

Reducing health inequalities in people with learning disabilities: a multi-disciplinary team approach to care under general anaesthesia

S. Clough,^{*1} Z. Shehabi² and C. Morgan³

VERIFIABLE CPD PAPER

IN BRIEF

- Raises awareness of inequalities in oral and general health in people with learning disabilities.
- Informs readers of the importance of multi-disciplinary care for this vulnerable group.
- Improves knowledge of the possibilities for joint management between specialties.
- Increases awareness of the financial and resource implications of a multi-disciplinary approach to care.

Background There remains significant inequality in health and healthcare in people with learning disabilities (LD). A lack of coordination and the episodic nature of care provision are contributory factors. Recognising the need to improve outcomes for this group, we evaluate a multi-disciplinary team (MDT) approach to care whereby additional medical procedures are carried out under the same episode of general anaesthesia (GA) as dental treatment for people with severe LD. This is the first published evaluation of its kind in the UK. **Aim** To evaluate the need and outcomes of an MDT approach to care among people with severe LD receiving dental treatment under GA. **Method** One hundred patients with severe LD and behaviour that challenges attended Barts Health Dental Hospital for dental assessment and subsequent treatment under GA. Details of failed or forthcoming medical interventions were determined. Where appropriate, care was coordinated with the relevant medical team. **Findings** Twenty-one percent ($n = 21/100$) had recent medical interventions attempted that had been abandoned, and 7.0% ($n = 7/100$) had future investigations or treatment planned under GA with medical specialties. An MDT approach was indicated in 28.0% ($n = 28/100$). For such complex cases, a successful MDT outcome was achieved in 89.3% ($n = 25/28$). This included ophthalmological/orthoptic, ENT and gastroenterological interventions in addition to medical imaging. **Conclusion** An MDT approach to care for people with LD offers improved patient-centred outcomes in addition to financial and resource efficiency. It requires a high level of cooperation between specialties, with consideration of the practicalities of a shared surgical space and equipment needs. Re-shaping of services and contractual flexibility are essential to support the future implementation of MDTs and to ensure long-term sustainability. Adoption of a holistic culture in the care of this vulnerable patient group is encouraged.

BACKGROUND

The Department of Health defines learning disability (LD) as a significantly reduced ability to understand new or complex information or to learn new skills, with a reduced ability to cope independently and an impairment that started before adulthood which has a lasting effect on development.¹ This can be described on a continuum, from mild to severe in addition to profound multiple learning disabilities.²

The recent 'Confidential inquiry into premature deaths of people with learning disabilities' (CIPOLD) highlighted significant inequalities in health and healthcare

among people with LD. This is reflected in the reduced life expectancy, with more than one in five people with LD dying before the age of 50 years.³

A number of causes of such inequality have been suggested, many of which are modifiable in modern society:⁴

- Increased risk of exposure to well established 'social determinants' of health, such as poverty and social exclusion
- Increased risk associated with specific genetic and biological causes of learning disabilities
- Communication difficulties and understanding of health issues
- Personal health risks and behaviours
- Deficiencies in access to and the quality of healthcare provision.

To fulfil its constitution,⁵ the NHS must deliver a high quality comprehensive service available to all. Service providers have a duty to promote health equality and to pay particular attention to vulnerable groups

where improvements in health and life expectancy are not keeping pace with the rest of the population.

CIPOLD³ stressed that people with LD experience delays in investigation, diagnosis and treatment. The lack of coordination and the episodic nature of care provision were highlighted as significant factors that contributed to the burden of ill-health and premature deaths seen among this group. As healthcare professionals, we have an obligation to evaluate the services available to people with LD and address such key issues. This is emphasised in the NHS Five Year Forward View,⁶ which describes new models of care and how healthcare professionals must work to eliminate the boundaries between different services, recognising that traditional divides are a barrier to the personalised health services that people need. One aspect of this vision is multi-disciplinary team (MDT) work.⁶ MDTs bring together staff with the necessary knowledge, skills and experience to ensure high quality diagnosis, treatment and care of particular

¹Specialist Registrar in Special Care Dentistry;

²Consultant in Special Care Dentistry; ³Consultant in Restorative Dentistry Barts Health Dental Hospital, Turner Street, London, E1 1BB

*Correspondence to: S. Clough
Email: stacey.clough@bartshealth.nhs.uk

Refereed Paper

Accepted 6 April 2016

DOI: 10.1038/sj.bdj.2016.378

©British Dental Journal 2016; 220: 533–537

conditions.^{7,8} This is not a new concept in healthcare, with application in the management of many patient groups, such as in Oncology, where MDT work has been shown to improve evidence-based clinical decision-making and overall quality of care through improved co-ordination of services and safeguarding against errors.⁸⁻¹⁰

It is well established that people with LD and behaviours that challenge experience a number of difficulties in accessing appointments and cooperating with medical assessment/interventions.^{3,11,12} From a dental perspective, the Royal College of Surgeons and British Society for Disability and Oral Health¹² acknowledges that a significant proportion of this group receive dental treatment under general anaesthesia (GA) and advises that a holistic approach to care should be taken where possible. This guidance implies not only a need for comprehensive oral healthcare, but also lends itself to include additional medical interventions under the same GA where appropriate.¹³

In this evaluation we review an MDT approach whereby medical procedures are delivered under the same episode of GA as dental treatment for people with severe LD and behaviours that challenge. All patients in this evaluation lacked capacity to make healthcare decisions. Where appropriate, family, carers, independent mental capacity advocates and a second appropriate healthcare professional were consulted to determine if the provision of the outstanding medical intervention under the same episode of GA as oral healthcare was in the patient's best interests.

METHOD

One hundred patients with a diagnosis of severe LD and behaviour that challenges attended Barts Health Dental Hospital between February 2014 and August 2015 for

initial dental assessment and subsequent provision of comprehensive oral healthcare under GA. During the assessment, details of failed medical interventions on an out-patient basis or forthcoming interventions planned under GA were documented in the patient's records. The relevant medical teams were informed of the forthcoming GA and attended on the day to complete investigations/treatment alongside the Dental specialty.

FINDINGS

Approximately 80 patients per annum with severe LD receive oral healthcare under GA through Barts Health Dental Hospital. In this service evaluation, 21.0% (n = 21) had previous medical interventions attempted that had been abandoned. Among this failed group, the most common reasons reported by family and carers were behaviour that challenges in the clinic (61.9%, n = 13) or failure to attend appointments (38.1%, n = 8) because of behavioural difficulties at home on the day. A further 7.0% (n = 7) of the patients overall had future investigations or treatment planned under GA with specialties other than dental.

Overall 28.0% (n = 28) of patients attending for dental treatment had unresolved medical needs. Table 1 shows that within this group, an MDT approach to care was possible in 89.3% (n = 25/28) of cases and included a comprehensive range of procedures. The most frequent MDT approach was dental treatment and eye assessment.

The operative time for dental treatment alone under GA is variable and based on the patient's comprehensive oral healthcare needs. However, to provide context for readers, an average time of 60 minutes is estimated per patient. The mean additional operative times for MDT approaches ranged from 10.0 minutes for short interventions

such as an ultrasound scan to 30.0 minutes for more complex procedures such as PEG change.

Although not specifically assessed in this evaluation, the authors found that family members/carers did not raise any objections and were very positive about this initiative. Similarly, staff from the medical specialties were understanding of the needs of this patient group and fully complied with the MDT approach as a demonstration of their support.

DISCUSSION

Multi-disciplinary team outcomes

People with severe LD often have communication difficulties and are restricted in their ability to express their needs,¹⁴ possibly only being able to manifest their pain through changes in behaviour, such as self-injury, avoidance of food or a change in sleeping pattern.¹⁵ Alternatively, a family member or carer may report a history of facial or intra-oral swelling as an indicator of possible dental infection. Of interest to the readers, as outlined in Table 2, 8.0% of those receiving MDT care (n = 2) patients in this evaluation had histories of self-injurious behaviours consisting of head hitting, yet oral examination under GA revealed no oral cause of pain. However, liaison with the Ear, Nose and Throat (ENT) team enabled a coordinated assessment, revealing one case of a middle ear infection and perforated tympanic membrane, while the second case had an auricular foreign body that was subsequently removed. This highlights how a flexible MDT approach to care for this group is essential to overall patient-related outcomes.

Although the risk of death is statistically low for treatment under GA,¹⁶ there is a significant level of undiagnosed disease among people with severe LD,^{4,17} with many

Table 1 Summary of medical interventions failed on out-patient basis or planned under GA

Specialty	Intervention	% Patients failed on out-patient basis	% Patients with future intervention planned under GA	Total % patients requiring MDT care
Ophthalmology / Orthoptics	Eye assessment	6.0 (n = 6)	2.0 (n = 2)	8.0 (n = 8)
Ear, nose and throat	Assessment and debridement	6.0 (n = 6)	0.0 (n = 0)	6.0 (n = 6)
Gastroenterology	Gastrosocopy	2.0 (n = 2)	2.0 (n = 2)	4.0 (n = 4)
Gastroenterology	Percutaneous Endoscopic Gastroscopy (PEG) change	0.0 (n = 0)	3.0 (n = 3)	3.0 (n = 3)
Imaging	Ultrasound scan	3.0 (n = 3)	0.0 (n = 0)	3.0 (n = 3)
Imaging	Magnetic Resonance Imaging (MRI)	2.0 (n = 2)	0.0 (n = 0)	2.0 (n = 2)
Imaging	Dual-Energy X-ray Absorptiometry (DEXA)	1.0 (n = 1)	0.0 (n = 0)	1.0 (n = 1)
Imaging	Plain radiograph	1.0 (n = 1)	0.0 (n = 0)	1.0 (n = 1)
	Total % patients	21.0 (n = 21)	7.0 (n = 7)	28.0 (n = 28)

Table 2 Summary of MDT interventions completed under GA alongside oral healthcare:

Team	Intervention	% Patients receiving MDT care	Mean additional operative time (minutes)	Patient-centred value
Ophthalmology/orthoptics	Eye assessment	32.0 (n = 8)	10.0	24.0 % (n = 6) Refractive errors diagnosed enabling corrective lens prescription. 8.0% (n = 2) Treatable cataracts diagnosed.
Ear, nose and throat	Assessment and debridement	24.0 (n = 6)	10.0	8.0% (n = 2) Non-dental causes of pain attributed to middle ear infection and foreign body impaction. 4.0% (n = 1) Tonsillar biopsy contributed to diagnosis of exclusion.
Gastroenterology	Gastroscopy	16.0 (n = 4)	15.0	16.0% (n = 4) Identified gastric and oesophageal mucosal changes due to gastric reflux. 8.0% (n = 2) gastric biopsies confirmed treatable H. pylori associated chronic gastritis.
Gastroenterology	PEG change	12.0 (n = 3)	30.0	12.0% (n = 3) Repeatedly blocked PEG tubes replaced to allow improved administration of feed, medication and hydration.
Imaging	Ultrasound scan	12.0 (n = 3)	10.0	12.0% (n = 3) Scans indicated due to menorrhagia and dysmenorrhoea with hirsutism. Contributed to diagnoses of exclusion.
Imaging	Plain radiograph	4.0 (n = 1)	10.0	4.0% (n = 1) Taken of ankle for patient who failed to cooperate with post-fixation radiograph and developed abnormal gait 6 months later. Radiograph showed displaced surgical plate requiring further intervention.

unknown co-morbidities that could increase the risk among this particular patient group. In addition, GA brings many common side-effects such as sore throat and nausea which can be distressing for patients.¹⁶ Therefore, by reducing the episodic nature of care through an MDT approach, such complications can be reduced for both patients and service providers.

Sustainability

There is significant patient-centred value in an MDT approach, however, financial and resource implications must also be taken into consideration.

The NHS has increased its expenditures by an average of 4% each year since its establishment¹⁸ due to raised demand for healthcare following the availability of more advanced medical treatments leading to increased life expectancy and survival of those with multiple medical co-morbidities.¹⁹ This has created a funding gap, with recent projections from The Nuffield Trust and NHS England suggesting that this could grow to £30 billion per year by 2021.¹⁹

Over the last 10 years there have been gradual changes in funding within NHS England.²⁰ There has been to a movement away from 'block contracts', where a healthcare provider would receive a lump sum payment to provide a service irrespective of patients treated or type of treatment delivered, towards 'payment by results'. The latter system can be considered as reimbursement of healthcare providers by commissioners for each patient treated based on the use of a tariff that links

a predetermined amount to a defined measure activity.²¹ However, this is a simplistic view of funding, which can vary nationally due to a number of influencing factors.

To meet this financial challenge, health services must be re-shaped to provide patients with the same or better quality and experience of care for less money.^{22,23} This will involve increased productivity within existing services through decreased running costs, reduced lengths of stay in hospitals and developing new ways of delivering care.²¹

The financial savings brought by an MDT approach to care are difficult to estimate. After consideration of improved use of resources such as staffing, equipment and materials, avoidance of addition to individual waiting lists with associated increased waiting times and the prevention of costs brought by failed appointments in outpatient settings, the savings are expected to be significant. However, it is important to recognise that under the usual NHS contractual arrangements, commissioners are only charged for the single most valuable procedure, irrespective of the number completed under the same GA. It could be argued that this approach will cost individual trusts more money in the long-term, as the expenses of the materials used for a second or third procedure to be carried out will not be recovered. In the authors' opinion, a contractual arrangement where a financial supplement is received for procedures completed through an MDT approach is essential to long-term sustainability.

In addition, such an innovative move in the delivery of healthcare should also be acknowledged in itself. Commissioning for Quality and Innovation (CQUIN) payments are designed to secure improvements in the quality of services, whilst also maintaining strong financial management by ensuring that a proportion of providers' income (up to 2.5%) is dependent on delivering service enhancement.²¹ Although specific national targets for the improvement of healthcare among people with LD do not exist at present, CQUIN guidance²⁴ explains that where commissioners and providers are seeking to radically change or improve services through new contracting and payment models, the national CQUIN rules may apply and a local CQUIN scheme may be available to providers which have chosen the Enhanced Tariff Option. This therefore offers some scope for local negotiation with commissioners in relation to further financial incentives to support the future provision of MDT approaches among this high priority patient group. This should be reinforced by robust local healthcare data, such as that derived from Joint Strategic Needs Assessments.²⁵

The recent Commissioning Guide for Special Care Dentistry²⁶ acknowledges the need for shared medical care, however, it does not specifically discuss an MDT approach to examination and treatment under GA. Therefore, careful local agreement with commissioners and establishment of a managed clinical network for clinical engagement and leadership are central to the sustainability of this approach.

It is also important to acknowledge that a significant proportion of people with LD are from low socio-economic groups.^{4,17} There are many hidden costs to healthcare that may be an additional factor contributing to the health inequalities observed among this group. In the authors' experience, this often includes the need for additional support at appointments, which may involve family members taking time from work, costs of public transport, or hospital car parking. Alternatively, such expenses may be absorbed by other aspects of the health and social care system through provision of carers and hospital transport services. Therefore, combining care wherever possible has inestimable financial benefits for both patients and service providers.

Practical considerations

Healthcare providers have a legal responsibility to adapt the way they deliver services for people with LD through 'reasonable adjustments' to ensure that services are as accessible and effective as they would be for people without disabilities.²⁷ It is important to ensure that opportunities for optimised specialist support are taken wherever possible.³ This includes expertise from the Learning Disability Team for co-ordination of the hospital encounter and involvement of those trained in clinical holding to support the patient appropriately during the induction of GA, where it is deemed in the patient's best interests.¹³

Table 2 shows the mean additional surgical times associated with various procedures alongside oral healthcare, highlighting the potential efficiency brought by an MDT approach. Although the time taken to co-ordinate MDT care was not specifically reviewed in this evaluation, in the authors' experience this can be significant and complex, particularly when there is more than one patient on the GA list with behaviour that challenges. In such instances, a flexible approach is required by all involved. For example, it may not be possible to determine the order of treatment until the day in view of behavioural support needs, or the patient may refuse premedication and the procedure becomes delayed. It is important that such information is communicated to members of the MDT to cause minimal disruption to their other clinical commitments and thereby maintain inter-professional relationships.

The Dental specialty is in an ideal position to lead this MDT approach due to availability of theatre facilities and the practical complexities brought by multiple items of dental surgical and radiographic equipment that may not be functional in all theatres. Therefore, it is important that all members

of the MDT are aware of equipment requirements for each procedure and ensure that this will be both available and functional in the designated theatre prior to the agreed date.

There may be limitations brought by GA as a treatment modality. For example, the quality of the abdominal ultrasound scans relies upon the presence of a full bladder as an imaging 'window' which may be compromised under GA if the bladder is empty, as the patient has been starved and possibly also passed urine to complete a dipstick pregnancy test prior to the GA where cooperation allowed.

From a surgical perspective, the head and mouth are a shared space and dental treatment may need to be halted when certain interventions are carried out, such as gastroscopy. However, this evaluation demonstrated that there was minimal disruption to treatment provision, with an average additional mean operative time of only 15 minutes for this procedure. When anatomy allows, it is possible to carry out interventions simultaneously on different parts of the body to ensure efficiency, such as PEG change with a surgical screen between the different operative sites to maintain cross infection control.

There are many additional MDT opportunities to those observed in this evaluation. It was not possible to achieve all interventions that had previously failed on an out-patient basis under GA (10.7%, n = 3). In these cases, patients required magnetic resonance imaging (MRI) or dual energy-ray absorptiometry (DEXA) scans. Due to the nature of equipment needed, it was not possible to complete the scans in a theatre setting that was physically compatible with dental equipment needs, however this may vary from one hospital to another.

Empowerment

The NHS Five Year Forward View⁶ highlights that as services develop, providers have an important role in empowering patients, families and carers in how healthcare is received. In order to achieve this, we must challenge current practice and seek to re-shape our services through policy development, alongside engagement with individuals to provide information in relation to the scope of MDT care that can be offered locally.

The long-term oral healthcare for the majority of this patient group will undoubtedly be provided by the Community Dental Service, therefore, strong links are essential between primary and secondary care providers to support empowerment, information sharing and coordination of care. Outside clinical services, engagement with voluntary sector partners in the wider community may also be advantageous.⁶

CONCLUSION

People with severe LD and behaviour that challenges have significant health needs, with many experiencing failed medical interventions on an out-patient basis. In this evaluation, one in five patients benefited from an MDT approach, offering increased financial and resource efficiency in the hospital setting. Difficulties were experienced at a practical level in terms of equipment suitability for theatres, however, overall, the level of cooperation between different teams caring for this vulnerable group was high.

This approach has been highly successful within Barts Health such that this has become embedded within the care pathway for patients with LD entering the hospital service through the ental specialty. Similarly, the MDT that has grown out of this work has led to strong inter-professional relationships such that Dental are now contacted directly by medical specialties regarding patients with behaviour that challenges who require other medical procedures, in order to ensure that joint care can be organised where appropriate under GA. The authors therefore encourage healthcare providers from all sectors to adopt a holistic culture in the care of this patient group.

The demand for coordinated care among this group will predictably increase with time. The potential impact on service providers is difficult to estimate, however, given the high patient-centred value offered through an MDT approach, it is essential for commissioners to consider investment and contractual flexibility to support the future implementation of MDTs and to ensure long-term sustainability.

Acknowledgements:

The authors dedicate this paper to the memory of Dr. Claire Sheppey, Consultant Anaesthetist at Barts Health. For many years she admirably provided us with her clinical expertise to allow treatment of our patients with learning disabilities. Without her support this work would not have been possible and we are indebted to her for this. Her sudden and tragic loss has had a significant impact on our team and everyone who knew her.

Thanks are also extended to Patricia Handley (Lead Nurse for Learning Disability) alongside the Anaesthetic, Learning Disability, Adult Safeguarding and Therapeutic Restraint, Orthoptic, Ophthalmology, Optometry, ENT, Gastroenterology, Imaging and Sonography teams.

1. Department of Health. *Valuing people: a new strategy for learning disability for the 21st century*. 2001. Available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/250877/5086.pdf (accessed November 2015).
2. British Institute of Learning Disability. 2015. *Information about learning disabilities*. Available online at <http://www.bild.org.uk/information/faqs/#What-is-a-learning-disability> (accessed November 2015).
3. University of Bristol. *Confidential inquiry into premature deaths of people with learning disabilities*. 2013. Available online at <http://www.bris.ac.uk/cipold/> (accessed May 2015).

4. Emerson E, Baines S. *Health inequalities Et people with learning disabilities in the UK: Improving Health and Lives: Learning Disability Observatory*. 2010. Available online https://www.improvinghealthandlives.org.uk/uploads/doc/vid_7479_IHaL2010-3HealthInequality2010.pdf (accessed May 2015).
5. Department of Health. 2015. *The NHS Constitution for England*. Available online at <https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england> (accessed 15 May 2016)
6. NHS England. 2014. *Five year forward view*. 2014. Available online at <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf> (accessed May 2015).
7. NHS National Cancer Action Team. *The characteristics of an effective multidisciplinary team (MDT)*. 2010. Available online at <http://www.nhs.uk/media/2444560/ncatmdtcharacteristics.pdf> (accessed May 2015).
8. Raine R, Wallace I, Nic a' Bháird C. *et al*. Improving the effectiveness of multidisciplinary team meetings for patients with chronic diseases: a prospective observational study. *Health Serv Del Res* 2014; **2**: DOI:10.3310/hsdr02370
9. Wagner E. Effective teamwork and quality of care. *Med Care* 2004; **42**: 1037–1039.
10. Mickan SM. Evaluating the effectiveness of health care teams. *Australian Health Review* 2005; **29**: 1. 211–217.
11. National Institute for Health and Care Excellence. *Challenging behaviour and learning disabilities: prevention and interventions for people with learning disabilities whose behaviour challenges NICE guideline* (draft for consultation). 2014. Available online at <https://www.nice.org.uk/guidance/indevelopment/gid-cgwave0654> (accessed May 2015).
12. The British Society for Disability and Oral Health and the Royal College of Surgeons of England. *Clinical guidelines and integrated care pathways for the oral health care of people with learning disabilities*. 2012. Available online at http://www.bsdh.org.uk/wp_PDF/pBSDH_Clinical_Guidelines_PwaLD_2012.pdf (accessed May 2015).
13. British Society for Disability and Oral Health. *Provision of oral health care under general anaesthesia in special care dentistry: A professional consensus statement*. 2009. Available online at http://www.bsdh.org.uk/userfiles/file/guidelines/BSDH_GA_in_SCD_2009.pdf (accessed May 2015).
14. Kerr D, Cunningham C, Wilkinson H, Joseph Rown-tree Foundation: Responding to the pain experiences of people with a learning difficulty and dementia. 2006. Available online at <http://www.jrf.org.uk/sites/files/jrf/9781859354599.pdf> (accessed August 2015).
15. Howells G. Are the medical needs of mentally-handicapped adults being met? *J Royal Coll Gen Pract* 1986; **36**: 1. 449–453.
16. NHS Choices. 2015. *General Anaesthesia*. Available online at <http://www.nhs.uk/conditions/Anaesthetic-general/Pages/Definition.aspx> (accessed August 2015).
17. Graham H. Intellectual Disabilities and socio-economic inequalities in health: an overview of research. *J App Res Intell Dis* 2005; **18**: 101–111.
18. The Nuffield Trust. *A decade of austerity? The funding pressures facing the NHS from 2010/11 to 2021/22*. 2012. Available online at <http://www.nuffieldtrust.org.uk/publications/decade-austerity-funding-presures-facing-nhs> (accessed September 2015).
19. Monitor. *Closing the NHS funding gap: how to get better value health care for patients*. 2013. Available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284044/ClosingTheGap091013.pdf (accessed September 2015).
20. Davies P. Chapter 6: Financing the NHS. *In The Concise NHS Handbook 2013/14*. 14th edition. pp 110–107. NHS Confederation: London, 2013.
21. Healthcare Financial Management Association. *GP Finance Briefing. A glossary for NHS Finance and Governance*. 2012. Available online at https://www.google.co.uk/url?sa=t&ct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKewioqrV93dzMAhVBPhQKHc7pDEwQFgg-cMAA&url=http%3A%2F%2Fwww.seqo.nhs.uk%2Fsandbox%2Fscsu-joomla3x%2Findex.php%3Fview%3Ddownload%26alias%3D40-hfma-gp-brief-6-glossary-for-nhs-finance%26option%3Dcom_docman%26Itemid%3D217&us-g=AFQjCNG88WeEnzRrbPaQzsXaN13mmXxwSg (accessed May 2016).
22. NHS Confederation. *Tough Times Tough Choices*. 2013. Available online <http://www.nhsconfed.org/~media/Confederation/Files/Publications/Documents/Tough-times-open-honest-report.pdf> (accessed September 2015).
23. NHS Confederation. *The 2015 Challenge Manifesto*. 2014. <http://www.nhsconfed.org/~media/Confederation/Files/Publications/Documents/2015-challenge-manifesto.pdf> (accessed May 2015).
24. NHS England. 2015. *Commissioning for Quality and Innovation (CQUIN) Guidance for 2015/16*. Available online at <https://www.england.nhs.uk/wp-content/uploads/2015/03/9-cquin-guid-2015-16.pdf> (accessed February 2016).
25. Health and Social Care Information Centre. *Joint strategic needs assessments*. 2015. Available online at <http://www.hscic.gov.uk/jsna> (accessed March 2016).
26. NHS England. 2015. *Guide for commissioning special care dentistry*. Available online at <https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/09/guid-comms-specl-care-dentistry.pdf> (accessed November 2015).
27. Equality Act. 2010. Available online at <http://www.legislation.gov.uk/ukpga/2010/15/contents> (accessed May 2015).