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Dental Public Health in Action

Improving Care for Bariatric Dental Patients in North Wales

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This paper presents the experiences of Betsi Cadwaladr University Health Board, North Wales, UK in improving facilities, access and quality of care for bariatric dental patients. It includes the multi-stakeholder audit of existing practice which informed those improvements. Public health competencies illustrated: needs assessment; development and implementation of oral health strategies; oral health improvement; development of clinical pathways; improving patient safety; clinical and public engagement; addressing inequalities.

Key words: *bariatric dental patients, general dental practice, community dental service, Wales, UK*

Initial impetus for action

An increasing percentage of the UK population are obese. In England the proportion of obese adults doubled from 13% in 1993 to 26% per cent in 2013 for men, and rose from 16% to 24% for women (Lifestyles Statistics Team, 2015). This trend is mirrored in Wales where, in 2014, 22% of Welsh adults were classified obese (BMI>30) with approximately 50,000 individuals (2% of the population) being morbidly obese (BMI>40) (Welsh Government, 2015).

Although obesity is not in itself recognised as a protected characteristic, many of these individuals exhibit disabilities which are protected by legislation (UK Government, 2010). There is therefore often a legal requirement for non-discriminatory treatment. National guidelines on the management of obesity advise an integrated approach, suggesting dental services have a role to play (NICE, 2014).

It was within this context that the Welsh Government Strategic Advisory Forum for Special Care Dentistry, tasked the North Wales Managed Clinical Network for Special Care Dentistry with the production of a care pathway for obese/bariatric patients. This care pathway in turn would be disseminated for consideration and adoption as appropriate by other health boards in Wales.

Both National and Local Oral Health Plans (BCUHB, 2013; Welsh Government, 2013) emphasise the need for development of bariatric services. In the North Wales Community Dental Service (NWCDS), some progress had been made with the purchase of four higher weight-bearing dental chairs with a safe working limit (SWL) of 32 stone / 203kg. In addition, the service also has five wheelchair recliners with a SWL of up to 79 stone / 502kg. However anecdotal reports highlighted difficulties in managing this patient group and a more strategic and co-ordinated approach was required.

A number of recent papers in the dental literature provide guidance on the management of these patients (Chandler and Vallé-Jones, 2015; Reilly *et al.*, 2009). However, until this project there had been no formal review of services in North Wales. Therefore it was decided to assess the true situation via a consultation exercise, involving both clinicians and patients. This would review current practice and provide evidence to build a case of need for future service development and funding.

A questionnaire was distributed to all 52 NWCDS dentists and therapists. It contained a mix of ten open and closed questions. A response rate of 67% was achieved. A service provision need was clearly identified with 83% of respondents estimating that they see between one and twenty bariatric patients per month. Of the 35 respondents, 57% rated current service provision for this patient group as poor or very poor. Respondents were asked to describe examples of challenges they faced facilitating dental care for a bariatric patient. Table 1 lists the recurrent themes identified and their frequencies. Most relate to lack of guidance and suitable facilities to manage this patient group so addressing these primary problems could, in turn, partly resolve other concerns raised.

Table 1. Key themes raised when respondents describe instances when they faced challenges facilitating dental care for a bariatric patient, N=35

Theme	*Frequency*
Dental chair issues	14
Lack of protocol or organisation or direction	11
Issues with building structure or clinic facilities	7
Referral problems	5
Dental treatment problems	2
Embarrassment for patients or staff	2
Access to general anaesthesia services	2
Complaints	1

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Overall a lack of confidence was displayed in providing suitable, timely and non-discriminatory treatment to the bariatric person. Some clinicians were concerned about their own health when managing these patients; "*treating bariatric patients means adopting unfavourable positioning for the operator*." A small number of clinicians expressed reluctance in acknowledging the need to improve provision for this patient group; "*providing a service discourages patients from losing weight*." This attitude may arise from a perception that bariatric persons are at personal fault for their condition and therefore undeserving of special provisions. Education on the complex and multifactorial causations of obesity may help to challenge such opinions.

As part of a full consultation process, views were also sought from patients who may have personal experience of the issues surrounding bariatric dentistry. There were concerns that selecting individual bariatric patients for interview could stigmatise and embarrass them so an already established group was chosen. These were patients pre- and post-bariatric surgery attending a dietetic-led patient support group in the North East Flintshire (n=7). Consequentially the views expressed may not represent the bariatric population as a whole.

The group raised a number of interesting points which helped formulate recommendations for improvement. Points raised include:

- Describing instances where they had treatment refused in general dental practice due to their weight/size. One patient was told she was "*too fat for the dental chair*" with no onward referral made.
- Highlighting a lack of knowledge regarding facilities that are available for bariatric patients.
- Stating that they would prefer not to discuss strategies for reducing their weight with the dentist, as they were already seeking support. One patient said "*I just want my teeth treated and I would lose confidence with the dentist if they made an issue of my weight*."
- Confirming that they are willing to be weighed or have their weight discussed if it poses a health and safety risk (e.g. too heavy for the dental chair) or would help them have a shorter waiting time (e.g. for GA services)
- Wanting dental practitioners to be more aware of the specific health issues they face, which can have a dental impact. For example, mental health issues such as anxiety and depression and physical health issues such as acid reflux problems post bariatric surgery.

Solutions Suggested

Responses from the two-part consultation exercise were collated and reported. Opinions were sought from senior clinicians within the dental services on how the concerns raised in the consultation could be addressed. The following recommendations were made:

1. Production of a care pathway for bariatric dental patients in North Wales providing direction and guidance on their management.
2. Presentation of the results of the consultation exercise to various dental forums and committees to increase awareness of the challenges faced, building a case of need for service improvement.
3. Training for all dentists and DCPs in this area with additional training for dentists managing the greatest number of these patients.
4. Enhancement of clinical facilities and equipment for these patients, with specific focus on dental chairs. Consideration should be given to development of bariatric patient friendly clinics with even geographical distribution.
5. Enabling access for GDPs to use CDS facilities to treat their own bariatric patients.
6. Improvement of data recording systems for patient weight to provide accurate figures on obesity within dental services. This in turn would strengthen application for capital investment in this area.

Actual Outcomes to Date

The information compiled from the staff and patient consultation exercises and proposed solutions have been presented at a variety of local and national forums; North Wales Oral Health Strategy Group, NWCDS Directorate Group, NWCDS Staff Conference, BDA Welsh Hospitals Conference, Dental Public Health Quality Improvement Committee in Wales. These presentations have opened discussion on bariatric dentistry. These various bodies have also provided feedback and guidance which have informed other project activities.

A 'Care Pathway for the Management of the Bariatric Dental Patient' has been produced for North Wales and distributed to all dental disciplines in the area. It is used for guidance on managing patients greater than 22 stone/140kg, which is the safe working limit of most standard UK dental chairs (ISO, 2011). It provides information on assessing weight and approaching this topic sensitively. It highlights the location and availability of bariatric suitable equipment, for example, dental chairs with higher safe working limits. Other issues with bariatric patients are explored in turn such as transport, waiting facilities and domiciliary visits. Additional medical and dental challenges including specific risks with GA and sedation are also raised. A form is provided for clinicians to complete to describe facilities within their own clinical setting e.g. door widths, higher weight chairs. A feedback form is included allowing future versions of the pathway to be modified accordingly. So far feedback has been positive with agreement that there is improved information on the management of this patient group. An overview flowchart serves as a useful *aide memoir* (Figure 1).

Introductory training was provided to all staff working in the NWCDS in June 2015. It provided guidance on using the care pathway and highlighted the specific issues faced by this patient group. Of attendees completing feedback, 89% found the training useful. It has been recommended that staff, especially those working in clinics with a high throughput of bariatric patients, receive further training in this area. Training is especially requested in the use of wheelchair recliner equipment and hoists which may currently be underutilised in certain areas.

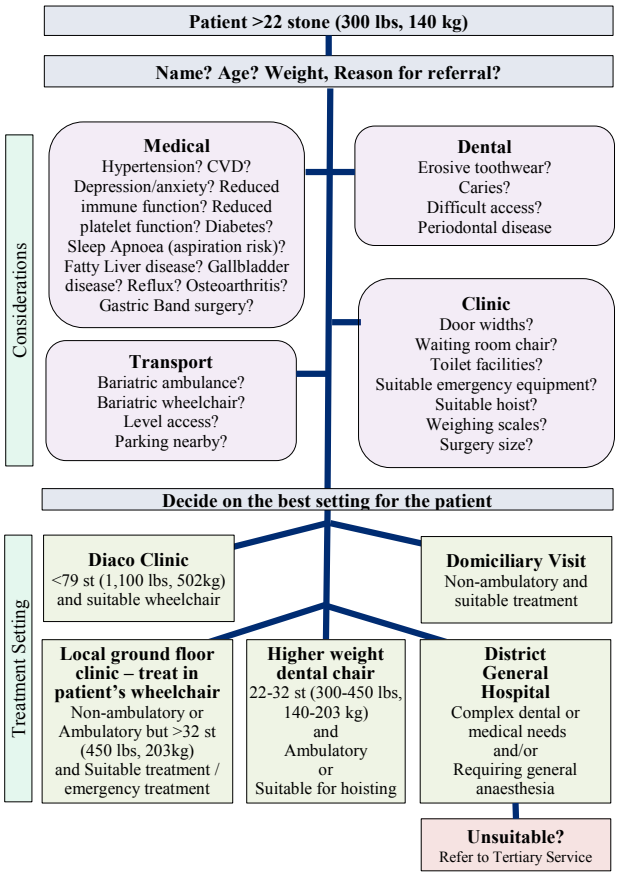

Figure 1. *Summary flowchart of the management of bariatric dental patients*

Funding limitations have delayed any significant facilities improvement for these patients. However there is agreement from senior managers that clinics which currently possess higher weight dental chairs or wheelchair recliners must also contain other bariatric suitable equipment such as bariatric weighing scales, toileting facilities and waiting room chairs. The care pathway recommends that general practitioners consider higher weight-bearing chairs when replacing equipment or expanding their facilities. The majority of bariatric patients are likely to be suitable for treatment in primary care if appropriate equipment is available.

Challenges addressed

There is a paucity of information regarding the management of the bariatric patient within the current dental literature. As a result the information in the care pathway is predominantly based on professional opinion, which whilst useful, is lacking in robustness. It was originally envisaged that the care pathway document would be prescriptive in nature, directing patients of a specific weight down a specific path. As the project developed it became apparent that the variables in this group were too great for this approach to work. Therefore the pathway document is more descriptive in nature, accounting for individual circumstances while still providing clinicians with accurate information.

Collating information on the availability of bariatric equipment has been difficult. At present purchasing of such items is the responsibility of individual health board departments. A master list of available equipment within the dental services has now been produced as part of this project. In the future it is hoped that there is improved collated information on bariatric facilities within the health board as a whole.

Obtaining accurate data on patients' weights has been challenging and there are plans to collect data on patients' weight and mobility through the electronic patient record system. However, as weighing individual patients is largely impractical due to time constraints and the current limited provision of suitable scales, most weights will be patient self-reported and are likely to be underestimates (Bowring *et al*., 2012). Resolution of these problems will allow a true case of need be presented for this patient group within the CDS.

The data collected from clinician questionnaire relates to the CDS and does not represent those in general and hospital dentistry. While the CDS may see the majority of these patients, often due to concomitant health issues (e.g. physical and mental disability), the views of other dental services must also be taken into consideration. Similarly, the patient group consulted are unlikely to be representative of the bariatric population as a whole. More representative cohorts of staff and patients should be involved in future consultation exercises to further develop the project.

Amongst some clinicians there is unwillingness to either acknowledge the problems associated with this patient group or commit financially to purchase bariatric equipment. The community and hospital dental services have been able to fund limited improvements for bariatric patients but there is a need for further expansion. Moreover, the biggest challenge remains in encouraging general dental service providers to improve provision for this group. While a regular dental chair (with a SWL of about 22 stone) may cost from £6,000, the starting price for a chair with a higher weight limit (e.g. <32 stone) is approximately £10,000. There may be opportunities for GDPs to use equipment designed for heavier patients within other services. However, this presents further administrative, financial and logistical challenges.

Future Implications and Learning Points

This project has highlighted the lack of knowledge within the wider dental community regarding issues presented by bariatric patients. This has been improved through dissemination of the information from the patient and clinician consultation exercises. In turn professionals have acted upon this information to plan for improvements in care. Nevertheless, despite recommendations, there are many barriers to implementing them fully. While the care pathway and training has improved use of existing facilities for bariatric patients, significant financial commitment is required for long term development. Only through service improvement for bariatric patients on a wider healthcare level and more accurate data recording can dental services truly be confident in providing an adequate service for this patient group.

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Martin Craig Downer (1931-2017); an appreciation.

Michael Lennon

Martin Downer, who died on 28th April 2017, succeeded Professor Peter James as the second Editor of Community Dental Health. Educated at Shrewsbury School he went on to study dentistry at the University of Liverpool qualifying LDSRCS in 1958, and then to follow a lengthy and distinguished career including periods as Research Fellow at the University of Manchester, Chief Dental Officer in Scotland and subsequently England and finally as Professor of Dental Health Policy at the Eastman Dental Institute, University of London.

His first love was jazz and he regularly played clarinet and saxophone with a number of bands including George Melly on Upper Parliament Street, Liverpool and with Charlie Galbraith's All-star jazz band; dentistry was a distant second. However, by the time I first met him in Manchester in the early 1970s he had developed into a serious public health researcher, albeit great company enjoying the finer things of life. He had worked in the (former) School Dental Service in London and was among the first postgraduates to obtain the Diploma in Dental Public Health from the Royal College of Surgeons. He joined the recently established Dental Health Unit in Manchester headed by Professor Phil Holloway and Graham Davies and funded by the Colgate Palmolive Company who had a major manufacturing and research facility in nearby Salford.

Martin conducted a 3 year randomised controlled trial a of supervised school based fluoride intervention (Downer, Holloway and Davies, 1976); in this endeavour he joined Andrew Rugg-Gunn, Andy Blinkhorn, Cynthia Pine (Mitropolous), Valerie Clerehugh, Jan Clarkson, Gill Davies and others at Manchester in establishing an extensive data base of RCTs of fluoride school-based interventions. I remain puzzled to this day as to why such interventions have taken so long to be translated to the real world in England. For his PhD, Martin established the validity of caries diagnosis into dentine; a topic in which he retained a longstanding interest (Downer 2012a). He was also a talented computer programmer and, writing in Fortran IV, he developed two suites of programmes for the analysis of caries clinical trials (Hardwick et al 1982) and treatment need studies (Downer and Whittle 1979), both used well into the 1980s.

After a short period as Area Dental Officer in Salford, Martin was appointed CDO in Scotland (1979-83) and subsequently in England (1983). In this latter post he was involved in important decisions concerning dental research priorities and capitation payment systems for general dental practitioners. Although his views did not attract universal approval, I think he was correct on both issues. As was the custom, Martin retired from the civil service aged 60 and subsequently took up the post at the Eastman in 1990 working on oral cancer screening with Paul Speight, David Moles and others. As a result, an excellent account of the principles behind the evaluation of oral cancer screening was published as a supplement to this journal (Speight, Downer and Zakrewska, 1993).

On his retirement Martin took up a course in creative writing at Bath Spa University and published three novels including an account of a young undergraduate student in 1950s Liverpool (Downer 2012b). Those who knew Martin will remember his obsessively tidy desk and some will have joined Martin's wife Anne, an educational psychologist, in lively dinner table discussions about the possible causes of such behaviour. Anne and Martin have four daughters Gabrielle, Diana, Stephanie and Caroline, the latter being well known to members of BASCD as Caroline Drugan.

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