

Imaging is integral to meeting the ambitions of the Five Year Forward View

In 2014, Simon Stevens outlined his blueprint to change the health-care landscape over the next 5 years. The Five Year Forward View proposes solutions to help the NHS head off the perfect storm of financial austerity and budget pressures mixed with rising demand of increasingly complex clinical presentations and an ageing population (NHS England, 2014). Plans focus on timely diagnosis, increased efficiency, innovation and new models of care; imaging is central to these ambitions.

For decades imaging has been evolving, as has its value in an integrated health-care system. With initial diagnoses increasingly relying on it, imaging is often positioned between the patient and the resources the NHS can offer: radiological examinations tend to determine medical management. Efficient imaging services may translate to efficient use of medical resources. Imaging services have become crucial in economic gatekeeping, public health delivery and accelerating health innovation (Knechtges and Carlos, 2007). This editorial outlines the authors' thoughts on imaging being integral to the successful delivery of the ambitions of the Five Year Forward View.

Timely diagnosis

A recurring theme in the Five Year Forward View is faster and improved diagnosis. Delays in diagnosis and management of fractured hips lead to adverse outcomes and longer inpatient stays (Novack et al, 2007). Increasingly, imaging has become key to timely diagnosis, improving patient outcomes and cutting health-care costs. The extreme pressures on imaging services have so far stunted its potential.

Radiology departments are struggling to cope under the weight of unrelenting demand. The number of radiological examinations in England has been increasing year by year and is expected to rise to 51 million by 2025 (Centre for Workforce Intelligence, 2012). Currently, 330 000 patients are waiting more than a month for their X-ray results and a further 8000 for

their computed tomography and magnetic resonance imaging scan results (Royal College of Radiologists, 2015). This chronic deficiency in imaging services must be addressed if the objectives set out in the Five Year Forward View are to be achieved.

In planning 7-day service provision, access to imaging should be foremost in financial directors' minds. Delivery of affordable and sustainable 7-day care will not be possible unless we match resources and staffing to service.

Outsourced teleradiology has often been viewed as the silver bullet to meet increased imaging demands (Royal College of Radiologists, 2014). While it remains part of a solution, radiology must resist increasing commoditisation by better aligning itself with patient needs. The Five-Year Forward View leads a significant shift away from established thinking of large, centralized centres of care to a focus on integrating community and specialist care providers. Breast radiology has been trailblazing in patient-focused care. For example, the Rose Centre in south west London provides both symptomatic and screening services where worried patients can attend 'one stop' multidisciplinary clinics and receive imaging and diagnosis on the same day.

Changing the structure of radiology services

Imaging services are uniquely placed between hospital and community care. The prospect of multispecialty community providers would lead to an expansion of diagnostic services for greater patient convenience. However, this model cannot be implemented without better integration of imaging services. There must be a strategy for local community hospitals to manage resources and make optimal use of imaging technology to cope with a further increase in workload.

In line with recommendations of the Dalton review, the Royal College of Radiologists (2014) outlined plans for re-deploying imaging services to deliver high-

value health care, recommending networks of radiology sub-specialists working together to provide continuous care for larger populations. In line with the Five Year Forward View, delivering imaging through expert networks encourages challenge to the status quo of care being restricted to provisions within organizations and ensures better outcomes for patients as they receive expert opinion in a timely manner. The proposed networked model will need to be underpinned by strong technological capabilities. Relationships with hardware and software providers will need revisiting. Instead of the standard supply-and-demand business model, organizations need to form long-term alliances centred on patient outcomes. Philips recently signed a 15-year agreement with Georgia Regents worth US\$300 million, to provide and maintain equipment but to also improve patient care. Philips has entered into similar collaborative contracts with Karolinska University Hospital in Sweden.

Imaging and the national context

People over 65 years of age account for more than 2 million unplanned admissions each year (Imison et al, 2012). The growing elderly population will continue to put a strain on emergency services and patients will continue to endure the disruptive experiences of hospital admission. Imaging can help alleviate this burden. A study investigating the use of senior radiologists in assessing emergency patients found that radiological assessment allowed more patients to be discharged from the emergency admission ward (30% of patients assessed compared to 10% of patients not assessed), without affecting their outcome (Cochrane et al, 1998). It follows that strengthening the workforce and investment in imaging services can significantly lessen the emergency workload.

Integrated elderly services can also lead to more effective bed use. Hip fracture patients occupy more than 1 in 5 orthopaedic beds and without changes in osteo-

porosis management there will be more than 100 000 hip fractures a year by 2020. Outpatient imaging for osteoporosis identification and subsequent treatment could reduce fracture rates by about 50% (National Osteoporosis Society, 2009).

Community imaging is increasingly important in improving the quality of care for dementia. The ‘Prime Minister’s challenge on dementia 2020’ and the Five Year Forward View share an objective of increasing the proportion of people with dementia with a formal diagnosis from under a half to two-thirds. By 2025, approximately 1 million people with dementia will need magnetic resonance imaging scans to obtain this formal diagnosis (Alzheimer’s Society, 2015). A strategy is needed to improve access to imaging services for these patients to allow early detection and help close the diagnostic gap.

A similar integration of imaging services must be implemented in cancer care. The Five Year Forward View plans to focus on three fronts to improve cancer outcomes: better prevention, swifter access to diagnosis and better treatment and care. Imaging is crucial to each of these. Prevention depends heavily on medical imaging for early detection of precancerous lesions and cancers. In a study carried out over almost three decades, there was a 30% reduction in mortality among patients invited to mammography screening (Tabár et al, 2011). We must use the full potential of imaging to reduce cancer morbidity and mortality, and its associated costs, by investing in equipment and training required for screening programmes.

Despite the progress in cancer research and drug development in the past few decades, cancer survival in the UK remains below the European average. This discrepancy is in large part because almost half of cancer patients are diagnosed too late at a stage in which treatment is less likely to be successful (Cancer Research UK, 2014). To bridge this diagnostic gap, we must focus on imaging services. The Five Year Forward View makes specific mention of an ambition to improve the rate of early cancer diagnoses by 10%. There must be further investment in improving imaging services and access to diagnostic radiologists for both community and hospital-based clinicians to achieve this.

The Five Year Forward View also states an aspiration for 2% efficiency per year. Improved imaging services can help deliver

this. Cancer Research UK (2014) report that a case of ovarian cancer detected at stage one or two costs the NHS an average of £5328 to treat, whereas one detected at stage three or four is £15081. Similarly, treatment for a patient with colon cancer detected early typically costs £3373 while one not identified until a later stage costs £12519.

Conclusions

New models of care are needed to try to meet the ambitions of the Five Year Forward View. Imaging services need to be at the centre of these considerations to allow timely diagnosis, cost savings and a 7-day NHS. Imaging must be guided to the centre of the delivery of care to achieve better patient outcomes and organizational efficiency, and to ultimately deliver the NHS envisaged in the Five Year Forward View. **BJHM**

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KEY POINTS

- Imaging is key to timely diagnosis, improving patient outcomes and cutting health-care costs. The extreme pressures on imaging services have so far stunted its potential but new ways of working may enable us to better meet demand.
- The new NHS landscape outlined in the Five Year Forward View will require imaging services to be more closely aligned to patient needs and unconstrained to a single organization. Imaging infrastructure and contracting will need to be revisited to meet these requirements.
- Key national health policy objectives such as those for dementia and cancer are reliant on imaging. Immediate focus and investment in imaging services and staff will improve diagnosis and reduce pressure on the health service in the longer term.