

Evolution of a Combined Orthopaedic/Orthogeriatric Hip Fracture Service in a District Hospital: Key Lessons Learned

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Purpose: Patients with hip fracture are increasing worldwide. Hip fracture care has evolved dramatically over the past 2 decades, to become more holistic and team-based. There is an increased awareness that timely, expert delivery of care can make a big difference to outcomes, complication and mortality risks. We chart our hip fracture patient service development, over the past 20 years. We aim for this to act as a guide to other departments in similar sized, non-teaching hospitals where funding and recruitment are a challenge. Our improvements have run in parallel with a number national initiatives.

Method: We have undertaken a number of prospective observational studies based around an Access database set up in 2000, following on from a paper-based dataset. The hip fracture dataset formed a key part of the department's clinical audit, and allowed the following studies: tracking demographic and numeric changes in our hip fracture population from 1996 to 2006 the efficacy of adding an orthogeriatric team to our hip fracture service in 2006 the stratification of hip fracture patients by clinical complexity quarterly 30 day mortality rate changes over a decade from 2006 to 2015.

Results: Our number of hip fractures has increased over 3-fold in 20 years, higher than the overall national increase. We noted a 50% drop in mortality following the introduction of an orthogeriatric team in 2006, significant reductions in time to surgery and patients being medically optimized ($P < 0.01$). We mapped an improving trend over time, until 2011, when it plateaued. Our clinical complexity analysis showed wide disparities in 30-day and 1-year mortality risk between our most straightforward and most complex patients ($P < 0.0001$) and no benefit from early surgery. We noted fluctuations in mortality, with consistent seasonal quarterly mortality spikes in colder weather.

Conclusion: Positive changes can be made in an individual unit independent of national or regional initiatives, using local data. The data can show the importance of local factors not be immediately considered, such as increased patient numbers, or worsening specific patient factors and longer term local trends. Our studies confirm the benefits of a multi-disciplinary team, the utility of a patient complexity score, the importance of consistent data collection and presentation of potentially uncomfortable data that may require culture change within departments, and likely gaps in the current dataset that we should address.