Q(O)MS

Quality Outcomes in Oral and Maxillofacial Surgery

BAOMS Consultants, Specialists and RSPA Study Day

December 8th, 2022

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OVERVIEW

- Quality and Outcomes in Oral and Maxillofacial Surgery (QOMS)
  - First OMFS GIRFT report
  - Quality improvement and clinical effectiveness programme for OMFS

- Operates a series of registries
  - Oral and dentoalveolar surgery
  - Trauma
  - Oncology & Reconstruction
  - Non-melanoma skin cancer
  - Orthognathic surgery

AIMS & ANTICIPATED BENEFITS

- To draw an unbiased picture of quality of care provided & develop benchmarks for OMFS

- To produce hospital-level comparative performance data, promote QI activities & share experience between hospitals

- To support surgeons in their appraisal and revalidation process as requested by the GMC & to become increasingly transparent and patient-focused

- To reassure patients that quality of care is being monitored and improved

CURRENT STATUS

- Initiated in 2018

- Feasibility pilot December 2019 – March 2020

- Current audit cycle: 2021-2024

- National roll-out in July 2021
  - Open to every OMFS departments in the UK

- BAOMS funded pilot:
  - 10 OMFS departments
  - Funding to hire a data coordinator to collect and manage local data collection

- January 2023: Publication of 1st QOMS report

PARTICIPATION

BAOMS-funded

Betsi Cadwaladr University HB

East Kent Hospitals University NFT

East Lancashire Hospitals NHS Trust

King's College Hospital NFT

Leeds Teaching Hospitals NHS Trust

Liverpool University Hospitals NFT

London North West University Healthcare NHS Trust

South Tyneside and Sunderland NFT

Swansea Bay University HB
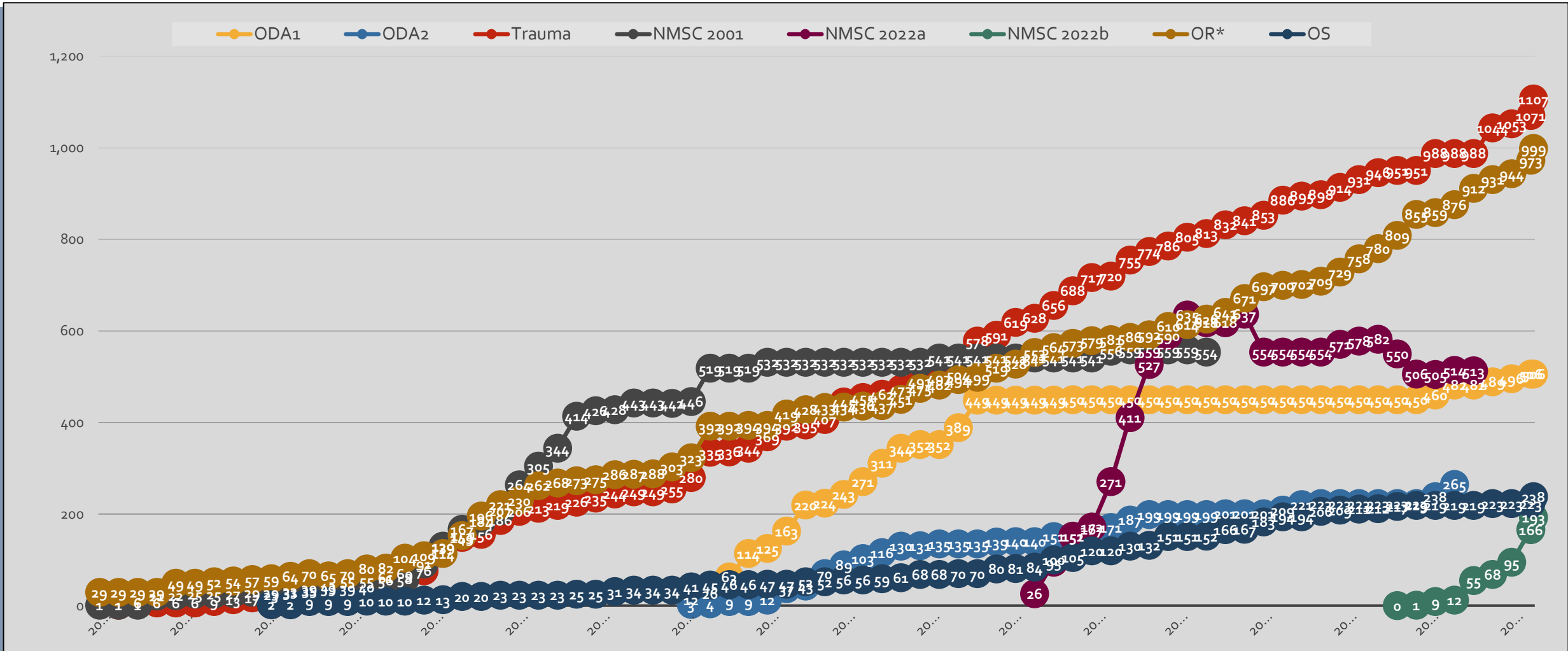
University Hospitals Birmingham NFT

Self-funded

Newcastle upon Tyne NFT*

NHS Greater Glasgow and Clyde

Nottingham University Hospitals NHS Trust

Princess Alexandra NFT

Torbay and South Devon NFT

University College London Hospitals NFT

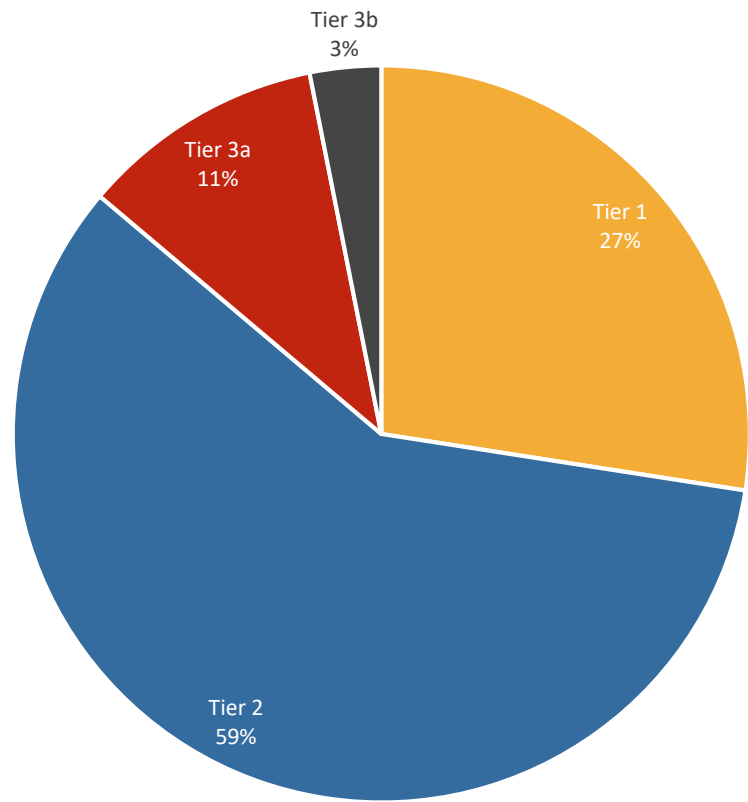*imported from HANA
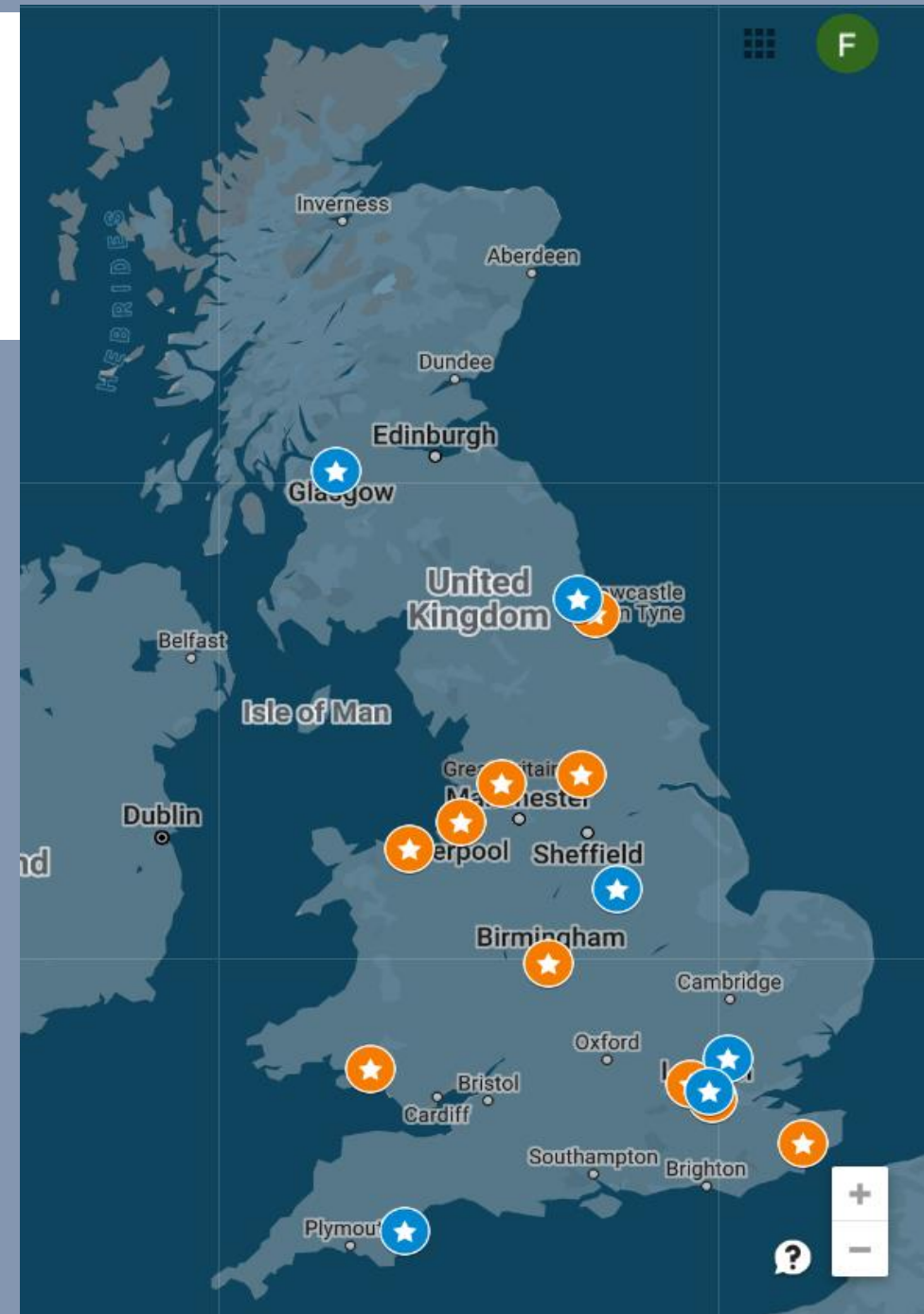
DATA COLLECTION

ORAL AND DENTOALVEOLAR SURGERY

QUALITY OF CARE INDICATORS

All dentoalveolar surgeries →→→ Appropriateness of tier attribution

All oro-cervical infection →→→ Management

Tier 3b
3%

Tier 3a
11%

Tier 1
27%

Tier 2
59%

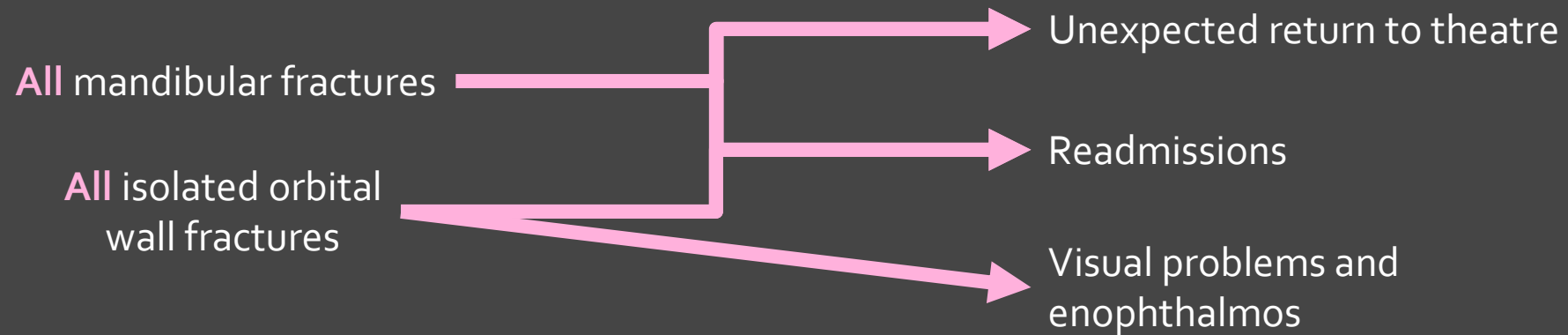TIER ATTRIBUTION OF REFERRALS (449 PATIENTS)

SUMMARY

- ~ 85% of the referrals could have been managed in the community

- Factors which influence access to primary care dentistry and the quality of treatment provided: timeliness of attendance and/or intervention, accuracy of diagnosis and efficacy of treatment received, could all contribute to the need to receive further intervention in patient who present with oro-cervical infection to OMFS units

- The management of oro-cervical infection in OMFS units are often complex, costly and have health/socio-economic implications for the population

RECOMMENDATIONS

- Benign soft tissues (e.g., mucoceles/polyps/warts) referrals are potential conditions that could be managed in the primary care provided there is appropriate experienced Tier 1-2 clinicians working within the governance framework of a managed clinical network with OMFS consultation and oversight. This would require the collaborative support of pathology reporting services with clear and detailed alert systems in place for any unexpected diagnosis of malignancy with the input of the relevant Head and Neck multidisciplinary teams.

- There is sufficient information gathered in these two data collection cycles to support the need for OMFS units involved to review the service provision in their catchment areas with the commissioners and local dental committees

- The management of oro-cervical infection section of QOMS will be refined and more OMFS units will be encouraged to participate to provide a wider picture to account for regional variations and compare the outcomes in the 4 nations who have some differences in their provision of primary dental care

ORAL AND MAXILLOFACIAL TRAUMA

QUALITY OF CARE INDICATORS

All mandibular fractures → Unexpected return to theatre

All isolated orbital wall fractures → Readmissions

→ Visual problems and enophthalmos

SUMMARY

- In the treatment of mandibular fractures, the return to theatre rate was low (1.2%) with an even lower unplanned readmission rate (664 patients)

- In the treatment of orbital floor/wall fractures, 3% of patients developed complications prior to hospital discharge and 6% of patients required readmission within 90 days of surgery (108 patients)

- 3% of patients developed post-operative visual problems or diplopia within 90 days of surgery

- There was no documented data entry for whether patients had pre-treatment cross sectional imaging and ophthalmology assessment for 22% of patients

RECOMMENDATIONS

- The dataset collected has provided the basis for development of risk adjustment in mandibular trauma treatment. The dataset could perhaps be simplified to ensure that it remains simple and as accurate as possible in providing information to measure the clinically relevant metrics for QOMS which may benefit from reappraisal in view of the emergence of NCIP for OMFS.

- Pre-treatment assessment and evaluation of orbital floor/wall fractures will require further investigation to ascertain whether the data presented represents genuine variation in practice (potential scope for education and training) or scope for improvement in data collection in QOMS OMFS units.

ORTHOGNATHIC SURGERY

QUALITY OF CARE INDICATORS

All LeFort I osteotomies

All mandibular ramus osteotomies

Unexpected return to theatre

Readmissions

Length of stay

SUMMARY

- 170 patients from 9 OMFS units

- Overall treatment of patients with dentofacial deformity in the QOMS OMFS units had very low early complication rates – 2% return to theatre within 30 days.

- Median length of stay was 1 day

- The number of patient cases reported in the series has been lower than expected due to the impact of COVID-19 on multiple OMFS units, at the time of writing, the provision Orthognathic Surgery has just been restarted after a significant period of pause.

RECOMMENDATION

- As NHS elective treatment recovery progresses, the increased throughput in orthognathic surgery will provide a more accurate picture of practice in this subspecialty - the higher number of patients registered into the audit with more mature data will hopefully provide a larger and more detailed dataset to further test the metrics selected to measure performance of OMFS units in the next report.

ONCOLOGY AND RECONSTRUCTION IN THE HEAD AND NECK/MAXILLOFACIAL REGION

QUALITY OF CARE INDICATORS

Oncology

Resections ± reconstruction of oral and oropharynx SCC → Margins

→ Lymph nodes yield

All major* head and neck cancer surgeries → Complications

Reconstruction

All free tissue transfers → Postoperative length of stay

→ Flap survival

All reconstructions for head and neck cancers → Time to commencement of adjuvant radiotherapy if required

SUMMARY

- 1160 entries reported

- QOMS Oncology and Reconstruction registry can be judged a cautious success. This audit, at an early stage, is demonstrating systems of a speciality led robust, fair and sustainable system of quality governance.

- Data quality is acceptable (>95%) throughout most fields with some exceptions (incomplete data in method of flap monitoring (26%) and adjuvant treatment (40%).

- A complication rate of 40% is close to previously published benchmarking papers

- The positive margin rate was 14% with a predicted positive margin rate of 11% after risk adjustment

- Delay to adjuvant treatment was frequent, with only 18% making the 42-day target. The data analysed suggests that perhaps with the current working arrangements and resources available, the NHS perhaps is falling short of this standard/important cut-off timeline

SUMMARY

- The average length of stay for patients who had head and neck reconstruction was 20 days and the predicted average length of stay after risk-adjustment was 10 days

- The aggregate frequency of extended length of stay >50days was 2% in this phase of the national audit.

- The overall flap success rate for the dataset was 96%

- 95% of patients were discharged back to their residence

- 7% of patients are recorded as deceased on 6-week follow-up

RECOMMENDATIONS

- We propose the addition of a further target, 56 days which maybe more suitable for the cases delayed by the need to de-calcify bone resections. 43% of patients met the 56day treatment target.

- An alternative metric for consideration could be, again at the 5% threshold, extended length of hospital stay of > 50 days.

- Two centres have contributed data for more than 100 free flap patient cases thus far in QOMS OR registry, thus judgements about performance should wait until the confidence limits are narrower

- Data collected within QOMS should be used in conjunction with NCIP portal data which has the advantage of input from the Office of National Statistics for community/out of hospital mortality.

- Data collection and verification by OMFS QOMS units will need to ensure that data completion and verification is of the highest standard with engagement of the local clinical team supported by the data co-ordinators

NON-MELANOMA SKIN CANCERS IN THE HEAD AND NECK

QUALITY OF CARE INDICATORS

All complete excisions of HN suspected and confirmed SCC / BCC

- Rate of diagnostic biopsy
- Surgical margins
- Site of malignancy
- Re-operation

SUMMARY

- 540 lesion (372 BCC and 168 SCC)

- Dermoscopy was used in 30% of the BCCs and 33% of the SCCs; however, a significant percentage of patients had pre-operative biopsies (36% for SCCs and 20% of BCCs). This approach adds significant cost and additional treatment delays, which are exacerbated by the volume of skin cancer patients

- The location of the primary tumours was found to be in accordance with the literature, with scalp and ear being the dominating areas for SCCs and nose-cheek being the most common locations for BCCs

- Involved deep margins (<0.5mm) were found in 19% of the cases, in 38% of the tumours, the deep margin was <1mm

- The data collected observed underreporting of the clinical T stage for SCCs. This has importance implications on surgical planning; the T stage is included in the updated BAD guidelines as a criterion for selecting the predetermined surgical margin which can contribute to the resection marginal clearance of skin cancers

- Primary closure was the commonest method of wound repair (45% of lesions)

- The re-operation rates reported were low (2% overall and <0.5% within 30 days of surgery)

RECOMMENDATIONS

- Preoperative biopsies can be avoided in most cases, as the diagnostic accuracy of dermoscopy has been shown to be well over 90% when performed by adequately experienced clinicians. There is a scope to promote dermoscopy training amongst OMFS skin cancer surgeons. There are several intensive customised dermoscopy courses; the BAOMS (through the skin SSIG) can guide clinicians towards them

- Ideally, data collection should be continuous (due to the volume of activities of non-melanoma skin cancers data was collected over 2 two-month periods of time over the course of a calendar year), however there are implications of workload on data co-ordinators and the local clinicians.

- cT stage for SCCs and predetermined margins under-reported in this dataset highlights the potential need to revisit the fundamentals of skin cancer staging and its implications on treatment and outcome to the clinical teams.

- The project has not collected information about adjuvant treatment (radiotherapy), the relevance and need for this will be reviewed in the next iteration of the NMSC QOMS dataset.

FUTURE PLANS

SUMMARY

- Case ascertainment – in collaboration with NCIP

- Risk adjustment for
  - oral and skin cancer resection margins
  - complication rates for major head and neck surgery

- CuSUM (Cumulative Sum) charts for flap outcomes- contemporaneous means of assessing performance, as a frequency of an event within bounds of variation, usually set at 2 or 3 standard deviations from an accepted mean frequency

- Rare disease registries
  - Salivary gland cancers
  - Benign odontogenic tumours
  - Patient specific implants for mandibular reconstruction

THANK YOU

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Find out more on the BAOMS website: http://bit.ly/qoms-at-baoms

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