Appendix C: Examples of good practice in the NHS across the elective care pathway

This appendix provides examples of good practice observed at each stage of the orthopaedic or ophthalmic elective care pathway at the following NHS foundation trusts and trusts:

- The Newcastle Upon Tyne Hospitals NHS Foundation Trust
- The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust
- Sunderland Eye Infirmary, City Hospitals Sunderland NHS Foundation Trust
- Moorfields Eye Hospital NHS Foundation Trust
- South West London Elective Orthopaedic Centre, Kingston Hospital Foundation Trust
- Royal Devon and Exeter NHS Foundation Trust
- The Royal Orthopaedic Hospital NHS Foundation Trust
- Worcestershire Acute Hospitals NHS Trust

These were chosen to represent a range of provider types in the NHS – large teaching hospitals, small district general hospitals and specialist centres.

Information was gathered during site visits and interviews with management staff and clinicians.
Good practice examples are organised around the nine improvement opportunities in the patient pathway

<table>
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<th>Optimised care pathway</th>
<th>First specialist input</th>
<th>Outpatient care</th>
<th>Inpatient pre-operative care</th>
<th>Surgery</th>
<th>Inpatient post-operative care</th>
<th>Follow-up post discharge</th>
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<td></td>
<td>Nurse/allied health professional (AHP)-led follow-up for routine patients and level of follow-up aligned to patients risk profile</td>
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</table>
**1 Stratification of patients by risk**

The Royal Orthopaedic Hospital NHS Foundation Trust

**Rapid assessment pathway**
A band 5 nurse and healthcare assistant carry out initial assessment to determine if a patient needs a full preoperative assessment. The patient is categorised under a red/amber/green (RAG) system.

- **Patient is sent for full preassessment and anaesthetic review**
- **Patient is sent for full preassessment**
- **Patient is discharged home until day of surgery**

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**Key performance measures**
- Reduction in late cancellations due to patient fitness
- Reduction in patients requiring full preoperative assessment – conversion of amber patients to green patients
- Time to process notes – ultimate target <3 days

**Enablers**
- Nurses, after receiving training, able to filter patients effectively (e.g., training in cardiovascular medicine, dementia, electrocardiography, interpreting blood results)
- Separation of administrative tasks from clinical decision-making
- Dedicated anaesthetic resource
- Continual monitoring of patients assigned to each RAG rating
Streamlined diagnostics and treatment, and extended roles within outpatient procedure team

The Newcastle Upon Tyne Hospitals NHS Foundation Trust
Hub-and-spoke model (three sites with two further spoke sites opening in 2015)

One-stop clinic for diagnosis, assessment and treatment of wet AMD

Urgent referral from optician

Walk-in at ophthalmology A&E (triaged to wet AMD clinic)

GP referral

AMD patients returning for follow-up injections

Check-in at Ophthalmology OP reception

Vision test and eye drops
Specialist nurse

Photography
Medical photographer

Assessment of images, consultation and eye exam
Ophthalmologist or specialist nurse or optometrist working within consultant-led clinic

Anti-VEGF treatment
Specialist nurse (~70%) in ‘clean room’

Bottleneck if insufficient OCT equipment

Bottleneck if insufficient suitable space (or trained staff)

Key performance indicators
• 25 injections per 4-hour clinic
• ~7 new patients/week
• ~225 injections/week
• 55% OP/injection conversion rate

Enablers
• Electronic health record (Medisoft)
• Trained specialist nurses (two FTEs initially; two further added in 2015)
• Well-designed clinic estates

~2 hours total patient time in clinic
- less time required during twice-monthly Saturday wet AMD-only OP clinics

ECLO, eye clinic liaison office; OP, outpatient; OCT, optical coherence tomography; FTE, full-time equivalent; VEGF, vascular endothelial growth factor; AMD, age-related macular degeneration
1 Similar pathway for diabetic retinopathy and retinal vein occlusion
2 Accelerated pathway for follow-up patients – if vision test and nurse assessment suggest no further issues, patient goes straight to treatment during the standard course of treatment. Further assessment required if issues raised or new treatment cycle frequency needs to be determined

Sources included Medisoft data
Streamlined diagnostics, outpatients and preassessment

**Sunderland Eye Infirmary**  
City Hospitals Sunderland NHS Foundation Trust

### Outpatients: standardised pathway

- Entire outpatients episode takes about an hour
- Dedicated ophthalmic nurses with extended roles
- First appointment includes OCT/fluorescein and assessment – occasionally injection on same day (aim is one-stop shop)
- Standardised outpatient pathway now being delivered at multiple sites

#### Key performance measures

- Turnaround time
- Time between tests/assessments
- AMD clinic: 18 patients seen per clinic session per consultant compared to NHS average of 10 to 12
- Cataracts: 15 patients per day per consultant compared to NHS average of 10 to 12

#### Enablers

- Streamlined estates for cataracts
- Twin vision stations in macular unit
- Expanded roles
- Culture within hospital

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OCT, optical coherence tomography; AMD, age-related macular degeneration; HCA, healthcare assistant
Moorfields Eye Hospital NHS Foundation Trust

Virtual clinics for diagnosing and managing glaucoma

Patients undergo diagnostic imaging in a dedicated facility separate from the consultant-led glaucoma clinic

iPads in remote community clinics with a purpose-built application are used to capture metrics associated with glaucoma assessments

Patient data are messaged securely to the Moorfields OpenEyes patient record system

These images and other biometry are reviewed remotely by a consultant and a decision taken on the best clinical management plan for the patient

“Virtual clinics are a way of improving living with glaucoma by reducing the patient’s need for regular travel to a central hospital and freeing up more of the consultant’s specialist time to concentrate on treating the patient’s condition.”

Bill Aylward, Consultant Ophthalmologist

Key performance measures

- Proportion of patients diagnosed with glaucoma in virtual clinics
- Number of patients reviewed per 4-hour session

Enablers

- Secure and reliable ICT infrastructure
- Patient satisfaction despite less face-to-face time with ophthalmologist
2 Streamlined diagnostics, outpatients and preassessment

Worcestershire Acute Hospitals NHS Trust

Worcestershire Glaucoma Support Group

Key performance measures

- Number of patients attending support group meetings
- Number of people visiting website and videos

Enablers

- Dedicated support group team
- Local media/social media
- Local population

- Provides patient-to-patient interaction and networking – improves the patient experience
- Provides access to up-to-date information regarding available treatments and enables patients to share experiences about them
- Videos featuring the consultant ophthalmologist and nurse explain the diagnosis and how to care for eyes at home
- If patients access educational materials before seeing a specialist, time can be saved in outpatients and outcomes can be improved

\(^1\) www.worcestershireglaucomasupport.co.uk/
Specialisation and extended roles within theatre team

Royal Devon and Exeter NHS Foundation Trust

Local anaesthetic provided by anaesthetic physician assistants

- Majority of cataract surgery in UK is carried out under topical or sub-Tenon’s anaesthesia
- Topical is likely to be more cost-effective as no anaesthetist is required but not suitable for all patients (not always possible to predict preop)
- Sub-Tenon’s (+/- sedation) may give better patient experience
- Anaesthetist may improve patient flow during list

- At Royal Devon and Exeter cataract sessions covered by anaesthetic physician assistants (band 7 – ~1/3 cost of consultant)
- Initially, only straightforward cataract surgery (no sedation), ‘allowed’ under RCOphth guidelines 2012
- Now expanding anaesthetic physician assistant remit to include more complex cases, glaucoma, etc, and administration of IV sedation when needed (outside RCOphth guidelines)

Key performance measures

- No difference in quality of block, complications or patient satisfaction compared to consultant anaesthetist (shown by audit)

Enablers

- Availability of anaesthetic physician assistant (~100 in UK). Could use nurse practitioner as alternative
- Local training programme, protocols and supervision
- Local governance and risk arrangements
Specialisation and extended roles in theatre or outpatient procedure team

Moorfields Eye Hospital NHS Foundation Trust

Senior nurses trained to deliver injectable treatments\(^1\) for neurovascular AMD

- NICE-recommended therapy for AMD\(^1\) requires that each patient receives 4 to 6 anti-VEGF injections/year for up to 2 years
- Insufficient ophthalmologist workforce to meet demand
- Extended roles for nurses within ophthalmic care already included: substitute for ophthalmic surgeons in some treatments, eg laser capsulotomy treatment
- Using nurses allows the service to become a ‘one-stop’ service where the injection is given on the same day the decision is made
- Senior (band 7, but can be band 6 or 5) nurses trained to deliver IVT
- This innovation has increased volume of IVT delivered at Moorfields by 50%; with ~50% provided by nursing staff

Key performance measures

- 50% of IVT procedures for AMD delivered by nursing staff (up to 99% in other sites)
- No differences in safety/quality of care
- Overall volume of IVT procedures for AMD has increased by 50%

Enablers

- Training programme for specialist nurses
- Supporting protocols, governance and supervision
- Supporting legal framework to address drug licensing requirements and litigation risk

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\(^1\) Ranibizumab and aflibercept
AMD, age-related macular degeneration; IVT, intravitreal therapy; NICE, National Institute for Health and Care Excellence

Extended roles in theatre team

The Newcastle Upon Tyne Hospitals NHS Foundation Trust

Dedicated anaesthetic team

• Dedicated orthopaedic anaesthetic block room piloted in November 2014:
  o prepares patient for surgery while preceding patient on the list is in theatre
  o dedicated orderly and clean team (two HCAs) included in the block room team
• Operational outcomes from the pilot:
  o handover time reduced from 45 to 10 minutes
  o additional patient on most lists
• Financial costs and impact:
  o implementation costs:
    – £422k staffing
    – £141k capital equipment
  o estimated additional income: £2.2 million
• Pilot was funded substantively by increasing activity and throughput in theatres

Key performance measures

- Reduced turnaround times
- On-time starts and finishes
- Increased activity and through flow
- Improved efficiency
- Reduction in patient waiting times

Enablers

- Adequate resourcing
- Ring-fenced orthopaedic beds
- Ring-fenced anaesthetic theatres
- MDT process and buy in

HCA, healthcare assistant; MDT, multi-disciplinary team
Sunderland Eye Infirmary: cataract surgery
City Hospitals Sunderland NHS Foundation Trust

Optimised scheduling and management

### Sunderland Eye Infirmary: cataract surgery
City Hospitals Sunderland NHS Foundation Trust

#### Key performance measures
- Eight cataracts per 4-hour list (average)
- Improvements in:
  - theatre utilisation
  - turnaround time
  - cancellations
  - on-time starts

#### Enablers
- Discrete, purpose-built unit with dedicated theatres, patient preop waiting room and recovery room co-located
- Two scrub nurses per list: one assisting in surgery and one setting up for the next case

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**Annual plan**

20 lists/week dedicated to cataracts

Four lists include an anaesthetist for patients requiring nerve block or sedation; all other lists use eyedrops

Separate teaching lists (9/week) and service lists¹ (11/week)

Teaching lists have six cataracts/list

Service lists have 10 to 12 cataracts/list

No parallel lists

**Scheduling**

Schedule based on individual surgeon’s speed (eg 5 cataracts per list for some surgeons, 12 per list for others)

Complex cases directed to specific consultants

No simultaneous cataract surgeries performed

**Day of list: preop lounge**

Staggered starts: patients arrive 30 to 60 min before procedure

**Preop preparation**

Four primary nurses per list allocated to two patients per list. Perform preop check in, preop preparation, present in theatre, postop recovery and discharge minimizing handover and improving turnaround time

**Theatre**

**PACU**

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PACU, post-anesthesia care unit

¹ Non-teaching list
South West London Elective Orthopaedic Centre (SWLEOC)
Kingston Hospital NHS Foundation Trust

Surgeons receive individual performance reports

- Individualised performance reports for clinical outcomes prepared annually for each surgeon
- Surgeons are gently incentivised to improve outcomes
- SWLEOC overall clinical outcomes report prepared annually, with information on how each surgeon has benefitted overall outcomes

Chart shows outcomes (ALOS) for knee patients of surgeon A (REF) compared to centre average (ALL) and hypothetical performance for centre if surgeon A excluded (excluding REF)

Key performance measures

- Average patients per list
- Efficient use of theatres
- Complications
- Oxford Orthopaedic scores
- Euroqol health outcome scores
- Patient satisfaction
- Length of stay

Enablers

- Second largest outcome database of its kind globally
- This is now web based
Worcestershire Royal Hospital
Worcestershire Acute Hospitals NHS Trust

Purpose-built, streamlined infrastructure optimises flow of patients for eye surgery

- Dedicated preop waiting room next door to anaesthetic room
- Ring-fenced theatres situated next door to both anaesthetic room and recovery room. Flow is therefore very efficient, with the physical layout following the treatment pathway
- Quick theatre turnaround time (~5 min)
- Compact layout of rooms and theatre minimises transfer times/delays
- Theatres have capacity for patients to be wheeled in and out, rather than walking out – improves patient experience

Key performance measures

- 5-min theatre turnaround time

Enablers

- Worcestershire has purpose-built, ring-fenced ophthalmology theatres designed around the patient pathway
- Tools to measure theatre utilisation time, start times, etc
Surgical teams incentivised to use theatres efficiently

Royal Devon and Exeter NHS Foundation Trust

Formula 1: Performance management for theatre utilisation

- Formula 1 is a theatre system that collects outcomes and measures theatre efficiency
- Monthly reports on performance of individual surgeons/lists are used to incentivise productivity

F1 Monthly Summary Report  Specialty: OPH

Clinical Lead: Mr M Smith
Cluster Manager: Greer Husband

Top 3 Cancellations %

Q3 13
- PT DNA or cancelled operation: 51%
- Medical canc - Pt unfit: 32%
- Unknown: 14%

Q4 13
- Patient DNA or cancelled operation: 55%
- Medical cancellation - patient unfit: 36%
- Unknown: 8%

Q1 14
- Patient DNA or cancelled operation: 54%
- Medical cancellation - patient unfit: 35%
- Unknown: 7%

Q2 14
- Medical cancellation - patient unfit: 43%
- Patient DNA or cancelled operation: 36%
- Unknown: 13%

Q3 14
- Medical cancellation - patient unfit: 49%
- Patient DNA or cancelled operation: 36%
- Unknown: 12%

Planned List Times

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<th>Start</th>
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<td>AM</td>
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</tbody>
</table>

% List Starts (> 30 mins)

- Over 30 mins: 10%

% List Starts (> 15 & <= 30 mins)

- 15 to 30 mins: 40%

% List "on-time" Starts (< 15 mins)

- Under 15 mins: 50%

Distribution of List Finishes relative to Planned Finish Time

- 60-90 mins: 20%
- 90-120 mins: 80%

% List in Time Band

- On-time: 80%
- > 60 mins late: 10%
- > 30 mins late: 10%
- 60-30 mins early: 10%
- > 60 mins early: 10%

Percentage of Patients cancelled after PLATO listing

- 0%
- 5%
- 10%
- 15%
- 20%
- 25%
- 30%

Breakdown of Potential "Unused Time"

- Average Underrun
- Average Excess Turnover
- Average Start Delay

Key performance measures

- Start and finish time
- Cancellation data
- Session and logistic data
- List utilisation data

Enablers

- IT systems
- Team ‘buy-in’
Surgical teams incentivised to use theatres efficiently

Worcestershire Royal Hospital
Worcestershire Acute Hospitals NHS Trust

Surgeons have targets for number of procedures per list

- Targets of cataract procedures per surgeon per 4-hour list: eight (two complex + six simple cases)
- When the target is met, the surgeon (and surgical team) may finish early and are allowed a break – to ensure quality of care and to avoid fatigue

Key performance measures

- Average cataract patients per 4-hour list: 7.6 (June 2012)

Enablers

- Small team culture with strong focus on effective use of resources
- Specialist, experienced multi-disciplinary team
Standardisation of ward care and enhanced recovery

The Newcastle Upon Tyne Hospitals NHS Foundation Trust

Patient education before and after surgery

- Arthroplasty team work with patients prior to surgery to set expectations for postoperative journey, including length of stay. All patients receive:
  - an education session before admission; held on the ward to which they will be admitted
  - joint pathway patient guide for hip or knee replacement; to be used before, during and after joint replacement
  - expected length of stay (aim for 3 days but at present mostly 5 days)
  - goals
  - postoperative exercises
- Patients are given a ‘discharge wallet’ with information on:
  - what the patient must do before leaving hospital (dos and don’ts)
  - the district nursing service
  - Friends and Family feedback card
  - follow-up appointment
  - numbers to call for advice or information, or to make a complaint

Key performance measures

- Patient education
- Reduced risk of infection
- Management of pain to aid recovery
- Average postoperative length of stay 3 to 5 days
- Patient feedback to change practice

Enablers

- Patient guide booklets
- Multi-disciplinary team approach
- Dedicated orthopaedic discharge team
- Discharge booklet
- Helpline with arthroplasty specialist nurses
Low readmissions and complications

South West London Elective Orthopaedic Centre (SWLEOC)
Kingston Hospital NHS Foundation Trust

Infection control processes

• **Preadmission**: all patients screened for infection before admission and risk factors addressed by preassessment nurse:
  - if an organism known to cause infection is identified, medication is prescribed before surgery to reduce potential complications
  - special precautions to prevent cross-contamination (if medical treatment is not an option)

• **In hospital**:
  - dedicated infection control group, infection control ‘champions’
  - dedicated surgical site surveillance nurse works with patients post-operatively to educate them on wound care and answer questions
  - annual training/updates for all staff
  - information boards in all areas (for staff, patients and visitors):
    - latest news, initiatives and information
    - latest audit data
  - hand wipes, information booklets and education for patients and visitors

• **Post discharge**:
  - dedicated phone line for patients to use post discharge if they have concerns about their wound or any aspect of their recovery

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Key performance measures

- Infection rates:
  - SWLEOC: 0.2%
  - national average: 1%
- Readmission rates

Enablers

- Ring-fenced beds
- Local culture
- Access to microbiology team
The Royal Orthopaedic Hospital NHS Foundation Trust

Bone Infection Unit (BIU) founded March 2012 – a specialist team for the treatment of bone, joint and spinal infections

- Before the introduction of the BIU, all patients received 6 weeks of IV antibiotics as an inpatient and treatment of patients with and without prosthesis did not differ
- Under the care of the BIU, a patient-specific plan is made – all patients receive 2 weeks of IV antibiotics in hospital and then are managed with oral antibiotics through a specific tailored plan
- BIU is made up of a multidisciplinary team including:
  - tissue viability and infection control nurses
  - consultant microbiologist
  - consultant orthopaedic surgeon
  - infection control specialist nurse
  - antimicrobial pharmacist
  - ROCS (Royal Orthopaedic Community Scheme)
- Unit has the support of the senior leadership team through the medical director
- Operates as a ‘virtual unit’ – manages patients in the hospital and the community. The BIU offers home visits post discharge through ROCS, and patient satisfaction with the service is high
- Tertiary referral centre

Key performance measures

- Average patient bed days (for these patients) have reduced by 4 weeks as a result of the new approach
- Improved patient satisfaction that treatment is managed in the home environment
- Increased demand from tertiary referrals
- Consideration is now being given to the creation of a national registry

Enablers

- Appropriate and early management of surgical site infections (SSIs)
- ROCS team support
- Clinical autonomy in the management of the unit
- Wound infection helpline
- Dedicated analyst and epidemiologist, and MDT approach
The Robert Jones and Agnes Hunt Orthopaedic Hospital (RJAH)

- Within 28-day readmission rates at RJAH:
  - five patients readmitted as an emergency within 28 days of initial discharge in April 2015:
    - four required treatment for wound issues
    - one required an urgent MRI
  - equivalent to a rate of 0.88%
  - this rate excludes day case patients and patients with certain cancer diagnostic codes (in line with national guidance)
  - if readmissions to all/any trust are included, the readmission rate is 6.63% (which is still low compared to other specialist orthopaedic trusts)

- Reasons for low readmission rates at RJAH:
  - wound nurse/clinic
  - secretaries provide rapid access review for consultants
  - patients are not discharged until stabilised

Healthcare Evaluation Data (includes readmission to any trust)

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Monthly board metric: readmission rate for RJAH only

- YTD
  - 01/04/2012: 0.90
  - 01/05/2012: 1.22
  - 01/06/2012: 1.37
  - 01/07/2012: 0.43
  - 01/08/2012: 0.76
  - 01/09/2012: 0.64
  - 01/10/2012: 0.86
  - 01/11/2012: 1.87
  - 01/12/2012: 0.35
  - 01/01/2013: 0.48
  - 01/02/2013: 0.82
  - 01/03/2013: 1.04
  - 01/04/2013: 0.88

8 Low readmissions and complications
**Worcestershire Acute Hospitals NHS Trust**

**Approach to bilateral cataract surgery**

**Streamlined four-step process**

1. One stop pre-op assessment
2. 1st eye cataract surgery
3. 2nd Eye Surgery
4. Single Post op Follow Up

**2-4 weeks**

**4-6 weeks**

**4 weeks**

**Traditional six-step process**

1. Preop One stop cataract assessment
2. 1st Eye Surgery
3. Optometrist Follow Up at 4 weeks
4. Referral for second eye in Cataract assessment clinic (as New)
5. 2nd Eye Surgery
6. Optometrist Follow at 4 weeks

**Key performance measures**

In eligible patients (~80%):
- outpatient/surgery conversion rate increased two-fold
- follow-up of outpatients per surgery reduced by 50%

**Enablers**

- Supportive commissioners with long-term view on efficiency