Developing and evaluating nurse-led services in Orthopaedics

Dr Julie Santy-Tomlinson
Prof Rebecca Jester
Aims of our presentation

- To outline the development and evaluation of nurse-led services in orthopaedics and trauma
- To discuss the benefits of nurse-led services
- To explore some of the evidence for the efficacy of nurse led services in outpatient/ambulatory care
- To consider the training and education needs or nurses for nurse-led services
A little extra ...

• To congratulate all of my orthopaedic nursing friends for their amazing progress in the last 30 years in developing and sustaining nurse-led services for the benefit of orthopaedic patients

• To inspire you to continue to innovate in this way and others in the near and far future

• To encourage you to continue to collaborate internationally in this journey
The evolution of nurse led services

- Varied globally
- In the UK:
  - Pre-operative assessment clinics
  - ‘Joint schools’ & patient education sessions
  - Start of nurse led services circa 1990
- Nurse-led services internationally have mirrored the emergence of specialist and advanced nurse practice roles
A longer history
Drivers for nurse-led services:

‘nurse-led’ or ‘patient centred’?

- Increasing chronic and age-related health conditions
- Increasing demand for and cost of health services
- Increasing amount of ambulatory/outpatient care
- Telehealth services
- Higher levels of nursing education and skill
- Need for patient-centred and holistic interdisciplinary health care
Examples of nurse-led services in the UK

- Follow-up review following elective procedures such as THR/TKR
  - Face to face or virtual
- Chronic wound services
- Back pain services
- Hip dysplasia in infants
- Trauma nurse co-ordinators
- Advanced Nurse Practitioners
- Fracture clinic follow-up
- Fracture liaison services
- Surgical Care Practitioner (e.g. carpal tunnel)/Nurse Consultant
Benefits of nurse-led services

- Holistic approach to assessment and care
- Enable medical colleagues to deal with more complex patients and new referrals
- Cost effective as nurses cost less than medical staff
  - evidence for this uncertain
- Opportunities for nurses to:
  - Further develop their skills,
  - Competencies and
  - Scope of practice
- Retention of experienced, highly qualified nurses in clinical practice
Are nurse led services effective?

- Nurse practitioner consultations are comparable to those of medical doctors within a secondary care environment in terms of correct diagnoses and therapeutic treatments (1)

- Nurse-led paediatric clinic for hip dysplasia reported high levels of acceptance of the service and 100% of parents being highly satisfied or satisfied - also improved waiting times (2)
Some case studies: outpatient/ambulatory care
1. Arthroplasty follow-up
Nurse-led follow up replaces consultant outpatient clinic

Mark Williams, Clare Taylor, Ashraf Awad, Michael Hockings, Mark Ashworth

Published Online: 4 Apr 2018 | https://doi.org/10.12968/bjhc.2018.4.191

Abstract

Increasingly, hospitals are adopting a nurse-led follow-up service (NLFU), aimed at improving post operative community care following total hip/knee arthroplasty. This article hypothesises that it is feasible for NLFU services to replace traditional 6-week consultant-led hospital follow-up. The experience of implementing domiciliary 6-week NLFU, an approach previously unreported by any other UK centre is reported upon. This article presents the NLFU pathway protocol and a retrospective analysis of total hip arthroplasty (n=347) and total knee arthroplasty patients (n=356) the year after its introduction in September 2015. The pathway's utilisation, safety, and patient satisfaction from a postal survey are detailed. During the study period, the 6-week NLFU pathway utilisation rates were 30% for total hip arthroplasty (n=103) and 27% for total knee arthroplasty (n=96). NLFU was deemed safe, with a 10% re-referral to consultant clinic rate and no reported adverse outcomes related to process. Patients reported high levels of satisfaction. This article demonstrates that domiciliary NLFU at 6 weeks provides a feasible follow-up mechanism for primary hip and knee total joint arthroplasty, with high patient satisfaction levels. This offers clear benefits to healthcare Trusts in reducing follow-up appointments, in turn releasing capacity for new referrals and freeing staff for other duties.
2. Fracture liaison
Secondary fracture prevention

• Sustaining a fragility fracture is the signal that another or more fractures will occur and so health care that is known to prevent greater than 40% of the re-fractures must be instigated

• No one professional group takes responsibility for identifying and treating this patient group

• As people with fragility fracture are not advised of their high potential of having osteoporosis, they never report this condition in surveys, so the subsequent population numbers of those with osteoporosis is reported erroneously to be low

• Coding in health records is poor due to clinical teams not using terms in their medical records that inform the coder to report fragility fractures

• A lack of international codes to use, even when the fragility fracture is identified
The need for fracture prevention services (FLS)

Cooper et al 2017

- Despite the ease with which the first fragility fracture can be identified, and effective drugs that reduce the risk of re-fracture, the remains a significant care gap

- The majority of patents with a fragility fracture are not tested or treated for the underlying cause, osteoporosis – it is estimated that only 20% of patients with fractures are treated appropriately
Aim to have processes in place that ensure each person who sustains a fragility fracture of any part of the skeleton:

• Is identified as requiring **organised care** aiming to prevent the next fracture

• Understands the need to **improve their bone health** and how this is achieved through their efforts in tandem with their health care team

• Has access to **investigation of their bone health** and understands precipitating factors that may make them susceptible to osteoporosis and further fractures

• Has **local access** to required medical and other care such as falls prevention services and exercise programs

• Their health teams in primary and secondary care **collaborate** to ensure person/family centred care working in tandem

• Is **followed-up** regularly long-term to support **concordance** with treatment with periodical medical review to ensure their treatment remains appropriate for them
Responsibilities of the Fracture Liaison Coordinator include:

• Being the **link** between people who access the service and the multidisciplinary team and health service in the hospital, but particularly in the community and especially primary care physicians, as well as facilitating and agreeing formal communication processes

• **Coordinating** a steering group to guide the service development over time

• Creating and maintaining **records** of assessment, treatment and outcomes with cooperation of the multidisciplinary team members

• **Lead** the development, implementation and evaluation of quality improvement projects to ensure on-going improvements of the service as required

• Support and encourage team members to extend their **knowledge** in contemporary fracture prevention through self-study and education
Development of fracture liaison services: What have we learned?

Kate E. Shipman\textsuperscript{a,\,*}, Alison Doyle\textsuperscript{b}, Hilary Arden\textsuperscript{b}, Tim Jones\textsuperscript{b}, Neil J. Gittoes\textsuperscript{c}

\textsuperscript{a}Department of Clinical Chemistry, Western Sussex NHS Trust, Chichester, UK
\textsuperscript{b}National Osteoporosis Society, Bath, UK
\textsuperscript{c}Centre for Endocrinology, Diabetes and Metabolism, Birmingham Health Partners & Department of Endocrinology, 3rd Floor Heritage Building, Queen Elizabeth Hospital, Birmingham, UK

\section*{Article Info}

Keywords:
Fracture liaison service
Osteoporosis
Vertebral
Hip
Development
Bisphosphonate
Frailty
Injury prevention
Fracture clinic
DXA

\section*{Abstract}

Due to dramatic improvements in life expectancy we are seeing a rapidly growing population of older people. Increasing frailty and susceptibility to fragility fractures are becoming pressing issues for both the individuals that suffer them as well as society, through pressures on health and social care budgets. The success of fracture liaison services, co-ordinated programmes enhancing the management of the fracture, osteoporosis, frailty and falls risk, is undisputed. To achieve optimal outcomes, however, it is important to have a standardisation of design, scope and structure of the service. Experience has taught us that by delegating responsibility for the holistic care of the patient to a trained and adequately resourced professional/team (fracture prevention practitioner) with clear standards against which benchmarking occurs, is the optimal model of delivery. Future challenges include how best to measure the success of services in imparting a reduction in fractures at a local population level as well as how to detect those patients with unmet need who do not uniformly present to health care services, such as those with vertebral fractures. The implementation of fracture liaison services however, is a clear demonstration of how collaboration between health care, social care and charity organisations, among others, has materially improved the health and well-being of the population.
3. Hip dysplasia
A satisfaction survey of a nurse led paediatric clinic for hip dysplasia in infants

Angela Lee MBE, BSc(Hons), RGN, RSCN, Clinical Nurse Specialist *

Summary

The needs of children are being more widely addressed and with this the use of skilled nurses to actively take on roles to aid clinical care. Nurse led clinics are developing and this paper aims to show its effectiveness to offer an alternative to the medical clinic approach offered to children within a UK District General Hospital environment.

A nurse led clinic was set up in Reading in 1998 to support the orthopaedic consultant in the care of children with hip dysplasia and free valuable medical time for the clinically more complex patients. The service sees approximately 1200 infants per year. A twelve question patient satisfaction survey showed that the nurse led clinic was able to see 80% of infants referred within 2 months, with only 6% waiting longer than 3 months. There was a significant level of acceptance for the service with 100% of participants being either very satisfied (67%) or satisfied (33%). The majority of parents (80%) were completely satisfied with the service and felt nothing more needed to be added.
“Twenty-five studies of 180,308 participants were included in this review. Of the 16 studies that measured and reported on health-related quality of life outcomes, the majority of studies (n=13) reported equivocal outcomes; with three studies demonstrating superior outcomes and one demonstrating inferior outcomes in comparison with physician-led and standard care. Nurse-led care demonstrated either equivalent or better outcomes for a number of outcomes including symptom burden, self-management and behavioural outcomes, disease-specific indicators, satisfaction and perception of quality of life, and health service use. Benefits of nurse-led services remain inconclusive in terms of economic outcomes.”
Top tips for setting up nurse-led services

• A clear business plan with good leadership:
  • Proposal outlining the rationale for the service including if it is replacing or an adjunct to an existing service or a new provision
• Involve stakeholders in setting up the services - checking need & acceptability
• Training/education needs analysis - ensure the practitioners delivering the service have the required knowledge, skills and confidence
Planning

- Developing protocols for specific procedures such as requesting and reviewing x-rays and scans
- Professional indemnity and vicarious liability issues
- Adequate resources in place to support the service:
  - equipment
  - availability of clinic slots and consulting rooms
  - support staff and administration
- Agree an evaluation strategy
Virtual clinics
The clinical and cost effectiveness of a virtual fracture clinic service

AN INTERRUPTED TIME SERIES ANALYSIS AND BEFORE-AND-AFTER COMPARISON

A. McKirdy,
A. M. Imbuldeniya
West Middlesex
University Hospital,
Twickenham Road,
Isleworth TW7 6AF,
United Kingdom

Objectives
To assess the clinical and cost-effectiveness of a virtual fracture clinic (VFC) model, and supplement the literature regarding this service as recommended by The National Institute for Health and Care Excellence (NICE) and the British Orthopaedic Association (BOA).

Methods
This was a retrospective study including all patients (17 116) referred to fracture clinics in a London District General Hospital from May 2013 to April 2016, using hospital-level data. We used interrupted time series analysis with segmented regression, and direct before-and-after comparison, to study the impact of VFCs introduced in December 2014 on six clinical parameters and on local Clinical Commissioning Group (CCG) spend. Student’s t-tests were used for direct comparison, whilst segmented regression was employed for projection analysis.

Main findings. The main findings of this study are that VFCs have led to: Fewer referrals to face-to-face fracture clinic (Figs 3 and 4), improved waiting times from referral to first orthopaedic review in clinic, ensuring more timely management decisions (Figs 5 and 6), fewer unnecessary referrals (Fig. 8) and non-attenders (Fig. 9) meaning more patients were saved the time and expense of travelling to hospital unnecessarily and saving the Trust £81 920 over 12 months through reducing missed appointments, and substantial financial savings of an estimated £129 885.67 per annum for the local CCG (Table III)
Education for nurse-led practice

- Assessment and examination
- Investigations
- Diagnosis
- Treatment
- Prescribing
- Evaluation and outcome measurement
- Professional conduct, law & ethics

- Academic level
What do we need to include in service evaluation?

- Patient experience/satisfaction:
  - are they the same thing?
- Patient outcomes:
  - PROMS
  - Incidence of complications
- Patient complaints/feedback
- Data:
  - Cost of the service and comparisons
  - Bed occupancy
  - Clinic capacity
  - DNA rates,
  - Re-admission rates (and causes)
  - Waiting times
- Impact on other services – community, primary care, social care
Evaluation strategy

- Based on evidence – review of the literature and agreed at the beginning of a new service
- Use of validated tools – may need permissions
- Is the evaluation strategy feasible?
- Does it include the whole team?
- Who will collect and analyse the data?
- How will the findings be reported & disseminated?
- How will the strategy influence future plans?
Nurses are such a large and powerful workforce, if they work together they can revolutionise the way health care is delivered.

They just need to believe that they are unrivalled in skill and knowledge.
Be brave
even if you're not,
pretend to be
soar
be bold. be brave. believe.