A snapshot analysis of patients referred to unscheduled care outpatient clinics run by Orthopaedics

A Report from the Musculoskeletal Audit on behalf of the Scottish Government

The information in this report is intended to be used for improvement purposes. The information has been collected by local MSK Audit co-ordinators based in each hospital. These statistics have not been through ISD’s official statistics quality assurance process but have been subject to the MSK Audit’s own quality assurance process.

Contacts

Please send comments and queries to one of the following:

- Rik Smith – MSK Audit Analyst, ISD (rsmith11@nhs.net)
- Jane Campbell – MSK Audit Clinical Co-ordinator, ISD (Jane.Campbell7@nhs.net)
- Kate James – Orthopaedic Services Improvement Project Manager, Scottish Government (Kate.James@scotland.gsi.gov.uk)
- Katie Cuthbertson – Fracture Redesign Work-stream Project Manager, Scottish Government (Katie.cuthbertson@scotland.gsi.gov.uk)

Introduction

Pathways for patients with non-operative fractures, who access care mostly via an Emergency Department (ED) or Minor Injuries Unit (MIU), have seen a number of examples of redesign over recent years. These redesigned services have demonstrated the potential for significant improvements in pathway efficiency and in increased patient satisfaction.

Traditionally the majority of patients who present with a non-operative fracture at ED are then seen at dedicated Orthopaedic outpatient (fracture) clinics. A significant redesign has, however, been implemented at Glasgow Royal Infirmary (GRI):

- Orthopaedic and ED Consultants have agreed a number of fracture types that ED will discharge directly with no onward referral to Orthopaedics (the ‘potentially dischargeable injuries’ - radial head/neck #, 5th metatarsal #, torus # aged <10y, mallet finger, 5th metacarpal #, clavicle # aged <12y).
- These patients are fitted with a Velcro splint/boot and provided with an information leaflet explaining the injury they have sustained, how to manage it and that it will almost certainly heal well on its own and the splint can be removed after a specified period of time. The leaflet includes an Orthopaedic department point of contact if the patient has any concerns. **38% of patients are discharged straight from ED.**
• The remaining 62% are referred from ED to be reviewed at an Orthopaedic-run virtual clinic rather than the patient physically attending a fracture clinic.
• Each patient is then contacted by telephone and either discharged (25% of those presenting at ED), referred for further investigation and/or appointed to return to the relevant sub-specialty or nurse-led fracture clinic.
• Only 37% of those presenting at ED are physically seen.

Other units around the country have also been redesigning elements of their pathways over the last few years. For example, some units dealing with remote and rural populations have engaged with GP colleagues and implemented processes which prevent patients having to attend fracture clinic appointments in an acute setting. The Scottish Orthopaedic Services Development Group (formally Orthopaedic Task and Finish Group) identified the potential for fracture pathway redesign, tailored to each hospital’s local circumstances, and have set up a work-stream to support Boards in the redesign process. Elements of redesign have been implemented in Fife, Forth Valley, RAH, WIG and Ninewells. These redesigned services were however implemented after this audit.

This Musculoskeletal (MSk) Audit was commissioned to undertake a snapshot analysis of patients referred to unscheduled care outpatient clinics run by Orthopaedics. This report focuses particularly on those originally referred to these clinics by the ED or MIU. It includes both new and return patients. Those patients seen in ED and discharged or asked to return to an ED run clinic are not included in the audit.

The results of this audit are presented in the following sections to enable Boards to focus on the key elements of redesign:

1. Discharge patients with agreed injuries straight from ED with a leaflet.
2. Use Velcro splints/boots in all cases where clinically appropriate (saves plastering time and materials and doesn’t make a return appointment inevitable).
3. Conduct ‘Virtual Review’ sessions and then only see patients who ‘need something done’.
4. Free-up time and reinvest it.

The redesign addresses all six dimensions of quality:

• Patient Centre - Satisfaction surveys demonstrate a high level of satisfaction for all three cohorts of patients (those discharged from ED, those who receive a phone call but do not need to attend, those asked to attend a specific sub-speciality or nurse-led clinic).
• Efficient -
  o Appropriate patients can be discharged from ED without delay. Fitting a Velcro boot or splint is significantly quicker and cheaper than plastering1.
  o Patients who have been reviewed by an Orthopaedic Consultant but do not need to attend receive a reassuring phone call and the opportunity to raise any concerns.
  o Only those patients that ‘need something to be done’ are asked to attend the relevant sub-specialty or nurse-led fracture clinic.

1 At GRI, the cost of a Velcro boot is £10.62, compared to £40 for a below knee POP (backslop, cast, boot + >1hr plaster technician time + minimum 2 clinic visits), and a Velcro wrist splint is £3.

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• Timely - Patients who are asked to attend are scheduled to see the right professional at the right time for ‘something to be done’ in relation to their specific injury and healing progress.
• Safe -
  o Orthopaedic and ED colleagues have reached a consensus on which types of injury can be safely discharged without the need for Orthopaedic follow-up.
  o Treatment decisions and X-Rays are checked by several professionals - in ED, by Radiologists and by Orthopaedic Consultants. All decisions are documented.
• Effective - Patients ‘who need something done’ are seen and treated.
• Equitable – Consensus between Orthopaedic and ED colleagues ensures that treatment for each type of injury is standardised.

This report is intended to be used, in conjunction with local data, to help clinicians and managers identify opportunities where the efficiency of the pathway and the satisfaction of patients can be increased. It is not intended to be used to make judgements about current systems or performance, rather to stimulate further investigation to understand where opportunities for improvement may exist. We recognise that there are different systems in different hospitals, and that makes some comparisons of data within this report between hospitals difficult. But there is useful information here for every unit – just not necessarily the same design for all.

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Methodology and Patient Numbers

This report focuses on patients referred to unscheduled care outpatient clinics run by the Orthopaedic service, particularly those originally referred to these clinics by ED. We include both new and return patients. Those patients seen in ED and discharged or asked to return to an ED run clinic were not included in the audit.

As the number of patients attending unscheduled care Orthopaedic clinics is relatively high, the MSk Audit’s network of Local Audit Co-ordinators collected data from a one-week period of clinics in each participating hospital (May 14th-20th 2012) and further reduced numbers by only auditing patients with surnames starting with the letters A to L inclusive (approximately 50% of patients attending, we assumed that using surnames gave a random sample). Patients with surnames beginning with the letters M to Z were counted but not audited. In some hospitals where time allowed we collected a second sample of A to L surname patients for a second week (11th-17th June 2012).

Apart from a preliminary section in which we describe the overall number and composition of patients listed to attend these orthopaedic-run unscheduled care outpatient clinics, the main focus of analysis in this report refers solely to patients referred to the clinics from ED.

Patients referred to unscheduled care orthopaedic clinics – overall numbers and exclusions from audit

The overall number of patients listed to attend orthopaedic-run unscheduled care outpatient clinics varied largely according to unit size (Fig. 1). In most units these clinics were not only seeing patients referred as outpatients from ED, but also saw a variety of other patients including:

- Review appointments of patients admitted with/without surgery
- Elective patients
- Direct GP referrals or referrals from non-trauma sources
- Patients referred from other hospitals

In most units these ‘other’ types of patient accounted for a significant proportion of the patients listed to attend the clinics (Figs. 2 & 3).

Fig. 1: Total number of new and review patients per week listed to attend orthopaedic-run unscheduled care outpatient clinics during the sample weeks

This is a count of all patients not just A-L surnames. If the May week and the June week were both sampled, the figure given is the average.
Fig. 2: Orthopaedic-run unscheduled care outpatient clinics – percentage of patients originally referred from ED (green) and other sources of referral or exclusion

The percentages are derived from the sample of patients as described earlier, except at Raigmore where ALL patients were audited due to the small number of patients seen in dedicated unscheduled care orthopaedic clinics.

If the May and June weeks were both sampled, the percentage given on Fig. 2 is the average.
Aberdeen data is for sessions for injuries referred from ED; admitted patients are seen in separate sessions.
ED referrals include new patients attending an orthopaedic-run unscheduled care outpatient clinic for the first time AND those returning for further follow-up visits.
All data that was excluded for ‘Other’ reasons at BGH, Elgin and Raigmore was due to lack of data collection time or unavailability of notes.

Patients referred from ED

As the main focus of this analysis is on patients referred to Orthopaedic-run unscheduled care outpatient clinics from ED, we did not collect detailed data from the other types of patients categorised as ‘Excluded’ on Fig. 2, and therefore they are omitted from the rest of this report.

Both ‘new’ patients visiting the Orthopaedic clinic for the first time, and ‘return’ patients who were seen for follow-up are included. Patients who Did Not Attend (DNA) their appointments are included where applicable.

Detailed diagnosis and management data was collected for a total of 2028 patients referred to orthopaedic-run unscheduled care outpatient clinics from ED (see Table 1 for sample sizes from each unit).
Table 1: Patients referred to an orthopaedic-run unscheduled care outpatient clinic from ED - Sample size available for this report

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number sampled May 14th-20th 2012</th>
<th>Number sampled June 11th-17th 2012</th>
<th>Total number of patients sampled</th>
<th>Sampling notes</th>
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<td>Aberdeen</td>
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<td>-</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Elgin</td>
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<td>23</td>
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<td>GRI</td>
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<td>WIG</td>
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<tr>
<td>RAH/VOL</td>
<td>94</td>
<td>-</td>
<td>94</td>
<td></td>
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<tr>
<td>Inverclyde</td>
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<td>-</td>
<td>No LAC in post, no data collected</td>
<td></td>
</tr>
<tr>
<td>VI Glasgow</td>
<td>-</td>
<td>-</td>
<td>No LAC in post, no data collected</td>
<td></td>
</tr>
<tr>
<td>SGH</td>
<td>-</td>
<td>-</td>
<td>No LAC in post, no data collected</td>
<td></td>
</tr>
<tr>
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<td>34</td>
<td>70</td>
<td>Audited all patients irrespective of surname</td>
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<td>Ninewells</td>
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<td>All units</td>
<td>1166</td>
<td>862</td>
<td>2028</td>
<td></td>
</tr>
</tbody>
</table>

Unless otherwise indicated, Local Audit Co-ordinators in all units collected data for all patients with surnames beginning with the letters A to L inclusive for one week in May; 13 units repeated this for a week in June.

Fracture clinics in children’s hospitals were not audited (Edinburgh, Glasgow and Aberdeen).

The number of patients sampled at Raigmore will not be all patients originally referred to a clinic from ED as many new patients and all return patients are seen in general outpatient clinics rather than dedicated weekly ‘new fracture clinics’. The different booking system at Raigmore prevented us from easily identifying return patients at Raigmore, and it is possible that some new patients were also missed. Other units may also be under-represented if they send some patients to general outpatient clinics.

Patient Demographics

There was some variation between units in the age of patients sampled, perhaps mainly because we did not sample patients from the specialist paediatric units in Glasgow, Edinburgh or Aberdeen (see Fig. 19 in the Appendix). 50% of patients sampled were male, 50% female.
Key Elements of Redesign

The results of this analysis are presented in the following sections to enable Boards to focus on the key elements of redesign:

1. Discharge patients with agreed injuries straight from ED with a leaflet.
2. Use Velcro splints/boots in all cases where clinically appropriate (saves plastering time and materials and doesn’t make a return appointment inevitable).
3. Conduct ‘Virtual Review’ sessions and then only see patients who ‘need something done’.
4. Free-up time and reinvest it.

Redesign Element One - Discharge patients with agreed injuries straight from ED with a leaflet

An important aspect of the redesign is an agreement between ED and Orthopaedics that patients with certain agreed types of injury are discharged by ED with information on self-management of their injury with no requirement for a virtual review or routine follow-up outpatient appointment in Orthopaedics.

The information in Figs. 3 and 4 give hospitals the opportunity to consider the potential impact of this pathway improvement opportunity.

Fig 3: Main categories of referring diagnosis from ED by hospital

Please note that this was the injury that the patient was diagnosed with in ED, and may include suspected injuries which were later confirmed as an alternative diagnosis. A small number of patients had more than one injury noted, usually fractures in combination with another injury. These are all included as fractures.
Some of the GRI patients with a potentially dischargeable injury had been discharged at ED but chose to use the ‘open door’ policy encouraged on the leaflet and make contact to ask for an appointment. Some were clinically complex cases where an appointment was clinically appropriate.

n.b. RHSC Edinburgh, Yorkhill Glasgow and RACH Aberdeen excluded, therefore data for most of Edinburgh, Glasgow and NE Scotland excluded for children’s fractures.
Redesign Element Two - Use Velcro splints/boots in all cases where clinically appropriate

Use of removable splints and boots for all appropriate injuries is a central element of the redesign. It saves resource in terms of the time and materials involved in applying, removing and in some cases re-applying plaster casts in ED and Orthopaedic clinics. It is also essential for a redesign where patients with some injuries are discharged straight from ED with no planned follow up. In addition, for those patients who are referred on for Orthopaedic opinion to a virtual clinic, patients discharged at this point do not require to re-attend hospital to have a plaster cast removed, they can simply remove the splint when appropriate themselves.

Figs. 5, 6 and 7 give hospitals the opportunity to evaluate the proportion of fractures that they apply a plaster cast to and the proportion that are being given a removable splint/boot.

Management of patients in ED

Fig. 5: Plastering/splints in ED by hospital – all injuries

The GRI model allows 38% of patients to be discharged directly from ED. The patients included in this analysis are however only those referred on to Orthopaedics. The proportion of patients shown here with a splint rather than POP would actually be much higher at GRI if calculated for all patients presenting with a fracture at ED.

POP or splint patients could also have had a sling or collar and cuff.
Analysis was undertaken to identify the diagnoses with the greatest variation between the proportion of patients given a plaster cast at each hospital. The following figure shows the four injuries with the greatest variation and the two hospitals (GRI and RIE) with the smallest percentages.

The proportion of patients shown here at GRI and RIE would actually be even lower if calculated for all patients presenting with a fracture at ED.

Torus fractures in children and fifth metacarpal fractures, which are routinely discharged directly from ED at GRI, do not therefore appear on the graph above at all. Across the other units analysed (i.e. excluding RHSC Edinburgh, Yorkhill Glasgow and RACH Aberdeen, 95% of 37 torus fractures in children under 10 were given a plaster cast, and 57% of 112 fifth metacarpal fractures. If the principles of redesign employed in the GRI system were applied, these injuries are potentially dischargeable directly from ED (with advice to return if the patient has a problem), but the application of a plaster cast would be an obvious barrier to this immediate discharge.
Management of patients in Orthopaedic Clinics

Figs. 5, 6 and 7 show whether plaster casts or splints were initially applied in ED. The following analysis is of the volume of plaster cast management in new and return Orthopaedic clinics.

This data provides hospitals with information on current plaster cast usage and may support discussions around the impact of moving to Velcro splints/boots for appropriate injuries. The savings in time and materials involved in applying, removing and in some cases re-applying plaster casts can be quantified. As well as freeing up plastering time and materials, splints/boots remove the inevitability of a return appointment and make virtual review and telephone discharge possible.

Thirty-six percent of new patients at Orthopaedic clinics had plaster casts in place prior to arrival and 3% had plaster casts applied for the first time (Fig. 8). 27% of new patients with plaster casts had them removed at the first clinic, while 35% of them had the plaster cast replaced (38% of original plaster casts continued). Fifty percent of new patients who did not have a plaster cast in place were discharged from the clinic, as were 66% of those who’s plaster cast was removed.

Fig. 8: Plaster Cast management in Orthopaedic clinics – New Patients

As most new GRI patients were reviewed at virtual clinics, no physical management of the POP occurred, so the data reflects the proportion of GRI patients who had a POP applied in ED and continued meantime.

As new patients who attended clinic appointments without plaster casts were more likely to be discharged, a higher proportion of return patients had plaster casts in situ (45%) than in new clinics and a further 1% had a first plaster cast applied. A higher proportion of return patients with plaster casts (64%) had them removed (see Fig. 25 in Appendix). Discharge rates in relation to the presence of a plaster cast were similar to patients at new clinics (54% discharged if no pre-clinic plaster cast, 70% discharged if plaster cast removed).
Redesign Element Three - Conduct ‘Virtual Review’ sessions and then only see patients who ‘need something done’

At the virtual review session, a consultant reviews each patient's X-Ray and ED notes and decides whether the patient needs to attend. The decision is documented. All patients are then contacted by phone. If they are to be discharged, elements of the healing process and any concerns the patient may have are discussed with them. If they are to attend, they are scheduled to the relevant sub-specialty or nurse-led clinic or for follow-up investigations.

The information in the following section gives hospitals the opportunity to consider the efficiency of their clinics with respect to the proportion of patients returning for one or more return appointments. Hospitals can also consider patient satisfaction improvement opportunities of reducing the number of review appointments.

New or return patients

Approximately half of all identified outpatient appointments were return appointments (Fig. 9), and 61 (3%) of these were patients returning for at least their 5th appointment.

Fig. 9: New or return patients

At GRI the 38% of patients discharged straight from ED are not included on the graphs. The 62% reviewed at the virtual clinic are included but only 37% of those presenting at ED are actually physically seen. Second appointments at GRI will predominantly be patients’ first physical visit to the clinic. A small number of new patients were seen in designated ‘return’ clinics (or vice versa).

Raigmore has a different system from elsewhere in which many new patients and all return patients are seen in general outpatient clinics rather than dedicated weekly ‘new fracture clinics’. The different system prevented us from easily identifying return patients, and it is possible that some new patients were also missed. A similar system is in place in Perth.

Discharge or further review

Sixty percent of new patients were planned for a further review appointment (Fig. 10). This reduced to 40-50% of patients attending second to fourth appointments, but was still over 30% of patients attending a fifth appointment or more. Excluding appointments where the patient did not attend (unless these were the final discharge appointments), these figures indicate that 41% of patients attend one fracture clinic appointment, 30% attend two appointments, 14% attend three appointments, 8% are asked to attend four appointments and 6% are asked to attend five or more appointments (Fig. 11).
Fig. 10: Percentage of patients for further review in relation to review number

![Bar chart showing the percentage of patients for further review in relation to review number.]

Fig. 11: Number of appointments per patient

![Bar chart showing the number of appointments per patient.]

Excludes DNAd appointments unless these were the last appointment when the patient was discharged.
Fig. 12: Percentage of patients for further review by hospital

a) New appointments

GRI’s new appointment data is predominantly the outcome of virtual reviews.

b) Return appointments

Return GRI appointments will include the first physical appointments of patients originally reviewed at virtual clinics, as well as their subsequent follow-up.
Fig. 13: Percentage of patients for further review by diagnosis

a) New appointments *(Data for diagnoses marked with an asterisk are based on samples of fewer than ten patients)*

![Graph showing percentage of patients for further review by diagnosis for new appointments.]

b) Return appointments

![Graph showing percentage of patients for further review by diagnosis for return appointments.]

There was no evidence that less senior grades were less likely to discharge patients from the clinics (Fig. 14).

Fig. 14: Percentage of patients for further review by grade of staff in clinic

![Graph showing percentage of patients for further review by grade of staff in clinic.]

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DNA Rates

The overall DNA rate for audited patients attending unscheduled care outpatient clinics was 11% (Fig. 15). Nine percent of new patients did not attend their appointments, compared to 12% of patients returning for the first time and 16% for visits thereafter.

Fig. 15:  DNA rates

DNA rate for GRI excludes virtual appointments which by definition do not require patient attendance

Those hospitals with higher DNA rates may want to consider this data further to understand whether this is driven by a percentage of patients who do not feel the need to attend clinic as their injury is relatively minor and ‘self-healing’ and they could have in fact been discharged by the ED department or had fewer review appointments.

Dedicated Fracture Clinics?

Whilst undertaking a fracture pathway redesign, hospitals may wish to consider whether the information in Fig. 2 (principally included to show exclusions from the analysis) identifies an opportunity to improve the efficiency of their fracture pathway and set-up of clinics with respect to the significant number of slots at ‘fracture’ clinics taken up with review appointments for previously admitted patients (with and without surgery) including elective patients.

X-Rays in unscheduled care outpatient clinics

There was much variation in X-Ray rates at clinic between hospitals (Fig. 16). 19% of the ED referrals attending a new Orthopaedic appointment were X-rayed, compared to 48% of these patients returning for a subsequent visit. This was partly dependent on the time elapsed between the ED referral and the first visit: only 11% of those seen within 3 days had X-Rays taken. X-Ray rates in clinic were dependent on the type of injury, but were always more frequent at return appointments.

X-Rays were more likely to be taken in the clinic if a plaster cast was continued or replaced (48% of patients X-Rayed), than if there was no plaster cast or it was removed (30% of patients X-Rayed).

Hospitals may wish to review their X-Ray protocols in terms of the need to re-X-Ray by injury type and the time lapse between X-Rays.
**Fig. 16: X-Ray in clinic**

a) New patients

The majority of new GRI patients were reviewed at virtual clinics – the small percentage who were X-rayed were physically seen.

b) Return patients

58% of GRI ‘return’ patients were those attending their first **physical** appointment.

Raigmore ‘return’ patients are seen in general orthopaedic OPAs and were not identified for this audit.
Time to clinic appointment

Fig. 17 gives hospitals a chance to consider their injury specific protocols in terms of the most appropriate time lag between the ED presentation and the first Orthopaedic clinic appointment and then subsequent Orthopaedic clinic review appointments, focussing on only seeing patients who ‘need something done’.

An example category of injuries proposed by one Board are proximal humeral fractures, acromio-clavicular injuries and adult clavicle fractures. The majority of patients in this group do not need to be seen at an Orthopaedic clinic straight after their attendance at ED. The minority that need surgery can be filtered out in a virtual clinic, and the majority appointed to a review fracture clinic to be reassessed at 2/3/4/6 weeks post-injury as appropriate.

The median time to the first clinic appointment was 5 days after the ED presentation (interquartile range 2-9 days). Subsequent appointments occurred an average of almost three weeks after the previous appointment. The average time to first and second clinic appointments by hospital is included in Fig. 26 in the Appendix.

Fig. 17: Time to first clinic appointment by hospital

* GRI’s data is predominantly time to the first virtual review

Elgin’s data is based on only nine patients.
Redesign Element Four - Free-up time and reinvest it

The redesigned pathway will result in a significant reduction in the number of patients attending fracture clinics. Those who do need to attend are doing so because ‘something needs to be done’ and can be seen by the most appropriate specialist. The option to depend on juniors and trainees to see large volumes of fracture patients is reducing. The redesigned pathway gives very good teaching and training opportunities in the virtual clinic setting.

Fig. 18 enables hospitals to consider options to change the staff mix seeing patients at fracture clinics. Note that in several hospitals pre-clinic meetings with a consultant and juniors take place. New ED referrals will therefore have a consultant’s opinion in terms of diagnosis and management even though the patients are actually seen by more junior staff.

Fig. 18: Clinicians seeing patients in unscheduled care Orthopaedic clinic

<table>
<thead>
<tr>
<th>Percentage of patients</th>
<th>Ayr</th>
<th>Crosshouse</th>
<th>BGH</th>
<th>DGR I/GCH</th>
<th>Fife</th>
<th>Forth Valley</th>
<th>Aberdeen</th>
<th>Elgin</th>
<th>GRI</th>
<th>WIG</th>
<th>RAH/VOL</th>
<th>Raigmore</th>
<th>Hairmyres</th>
<th>Monklands</th>
<th>Wishaw</th>
<th>RIE/StJohns</th>
<th>Ninewells</th>
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* GRI data includes seniority of staff reviewing patients in virtual clinics.

Where patients were seen by several clinicians this chart shows the most senior clinician. ESP/NP includes 5 patients seen by physician’s assistants or arthroplasty practitioners.

The only difference in staff seniority between new and return appointments appeared to be that in the four hospitals that used ESP/NPs, patients were more likely to be seen by ESP/NPs at return appointments (22% of patients) compared to new appointments (13% of patients).

Reinvestment of Time

It is up to each Board and clinical team to negotiate how the freed-up time will be reinvested. At those hospitals that have implemented some or all of the elements of redesign the freed-up time has been reinvested as follows:

- Out patient sessions converted to operating sessions.
- More time to spend on the patients who ‘need something done’.
- More time to concentrate on specialist services (e.g. a consultant who runs the regional external fixator frame service now has more time to concentrate on this service).
- More time to implement other improvements such as Enhanced Recovery Hip and Knee Schools for patients.
APPENDIX

Demographics:

Fig. 19: Age of ED patients listed to attend Orthopaedic-run unscheduled care outpatient clinics

![Bar chart showing age distribution of ED patients attending Orthopaedic clinics]

Emergency Department data:

Fig 20: Referring diagnosis from ED

![Pie chart showing injury distribution from ED]

Please note that this was the injury that the patient was diagnosed with in ED, and may include suspected injuries which were later confirmed as an alternative diagnosis. A small number of patients had more than one injury noted, usually fractures in combination with another injury. These are all included as fractures.
**Time of presentation to ED**

Forty percent of patients presented at ED during weekday working hours, 24% on weekday nights and 36% over the weekend (Fig. 21).

**Fig. 21: Time of presentation to ED departments**

![Bar chart showing the percentage of patients presented at ED during different times of the week, with categories for Weekday, day (9-5, excl Fri), Weekday, night, and Weekend (Fri 5pm to Mon 9am).]

**Specialties and grades of staff seeing patients in ED**

In most hospitals ED clinicians saw all but a few of the patients who were later referred to unscheduled care outpatient clinics (Fig. 22). In some hospitals emergency cover is shared with orthopaedics. On average 7% of patients were also or instead seen by an orthopaedic clinician in ED, but this was as high as 27% in some hospitals.

**Fig. 22: Specialties seeing patients in ED**

![Bar chart showing the percentage of patients seen by different specialties, with categories for ED specialty only, Orthopaedics only, ED and Ortho, and Not known.]
On average, 10% of patients were seen by a consultant (Fig. 23). Staff grades, associate specialists or GPWSIs were most senior for 10% more of the patients referred onto clinics, and a further 36% were seen by specialist trainees or less senior grades. The remaining 44% were seen by NP/ESPs. As only 7% of patients were seen by orthopaedic staff in ED (Fig. 22), Fig. 23 mainly reflects the grade of ED clinicians seeing the patients. However, when both ED and orthopaedic staff saw a patient (6% of all patients), the orthopaedic clinician was usually more senior (62% of 117 patients where grades known in both specialties, most frequently ED NP/ESPs with orthopaedic doctors; 23% of patients were seen by similar grades of ED and orthopaedic staff, 15% of patients were seen by a less senior orthopaedic grade). 56% of the patients who were seen by an orthopaedic clinician in ED were seen by a specialist trainee, although grades of orthopaedic staff varied between units. Only 15 (1%) patients were seen by an orthopaedic consultant in ED.

Fig. 23: Clinician seeing patient in ED – any specialty

![Clinician seeing patient in ED – any specialty](image)

Data refers to the most senior clinician to have seen the patient irrespective of specialty.

Although there was considerable variation in patterns between hospitals, consultants were more likely to have seen patients if the patient had presented during working hours (Fig. 28). NPs/ESPs were also more likely to have been the most senior clinician involved in the patient’s ED care if the patient had presented during working hours (51% of Monday to Friday 9-5 patients, compared to 35% on weeknights or 41% at weekends). Weeknight and weekend presentations had mostly been seen by non-consultant doctor grades, especially specialist trainees. There was no national time-related pattern in whether or not patients were also seen by orthopaedics in ED, but this may have varied locally.

Fig. 24: Seniority of staff in relation to time of ED presentation

![Seniority of staff in relation to time of ED presentation](image)

Data refers to the most senior clinician to have seen the patient irrespective of specialty.
Plaster cast management in the unscheduled care outpatient clinics

Fig. 25: Plaster Cast management in Orthopaedic clinics – Return Patients

58% of GRI ‘return’ patients were those attending their first physical appointment.

Clinic Appointment Timing

Fig. 26: Average time to first and second clinic appointments by hospital

GRI’s ‘new patient’ data is predominantly time to the first virtual review; most second GRI ‘visits’ will therefore be the first physical appointment.

Raigmore ‘return’ patients are seen in general orthopaedic OPAs and were not identified for this audit.