 132 (62.56%) were not. Despite this, it is important to create awareness among radiology colleagues of the recommendation to both use the correct term 'vertebral fracture' for improved case-finding and to refer people with confirmed fractures onwards to the fracture liaison service.
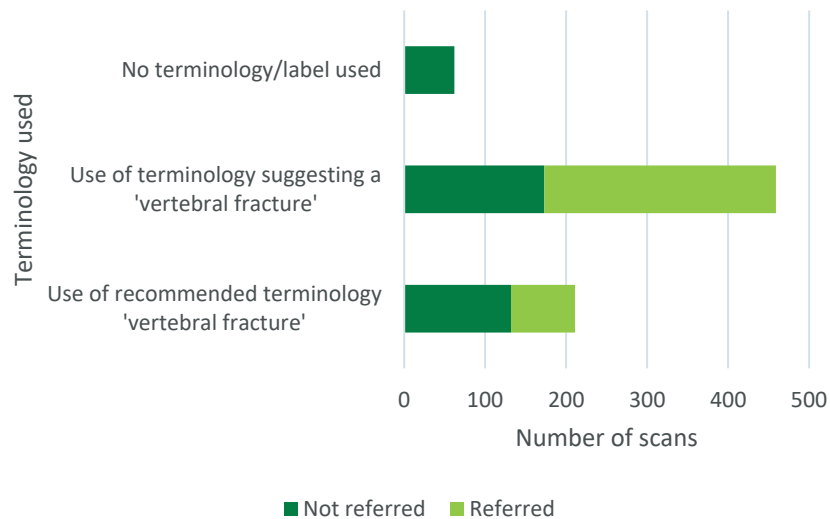
Fig 5. Comparison between terminology used and proportion of patients referred onwards.

FLSs used different methods of identifying vertebral fractures. A secondary analysis to determine the characteristics of the most effective VFF service should be prioritised.
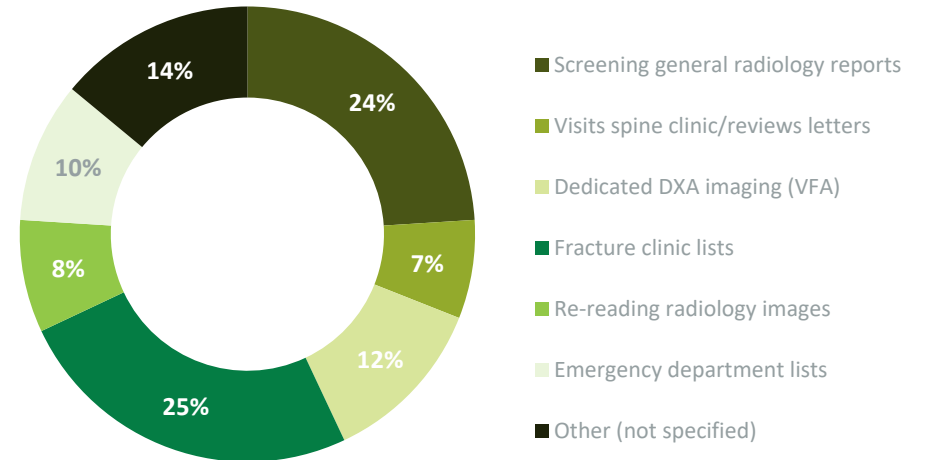
Fig 6. Methods by which FLSs identify patients with a vertebral fracture.

FLS-DB results by KPI

Table 2. Achievement of individual KPIs in 2019 and 2020 by FLSs

Observed percentage achievement shown for each FLS with additional colour coding of green for 80% or more achievement, amber for 50–79% achievement and red for <50% achievement; except for: i) KPI 1 where data completeness is measured by the number of KPIs with more than 80% complete data, red shows 0–4 KPIs, amber shows 5–7 KPIs and green shows 8–10 KPIs and ii) KPI 7 where green shows >50% and red <50% achievement. Where a trust / health board has no data (grey cells) for all 2019 figures, the trust / health board is a new participant to the audit.

KPI 11 2019 data relates to cases seen in 2018 which have been followed up in the calendar year of 2019; whereas KPI 11 2020 data relates cases seen in 2019 followed up in 2020. The asterisks (*) represent small numbers which have been supressed to maintain confidentiality.

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Airedale NHS Foundation Trust	105	442	80	80	7	36	*	4	98	98	61	28	92	95	50	48	0	1	94	78	43	35	0	65
Aneurin Bevan University Health Board	501	710	50	60	13	19	18	25	14	3	48	19	8	14	50	55	0	0	23	4	19	3	0	10
Ashford and St Peter's Hospitals NHS Foundation Trust	719	481	80	50	37	24	17	6	96	94	72	54	100	0	55	59	*	0	52	1	37	1	*	7
Barnet Hospital	418	479	100	100	22	28	9	19	91	78	73	37	92	87	66	62	*	0	65	87	44	60	65	51

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Basildon and Thurrock Hospital	186	54	30	30	9	3	13	4	0	0	0		0	0	98	100	0	0	0	0	0	0	0	0
Bedford Hospital	701	577	80	80	56	41	51	25	65	75	74	62	3	6	46	51	*	0	61	77	43	56	59	50
Bradford Teaching Hospitals Foundation Trust	607	525	100	90	40	33	124	95	89	75	73	31	*	0	58	59	11	1	59	13	30	7	65	39
Bromley Healthcare	571	338	90	100	32	18	2	0	99	86	88	57	100	100	55	46	0	0	77	83	57	79	9	59
Broomfield Hospital	502	567	60	50	27	26	*	6	98	99	3	6	0	0	100	99	0	0	0	0	0	0	0	0
Buckinghamshire Healthcare NHS Trust	498	384	80	50	29	19	7	0	100	100	62	24	96	98	90	92	0	0	*	1	*	0	*	0
Cambridge University Hospitals NHS Foundation Trust	1289	1470	90	80	60	61	*	3	97	98	74	14	64	73	52	71	39	22	96	81	57	54	76	75
Chelsea and Westminster Hospital NHS Foundation Trust	789	594	30	40	69	59	20	17	54	79	18	14	44	44	46	64	*	1	23	14	4	2	0	2
Chesterfield Hospital NHS Foundation Trust	706	1312	30	30	35	57	6	7	2	0	0		0	0	60	0	0		0		0		0	0

Fracture Liaison Service Database (FLS-DB) annual report. January 2022

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Croydon University Hospital	178	175	80	80	13	13	5	5	78	80	54	44	86	82	53	62	*	10	43	43	37	34	0	35
Diana Princess of Wales Hospital	854	743	50	80	54	47	7	9	67	90	41	32	48	75	62	64	*	4	20	36	18	32	11	20
Dorset County Hospital	1365	1323	80	70	88	69	68	49	77	73	35	13	65	68	58	58	21	16	83	89	61	50	65	57
Ealing Hospital	482	158	80	60	57	70	*	16	40	55	1	7	100	99	15	31	25	26	67	80	50	28	0	0
East Kent Hospitals University NHS Foundation Trust	1291	746	50	60	29	14	10	5	29	15	40	19	81	100	15	11	0	0	0	1	0	0	0	0
East Lancashire Hospitals NHS Trust	797	341	80	40	34	13	5	2	97	74	79	29	90	21	31	10	*	0	56	37	39	9	26	22
East Surrey Hospital	2068	573	80	70	80	23	35	16	43	10	81	13	48	71	42	35	9	2	21	3	16	1	20	4
East Sussex Healthcare	1098	717	50	60	35	21	6	6	6	7	57	18	68	98	49	60	0	0	86	87	*	0	0	0
Enfield Bone Health and Fracture Liaison	208	166	90	60	11	9	4	1	51	48	47	29	84	79	36	39	*	0	49	16	38	5	0	18
Epsom St Helier University Hospitals NHS Trust	459	525	90	70	22	24	3	3	89	86	*	24	99	100	79	78	17	16	38	23	36	15	*	0

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Guy's and St Thomas' NHS Foundation Trust	1566	388	40	40	152	40	310	19	87	33	*	73	39	54	19	1	0	0	0	0	0	0	0	0
Imperial College Healthcare NHS Trust		666		60		66		131		92		13		70		68		9		41		29		
James Cook University Hospital	1045	1288	70	70	43	54	29	51	59	54	41	7	59	55	32	31	3	4	54	51	51	45	27	40
King's College Hospital - Denmark Hill Site		197		70		28		1		86		53		42		64		3		75		51		
Medway NHS Foundation Trust	1065	996	60	40	53	46	11	9	66	20	62	10	62	40	30	10	*	0	27	4	15	0	0	0
Milton Keynes University Hospital Foundation Trust	283	703	50	70	19	44	14	20	77	56	31	9	66	79	51	57	21	14	53	47	43	41	*	11
Morriston Hospital Abmhu	860	694	90	90	31	23	4	0	99	100	*	0	38	79	75	61	15	16	100	99	21	18	52	31
Musgrove Park Hospital	1982	1717	80	80	79	66	77	47	71	66	69	40	97	90	46	49	17	4	65	55	53	39	29	49
North Bristol NHS Trust	2283	1946	80	70	79	63	11	7	93	59	39	19	55	30	50	44	3	5	35	65	17	38	0	3

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
North Tees And Hartlepool NHS Foundation Trust	1407	1107	40	40	74	51	19	8	100	98	63	19	65	59	63	63	0	0	0	0	0	0	0	0
North West Anglia NHS Foundation Trust	744	230	100	70	30	9	*	0	68	24	36	17	96	97	28	36	*	0	60	6	38	5	20	21
Northwick Park Hospital	460	430	80	60	35	23	*	5	33	61	*	8	100	100	15	44	57	31	66	87	54	25	0	2
Nottingham FLS	3336	2230	70	70	80	53	*	0	99	99	*	10	55	44	86	74	*	0	0	0	0	0	1	0
Oxfordshire Fracture Prevention Service	3518	3029	70	70	99	100	67	63	79	88	62	57	99	98	61	67	*	1	75	87	66	63	42	67
Pennine Musculoskeletal Partnership LTD	1125	723	70	70	56	36	60	33	41	27	64	10	39	41	25	23	18	1	78	17	49	7	45	44
Poole Hospital NHS Foundation Trust	1590	1668	70	100	33	31	6	5	9	50	13	58	65	60	29	38	10	11	71	70	42	43	48	64
Portsmouth Southeast Hampshire	2167	1714	40	40	55	46	6	3	96	95	5	0	1	0	62	53	0	0	5	0	*	0	0	0
Queen Elizabeth Hospital Lewisham	1166	971	30	30	76	59	7	8	0	0	0	0	2	0	19	16	0	0	0	0	0	0	0	0
Royal Bolton Hospital	1462	1223	80	80	75	60	48	28	96	93	60	40	74	83	78	76	20	31	70	55	54	40	53	49

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Royal Derby Hospital	1639	1638	40	60	55	50	23	20	53	51	91	79	17	24	68	67	0	0	54	39	5	25	0	0
Royal Surrey County Hospital	657	466	60	70	39	25	20	14	97	93	46	22	93	94	56	46	7	4	61	66	49	55	0	1
Royal United Hospital	2680	2269	50	60	93	84	150	110	99	99	51	21	85	81	63	64	*	0	23	54	2	33	3	3
Royal Wolverhampton Hospital NHS Trust	886	1373	30	20	38	54	9	8	2	31	*		0	0	65	29	0	0	0	0	0	0	0	0
Salford Royal NHS Foundation Trust	298	298	70	60	19	18	5	9	5	78	*	3	86	82	31	32	0	0	9	4	*	3	3	11
Shrewsbury and Telford Hospital NHS Trust		1221		80		45		11		92		12		76		85		1		90		64		
St George's Hospital	660	356	40	30	60	29	82	42	37	13	0		95	72	55	57	*	3	66	69	25	40	0	0
Sunderland Royal Hospital	1049	604	90	90	55	30	33	25	99	97	74	19	82	79	52	73	*	0	80	28	54	19	0	0
The Haywood Hospital	2162	1405	80	80	60	36	62	37	62	29	80	37	75	76	41	45	*	0	82	66	45	35	59	55
The Hillingdon Hospitals NHS Foundation Trust	559	221	100	90	45	22	17	8	94	92	81	23	97	84	69	44	55	53	64	64	37	48	45	32

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
The Ipswich Hospital NHS Trust	1946	1452	50	60	82	56	14	3	31	60	20	7	44	64	57	55	2	16	29	61	26	53	12	32
The Northern Care Alliance – Bury Community Services		394		80		11		12		48		3		66		78		0		10		4		
The Northumbria Hospital (NSECH)	1458	1339	100	90	41	34	3	2	93	91	81	44	7	22	32	38	3	28	49	47	32	14	46	45
The Rotherham NHS Foundation Trust	890	702	80	90	74	50	51	34	48	49	41	4	30	19	58	71	*	0	7	2	5	1	7	0
University Hospital Lewisham	308	339	80	90	39	43	8	11	73	84	79	38	20	38	28	17	*	3	68	31	53	24	37	42
University Hospital Llandough	782	525	60	60	29	19	5	0	100	100	*	2	46	31	69	79	2	1	25	12	16	7	81	68
University Hospital North Durham – Darlington Memorial Hospital	2218	2204	70	60	61	53	4	7	7	6	10	2	12	34	17	21	19	4	68	66	58	57	47	71
University Hospitals Birmingham NHS Foundation Trust	1431	1421	100	60	60	31	*	1	94	92	71	13	93	37	46	46	29	32	51	72	39	2	32	42

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
University Hospitals Bristol NHS Foundation Trust	1523	1279	60	70	101	83	42	39	78	46	45	12	72	97	59	59	*	4	10	64	6	35	7	5
University Hospitals Southampton NHS Foundation Trust	1304	1628	60	70	41	40	2	12	100	95	31	26	39	32	56	70	0	2	26	13	19	9	14	9
Walsall Healthcare		368		50		18		2		6		5		38		33		1		46		28		
West Berkshire FLS	1099	1143	90	80	51	51	40	53	96	93	81	27	99	98	68	64	16	5	76	62	55	46	54	67
West Middlesex Hospital	316	970	60	50	29	78	9	23	79	31	44	11	87	49	69	52	32	3	57	18	27	12	0	19
West Suffolk NHS Foundation Trust	1050	887	60	80	61	44	16	11	60	52	67	29	60	64	52	59	36	40	90	89	76	71	51	71
Weston General Hospital	450	235	70	80	34	17	32	17	95	80	80	20	84	80	52	68	5	6	31	33	16	15	27	16
Wye Valley NHS Trust	1007	826	50	40	53	40	7	5	100	81	11	6	68	49	97	99	0	0	0	0	0	0	0	0
Yeovil Hospital	1493	1324	80	80	96	78	54	39	63	84	56	37	93	93	57	62	2	1	76	96	58	72	37	44
Overall (average)	N/A	N/A	69	66	49	39	24	17	69	65	46	24	59	56	52	53	6	6	41	46	26	29	19	23
Total no. green values	N/A	N/A	30	24	9	3	4	3	28	31	8	0	26	22	42	41	0	0	8	12	0	0	1	0

FLS name	Number of cases submitted		KPI 1 KPIs with >80% complete data (%)		KPI 2 Identification – all fractures (%)		KPI 3 Identification – spine fractures (%)		KPI 4 Time to FLS assessment within 90 days (%)		KPI 5 Time to DXA within 90 days (%)		KPI 6 Falls assessment done or referred (%)		KPI 7 Bone therapy recommended as appropriate (%)		KPI 8 Strength and balance commenced (%)		KPI 9 Recorded follow-up 12–16 weeks post index fracture (%)		KPI 10 Patient commenced bone therapy at 16 weeks (%)		KPI 11 Patient confirmed adherence to bone therapy at 12 months * (%)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Total no. orange values	N/A	N/A	24	33	23	21	8	3	19	17	22	8	15	19	N/A	N/A	2	1	26	18	15	13	10	13
Total no. red values	N/A	N/A	10	12	32	45	52	63	17	21	34	57	23	28	23	28	62	67	29	38	49	55	53	51

Future developments

Quality improvement collaborative

Following the success of the 2019 secondary fracture prevention quality improvement (QI) collaborative, the FFFAP team is running another 6-month quality improvement course based on the Institute for Healthcare Improvement's breakthrough collaborative model in late 2021 and into 2022.

The course will consist of virtual learning sessions, coaching calls to help multidisciplinary teams develop their improvement capabilities, and a showcase where teams will have the opportunity to present their projects and results. We hope that taking part in this collaborative will help FFFAP participating teams to develop their knowledge and confidence in leading and training others in quality improvement projects, with the opportunity for services to secure funding by showcasing their QI work to departmental leads. The FFFAP team will share the learnings from the 6-month quality improvement course online and via the FFFAP social media channels.

Patient resources

The FFFAP Patient and Carer Panel have recently supported the production of a video resource titled 'six golden rules' to complement the strong bones after 50 toolkit and bone health card resource. The purpose of the video is to share patient information about bone health and fracture prevention, and encourage patients to have follow up conversations with their GP after being recommended to take medication by mouth for osteoporosis.

Furthermore, the FFFAP Patient and Carer Panel have identified that the 'report at a glance' section of the annual report gives a helpful overview of the report. In order to give people a better understanding of the

treatment that FLSs in England and Wales offer, the panel will be co-producing a patient-focused lay summary of each audit workstream.

References and bibliography

The references cited in this report and bibliography are available to download from the RCP website. You will also find a FFFAP-wide glossary to help with the interpretation of this report.

Notes on the appendices

Appendix 1. Index fracture site proportion and total number of fragility fracture records submitted by FLSs in 2020

The figure in appendix 1 shows the location of the first fracture site (bars) and the total number of cases submitted (light green circles) by FLSs. The left vertical axis shows what proportion of patients presented with a hip, spine or other fractures. The right vertical axis shows the total number of cases submitted by each FLS. The figure shows that there was a wide variation in the proportion of patients with hip fracture submitted and a low rate of vertebral fractures were identified.

Appendix 2: Number of patient records submitted in 2020 compared with 2019

The pandemic may have affected the ratio between hip and other fragility fractures. The figure in appendix 2 shows the absolute difference in cases identified in 2020 vs 2019 by FLS. The average was 171 fewer fragility patients identified per FLS but there was a wide variation between FLSs. COVID-19 affected services differently, therefore, how they approach recovery will need to be individualised.

Appendix 1: Index fracture site proportion and total number of fragility fracture records submitted by FLSs in 2020
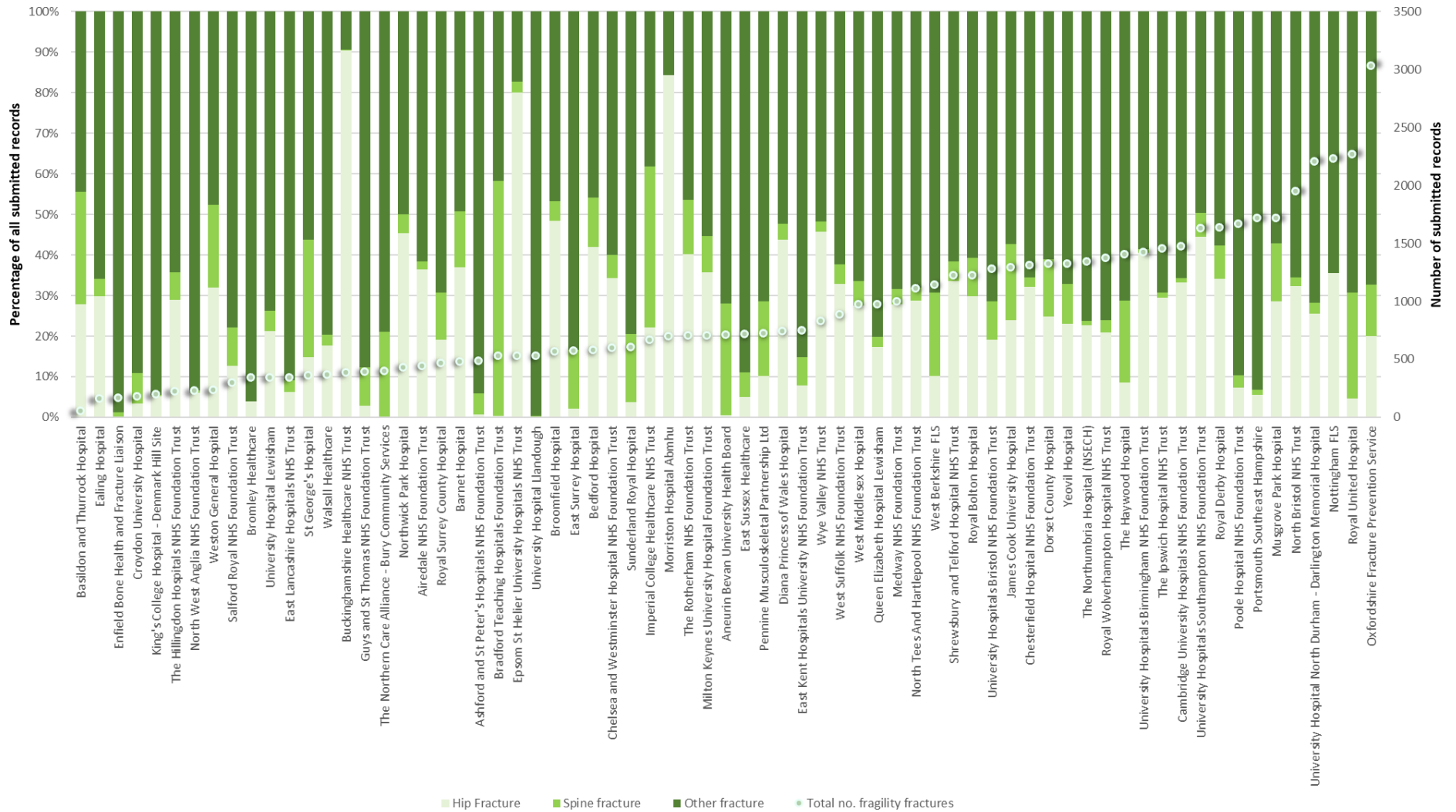
Appendix 2: Number of patient records submitted in 2020 compared with 2019
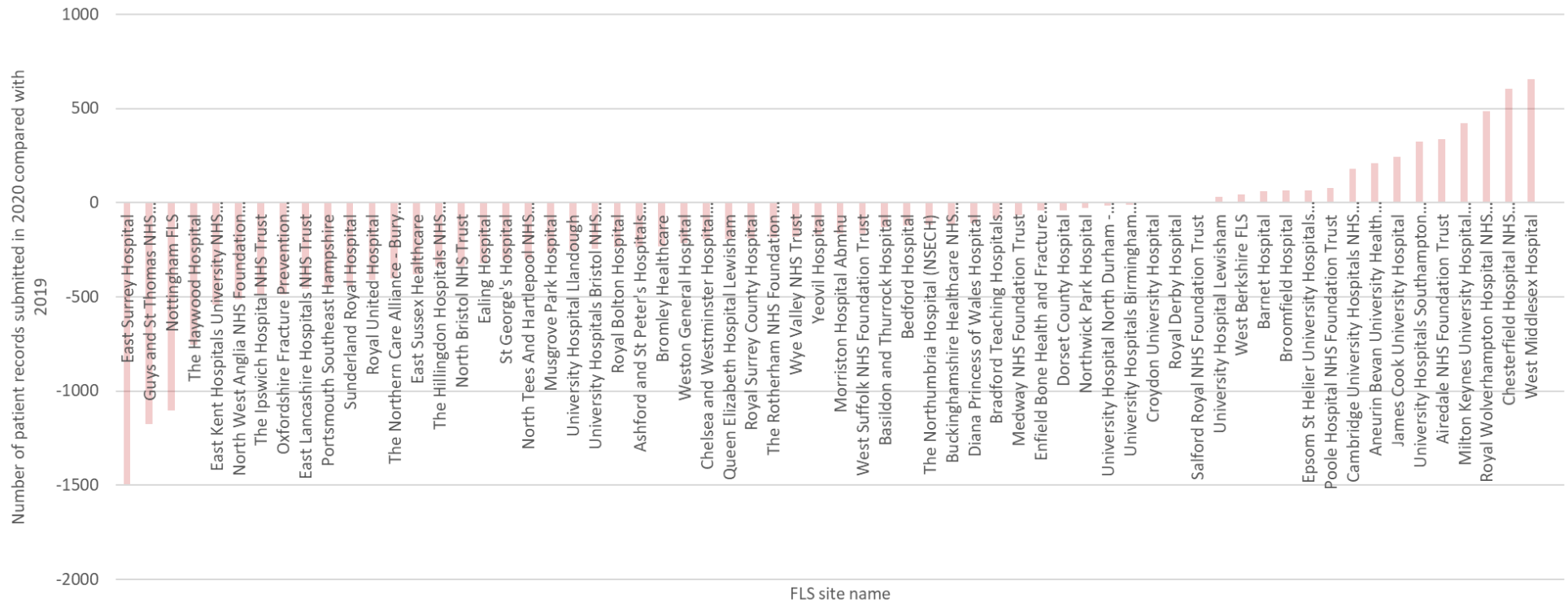
Appendix 3: Non-participating trusts and organisations

Trusts/health boards not included in the report (not participating /excluded) are listed below. These are NHS trusts and organisations where the quality of any local FLS could not be audited due to non-participation in the FLS-DB.[*],[**]

Trusts/health boards not participating	
Barking, Havering and Redbridge University Hospitals Trust	EXCL
Barnsley Hospital NHS Foundation Trust	
Barts Health NHS Trust	
Betsi Cadwaladr University Health Board	
Blackpool Teaching Hospitals NHS Foundation Trust	
Brighton and Sussex University Hospitals NHS Trust	
Calderdale and Huddersfield NHS Foundation Trust	
Countess of Chester Hospital NHS Foundation Trust	
Cwn Taf Morgannwg University Health Board	
Dartford and Gravesham NHS Trust	EXCL
Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust	
Dudley Group NHS Foundation Trust	
East and North Hertfordshire NHS Trust	
East Cheshire NHS Trust	
East Kent Hospitals University NHS Foundation Trust	
Frimley Health NHS Foundation Trust	
Gateshead Health NHS Foundation Trust	
George Eliot Hospital NHS Trust	
Gloucestershire Hospitals NHS Foundation Trust	
Great Western Hospitals NHS Foundation Trust	
Hampshire Hospitals NHS Foundation Trust	
Harrogate and District NHS Foundation Trust	
Homerton University Hospital NHS Foundation Trust	
Hull University Teaching Hospitals NHS Trust	
Hywel Dda University Health Board	
James Paget University Hospitals NHS Foundation Trust	
Kettering General Hospital NHS Foundation Trust	
Kingston Hospital NHS Foundation Trust	
Lancashire Teaching Hospitals NHS Foundation Trust	
Leeds Teaching Hospitals NHS Trust	
Liverpool University Hospitals NHS Foundation Trust	
Luton and Dunstable University Hospital NHS Foundation Trust	
Maidstone and Tunbridge Wells NHS Trust	
Manchester University NHS Foundation Trust	
Mid Cheshire Hospitals NHS Foundation Trust	
Mid Yorkshire Hospitals NHS Trust	
Newcastle Upon Tyne Hospitals NHS Foundation Trust	
Norfolk and Norwich University Hospitals NHS Foundation Trust	
North Cumbria Integrated Care NHS Foundation Trust	
North Middlesex University Hospital NHS Trust	EXCL
Northampton General Hospital NHS Trust	
Northern Devon Healthcare NHS Trust	
Pennine Acute Hospitals NHS Trust	
Princess Alexandra Hospital NHS Trust	
Queen Elizabeth Hospital King's Lynn NHS Foundation Trust	
Royal Cornwall Hospitals NHS Trust	

Royal Devon and Exeter NHS Foundation Trust	
Royal Liverpool and Broadgreen University Hospitals NHS Trust	
Sandwell and West Birmingham Hospital NHS Trust	EXCL
Salisbury NHS Foundation Trust	
Sheffield Teaching Hospitals NHS Foundation Trust	
Sherwood Forest Hospitals NHS Foundation Trust	
South Warwickshire NHS Foundation Trust	
Southend University Hospital NHS Foundation Trust	EXCL
Southport and Ormskirk Hospital NHS Trust	
St Helens and Knowsley Teaching Hospitals NHS Trust	
Stockport NHS Foundation Trust	EXCL
Tameside and Glossop Integrated Care NHS Foundation Trust	
Taunton and Somerset NHS Foundation Trust	
Torbay and South Devon NHS Foundation Trust	
University College London Hospitals NHS Foundation Trust	
University Hospitals Coventry and Warwickshire NHS Trust	
University Hospitals of Leicester NHS Trust	
University Hospitals of Morecambe Bay NHS Foundation Trust	
University Hospitals of North Midlands NHS Trust	
University Hospitals Plymouth NHS Trust	

Warrington and Halton Teaching Hospitals NHS Foundation Trust	
West Hertfordshire Hospitals NHS Trust	
Western Sussex Hospitals NHS Foundation Trust	
Whittington Health NHS Trust	
Wirral University Teaching Hospital NHS Foundation Trust	
Worcestershire Acute Hospitals NHS Trust	
Worcestershire Acute Hospitals NHS Trust	
Wrightington, Wigan and Leigh NHS Foundation Trust	EXCL
York Teaching Hospital NHS Foundation Trust	

*Note: Non-participation in the audit may be because there is no commissioned FLS or there is a commissioned FLS, but it did not participate in the audit.

**EXCL = excluded from report, as site submitted fewer than 50 cases in 2020 at time of data extraction.

View live data online:
https://www.fffap.org.uk/FLS/charts.nsf/benchmarks?readform&year=2020&wdLOR=cF48D8096-CDC9-4A11-8406-ED6D1E80CE20

Abbreviations

APPG	All Party Parliamentary Group
CG	clinical guideline
CQID	Care Quality Improvement Department
CT	computed tomography
DXA scan	dual-energy X-ray absorptiometry scan
EXCL	excluded
FFFAP	Falls and Fragility Fracture Audit Programme
FLS	fracture liaison service
FLS-DB	Fracture Liaison Service Database
GIRFT	Getting It Right First Time
GP	general practice/practitioner
HQIP	Healthcare Quality Improvement Partnership
ICS	integrated care system
KPI	key performance indicator
MRI	magnetic resonance imaging
NAIF	National Audit of Inpatient Falls
NCAPOP	National Clinical Audit and Patient Outcomes Programme
NHFD	National Hip Fracture Database
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NOCA	National Office of Clinical Audit
NOGG	National Osteoporosis Guideline Group
QI	quality improvement
RCP	Royal College of Physicians
RCR	Royal College of Radiologists

ROS	Royal Osteoporosis Society
VF	vertebral fracture
VFF	vertebral fragility fracture
VFA	vertebral fracture assessment
VFSA	vertebral fracture sprint audit
VFSAC	vertebral fracture sprint audit cohort
WTE	whole-time equivalent

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.

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Royal College of Physicians

Fracture Liaison Service Database (FLS-DB)