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Editorial

BAOMS QOMS (Quality and Outcomes in Oral and Maxillofacial Surgery), a specialty-wide quality improvement initiative: progress since conception

Introduction

The long-term sustainability of providing oral and maxillofacial care in the NHS relies on the specialty's ability to demonstrate the cost-effectiveness of its treatment and the clear health benefits in line with best evidence-based practice, both in terms of objective outcomes and meeting patients' expectations. However, the specialty lags behind other surgical specialties in the publication of clinical outcomes across the UK, for example, the Vascular Services Quality Improvement Programme, the Perioperative Quality Improvement Project (PQIP)[1] and the Trauma Audit and Research Network (TARN).[2]

The British Association of Oral and Maxillofacial Surgeons (BAOMS) under its 2018 President (Mr Ian Martin), and with the support of the BAOMS Council, introduced a specialty-wide quality improvement (QI) and clinical effectiveness programme, the Quality and Outcomes in Oral and Maxillofacial Surgery (QOMS).[3] This reflected the view that implementing systematic quality improvement in OMFS and ensuring the effectiveness of the care provided, based on appropriate metrics, were key to the continued successful development of surgical care in the NHS, and reflected the core culture of BAOMS.

BAOMS QOMS working group

A QOMS project working group was formed in July 2018 ahead of the publication of the first Getting It Right First Time (GIRFT) report on oral and maxillofacial surgery in November 2018.[4] The GIRFT recommendations include the improvement of the attribution of clinical activities to the main specialty (that is, oral and maxillofacial surgery (OMFS) versus oral surgery) to ensure coding in accordance with the NHS Data Dictionary; improvement of clinical coding, particularly for difficult-to-code areas, such as head and neck cancer; production of a clear definition of an out-patient procedure for data collection purposes; improvement of the recording of workforce and human resource data to support workforce planning; and delivery of an efficient and patient-focused outcomes audit programme for oral and maxillofacial surgery. This last recommendation highlighted the absence of a comprehensive set of clinical outcome measures for OMFS, and thus limited the ability to assess whether the delivery of OMFS care was in line with high-quality standards, the ability of providers to benchmark themselves against peers,[5] and to continuously improve services objectively.[6,7]

Following several meetings, engagement sessions, and a consultation period (July – September 2018) with the BAOMS membership, seven OMFS subspecialties (oncology, oral and dentoalveolar (ODA), orthognathic, reconstruction, salivary gland, trauma, and skin surgery) were identified as key areas of evaluation by QOMS, and the conditions, procedures, and initial quality indicators of interests for QOMS were decided. In order to meet the needs of the specialty, QOMS developed a series of audits to address issues around quality of care and improvement, and several registries are now being developed for clinical effectiveness (patient-specific mandibular reconstruction, osteosynthesis fixation, and malignant salivary gland tumours).

Between July 2018 and December 2019, an initial QOMS team was formed and led by a lead clinician (JM). It included a project manager (FP), several OMFS committee members (GC, DT and MH), and collaborators from NCEPOD (MM) and Saving Faces (IH). The QOMS protocol was developed to describe the underlying principles of the project and how QOMS would fulfil its objectives. In parallel, leads and deputy leads of the BAOMS Subspecialty Interest Group (SSIG) were consulted to refine and finalise the procedures,

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Table 1
Procedures, conditions, and outcome metrics evaluated in the BAOMS Quality and Outcomes in Oral and Maxillofacial Surgery (QOMS).

Procedures	Conditions	Metrics
Oncology:		
Resection (with or without reconstruction)	Oral cavity and oropharynx SCC (all cases)	Resection margins
Elective or therapeutic lymphadenectomy	Oral cavity or oropharyngeal SCC (previously untreated primary)	Number of lymph nodes harvested
Major head and neck surgery (resection / neck dissection and reconstruction)	Head and neck cancers	30-day complications
Reconstruction:		
Free tissue transfer	All (includes benign pathology) Oral and head and neck cancers	Length of hospital stay Flap survival[13]
Head and neck / maxillofacial reconstruction (free tissue transfer, grafts, locoregional flaps, prosthetic)	Oral and head and neck cancers	Time (d) to commencement of adjuvant radiotherapy (when required)
Oral and dentoalveolar:		
Dentoalveolar surgery	All	Appropriateness of tier attribution (England and Wales) Infection
Orthognathic:		
Le Fort I and mandibular ramus osteotomy	All	PROM Unexpected return to theatre (RTT) Unplanned readmission Length of hospital stay
Trauma:		
Mandibular fractures	All	Unexpected RTT within 90 days
Isolated orbital wall fractures	All	Unplanned readmission within 90 days Visual problems and enophthalmos at 90 days (orbital wall fractures only)
Skin:		
Completeness of excision	Non-melanoma skin cancers	Rates of diagnostic biopsy Excision margins Site

conditions, and quality of care indicators that would be included to develop the first audit questionnaires.

The aim of the BAOMS QOMS is to set up and develop a sustainable quality management and clinical effectiveness programme that delivers continuous improvement in the care of patients undergoing OMFS within all parts of the NHS and demonstrates health-related benefits to patients from selected core OMFS activities.

Objectives of BAOMS QOMS

The main objectives of this initiative include benchmarking, quality measurement, quality improvement, and clinical effectiveness in the broadest scope of the practice of OMFS. Continuous personal and career development are integral components of this initiative to promote clinicians' participation in the registry and support their appraisal and revalidation processes; to develop and nurture QI skills and culture throughout the specialty, and to see a coalescence of outcomes around the very best performers across all the quality metrics. In addition, when data collection has been established over several years, it provides an opportunity for secondary research, the outcomes of which can be fed back into the QOMS process to further develop surgical services for the benefit of patients.

BAOMS QOMS procedure and metric selection

QOMS is in essence composed of a series of clinical registries set up to collect data on OMFS practices in the UK and in time, the Republic of Ireland. They were developed for quality improvement (audits and/or service evaluations) or clinical effectiveness and surveillance (disease-specific and procedure-specific registries). QOMS exists in parallel to other already existing registries and quality improvement initiatives (UK National Flap Registry, the National Head and Neck Cancer Audit, National TMJ Registry, and ongoing national audits for cleft lip and palate, and craniofacial surgery).

As a result of the consultation and discussions with the BAOMS SSIGs, it was decided that high-volume surgical procedures (with both a high and a low risk of complications) would be included in the audit/service evaluation component of QOMS, whilst low-volume procedures with high risks of complications would be better captured by prospective registries.[3] The conditions, procedures, and indicators of interest for this initial phase of the BAOMS

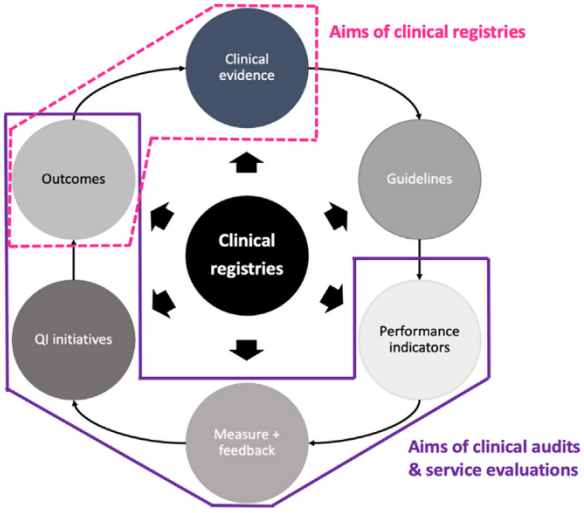

Fig. 1. BAOMS Quality and Outcomes in Oral and Maxillofacial Surgery (QOMS) registry cycle and disease/treatment-specific registries.[14]

QOMS are listed in Table 1 (or on the following webpage: http://bit.ly/qoms-at-baoms). The following criteria were considered in the selection of the metrics: they must describe a specific aspect of surgical care, be relevant to all stakeholders of the provision of surgical services and be timely, and the data should be accessible to the surgical team. Because QOMS is centred on OMF surgical activities, the metrics should also be directly actionable by the surgical teams. Metrics should also show promise at being suitable for risk-adjusted audit that will later allow case-mix complexity to be factored into reports or performance and quality of care.

QOMS-specific registries will be used to assess the long-term effects of changes in current practices on the quality of care and patients' outcomes, and to evaluate OMFS practice for which little or no strong evidence or high-quality recommendations are currently available to support clinical practice. While QOMS audit activities concentrate mainly on the measurement of performance indicators, feedback to its users, and quality improvement initiatives, in time it aims to develop disease and procedure-specific registries (salivary gland malignancy – for which there remains a lack of high-quality, evidence-based practice treatment; and patient-specific mandibular implants–where there is a lack of published UK evidence of the long-term safety of these relatively novel implants) (Fig. 1). These registries will focus on outcomes and clinical effectiveness. The TMJ replacement registry existed before the conception of the BAOMS QOMS and is administered independently through the TMJ SSIG.

The QOMS project team works in collaboration with Saving-Faces (SF) Head And Neck Audit (HANA) and the UK National Flap Registry (UKNFR).[8] The UKNFR published its first report in 2019[9] to maximise interdependence in a spirit of collaboration, and to ensure high-quality data acquisition and validation across the subspecialties of oncology and reconstruction. In parallel, efforts are underway (through the GIRFT initiative) to use data that are coded and collected through the hospital episodes and statistics (HES) system for comprehensive data capture/inclusion and comparative purposes. Accurate numbers and good quality data will therefore be essential to provide information for the next phase of the BAOMS QOMS project.

A pilot for the project, including a series of audits, was developed and run in England between December 2019 and April 2020. The findings and the lessons learned will be detailed in a separate manuscript.

Data collection and ownership

In order to be successful, patient data will be collected at the hospital level. QOMS endeavours to develop an adaptable model that will support local data collection and minimise the impact on surgeons' workloads (more information can be found on the BAOMS website: http://bit.ly/qoms-at-baoms). Data collection and storage will be managed by the Barts Cancer Research-UK Centre at Queen Mary University of London (BCC, QMUL) using the Research Electronic Data Capture software (REDCap).[10] REDCap is a secure, web-based software platform that is designed to support data capture and management for a variety of project designs.[11] It offers an intuitive interface for data collection and the flexibility to develop and oversee projects. The BCC also has appropriate support services in place for the handling and transfer of confidential and sensitive data (secure servers for storing data in the UK, a data safe haven environment, a data web transfer service, and secure data disposal).

Where possible, QOMS is seeking support from UK national governments to collect data without consent (provisional support has been granted by the Confidentiality Advisory Group (CAG) 'section 251 support' in England and Wales, and application is in preparation for the Public Benefit and Privacy Panel for Health and Social Care in Scotland). Where such regulatory frameworks do not exist, QOMS will engage local teams to allow and facilitate collection of anonymised data in line with local regulations or legislation on information governance.

An important aspect of QOMS is the issue around intellectual property. QOMS will present anonymised unit/hospital-level results. A participating unit will remain the owner of the data they have submitted, and will be encouraged to use their data for quality improvement, secondary research, and revalidation, compatible with the lawful basis of data collection and the principles laid out in QOMS. The ownership of the entire dataset remains with the BAOMS and SF.

The current disruption to clinical services in the NHS due to the COVID-19 pandemic will undoubtedly result in some changes to the way we deliver treatment that will remain in the years to come. The need for OMFS to produce data that demonstrate the quality and value of the services it provides has never been greater, as various aspects of

surgical services compete for resources to resume regular activity and address the backlog of clinical work that was halted during the pandemic. Furthermore, it is essential that we, as a group of clinicians, take ownership of the quality improvement process before it is imposed on us by the management and administrators.[12] High-quality data from prospective registries offer the specialty a unique opportunity to develop an invaluable source of information, which will be vital for service improvement, peer support, revalidation and/or appraisal, and secondary research. Engagement from the widest possible membership of BAOMS will be crucial for this initiative to be successful.

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