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INTRODUCTION

There is a higher prevalence of cardiac disease in older patients. Cardiovascular disease is the most frequent single cause of death in persons over 65 years of age, and is responsible for considerable morbidity and a large burden of disability. Cardiac inpatients may require urgent dental intervention if they have significant dental pain, infection or pre-operatively to valve surgery to reduce the risk of infective endocarditis. Older people with comorbidities are more likely to have pre-existing dental issues and face barriers accessing dental care.

BACKGROUND

As a District General Hospital, we have an inpatient dental ward referral service to ensure patients on the ward can be seen for acute dental treatment. East Surrey Hospital's dental ward referral standard operating procedure (SOP) outlines that dental review prior to cardiac surgery falls under its criteria; The National Institute for Health and Care Excellence (NICE) states how healthcare professionals should regard people with the following cardiac conditions as being at increased risk of developing infective endocarditis:

- Acquired valvular heart disease with stenosis or regurgitation
- Hypertrophic cardiomyopathy
- Previous infective endocarditis
- Structural congenital heart disease, including surgically corrected or palliated structural conditions, but excluding isolated atrial septal defect, fully repaired ventricular septal defect or fully repaired patent ductus arteriosus, and closure devices that are judged to be endothelialised
- Valve replacement

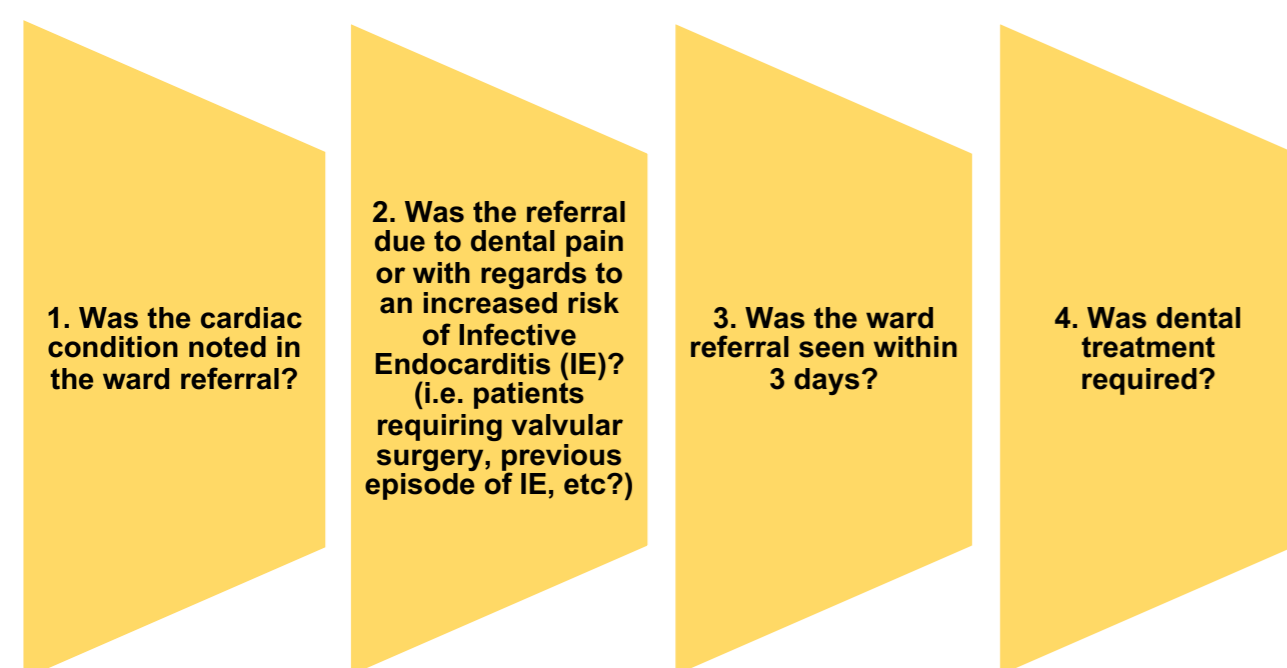
Therefore, this audit is to assess if the referrals are appropriate and if there is a need for dental review (i.e. how many patients benefitted from dental review prior to cardiac surgery), as well as to assess if our current pathway can be improved.

AIM

To assess whether the ward referrals from the cardiology department are appropriate and in line with current national and local guidelines

OBJECTIVES AND STANDARDS

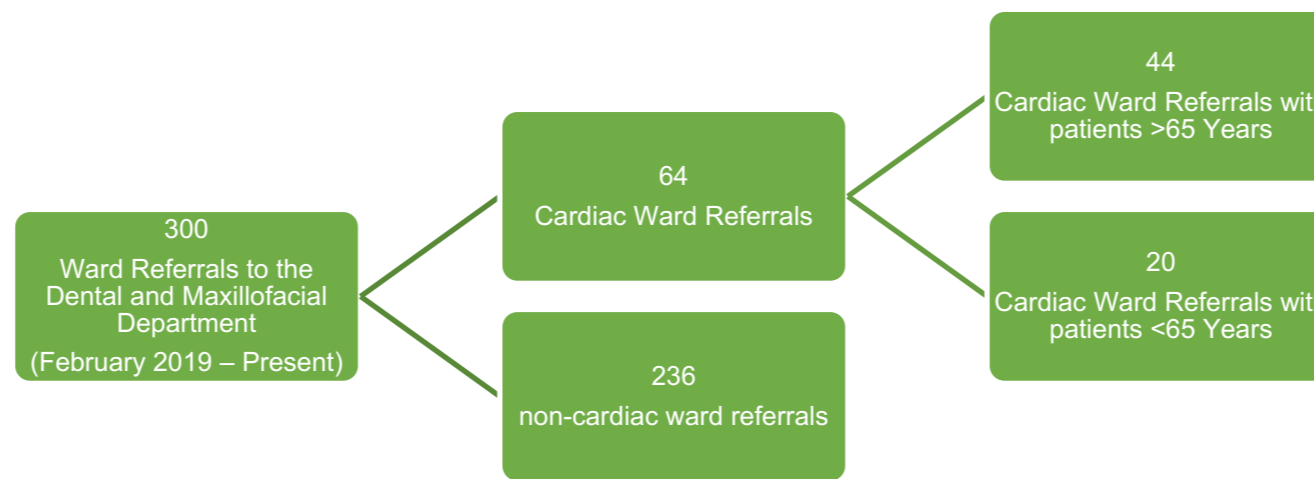
OBJECTIVES



STANDARDS

- NICE guidelines CG64 (1): Any episodes of infection in people at risk of infective endocarditis should be investigated and treated promptly to reduce the risk of endocarditis developing.
- Scottish Dental Clinical Effectiveness (SDCEP) guidelines regarding Antibiotic Prophylaxis against Infective Endocarditis (2) state: Ensure that any episodes of dental infection in this group of patients are investigated and treated promptly to reduce the risk of endocarditis developing
- Local Standard at East Surrey Hospital (ESH): Urgent Dental Care Ward Referrals SOP:
 - All ward referrals should be seen within 1 working day and should be discussed with a member of the team/senior staff (consultant or Band B dentist) who is onsite that day.
 - Patients who are due to have cardiac surgery can be assessed and treated through the inpatient referral pathway. (Dental Review prior to Cardiac Surgery falls under the urgent section – to be seen)

METHODOLOGY



Inclusion criteria
Ward referrals to the dental department for patients admitted with acute cardiac conditions

Exclusion Criteria
Patients <65
Non-cardiac referrals

Figure 1. Inclusion and exclusion criteria

The aim is to achieve 90% compliance with each objective

RESULTS

Percentage of cases where ward referrals noted the cardiac condition:	
$\frac{\text{Cardiac condition noted}}{\text{Total Cardiac Ward Referrals}} \times 100 = \frac{40}{44} \times 100 = 90.9\%$	
Percentage of cases where ward referral was in line with standards:	
$\frac{\text{No. of referrals in line with standards}}{\text{Total Cardiac Ward Referrals}} \times 100 = \frac{29}{44} \times 100 = 65.9\%$	
Percentage of cases attended to within 3 working days:	
$\frac{\text{No. of cases seen within 3 working days}}{\text{Total Cardiac Ward Referrals}} \times 100 = \frac{26}{44} \times 100 = 59.1\%$	
Percentage of cases where dates were accurately recorded	
$\frac{\text{No. of cases seen within 3 working days}}{\text{No. of cases where the date seen was accurately recorded}} \times 100 = \frac{26}{31} \times 100 = 83.9\%$	
Percentage of patients who required treatment	
$\frac{\text{No. of patients requiring treatment}}{\text{Total cardiac ward referrals}} \times 100 = \frac{14}{44} \times 100 = 31.8\%$	

Figure 2. Results Analysis

Data analysis (Figure 2) shows there was an overall **91% compliance** rate with regards to the ward referral recording the cardiac condition of the patient (Figure 3).

Cardiac Condition - Noted vs Not Noted

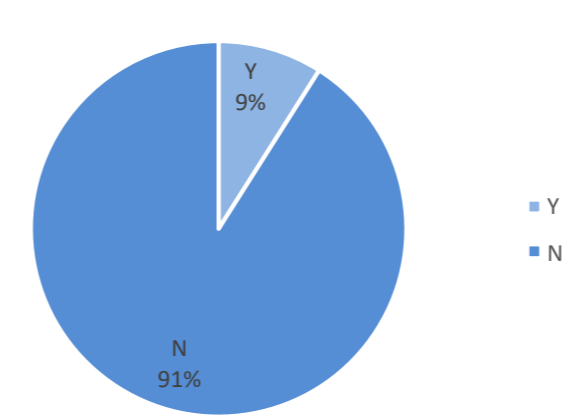


Figure 3

Percentage of referrals in line with gold standards

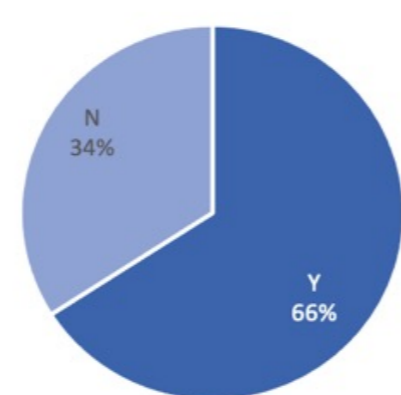


Figure 4

Secondly, there was a 66% compliance with regards to the referral being in line with the current guidelines (Figure 4).

Lastly, 59.1% of the ward referrals were seen within 3 working days (Figure 5). This is a lower outcome than expected; it is important to note that of the days accurately recorded we do have approximately 84% compliance.

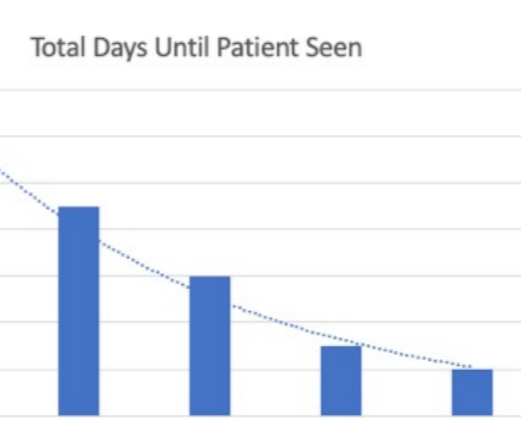


Figure 5

DISCUSSION

Research shows there is a clear need and benefit for hospitals to commission dental services for inpatients. (3) We can see from the above audit that approximately 32% of the patients benefitted from dental screening prior to cardiac surgery.

A COMPARISON OF WARD REFERRALS THAT REQUIRED VERSUS DID NOT REQUIRE DENTAL TREATMENT

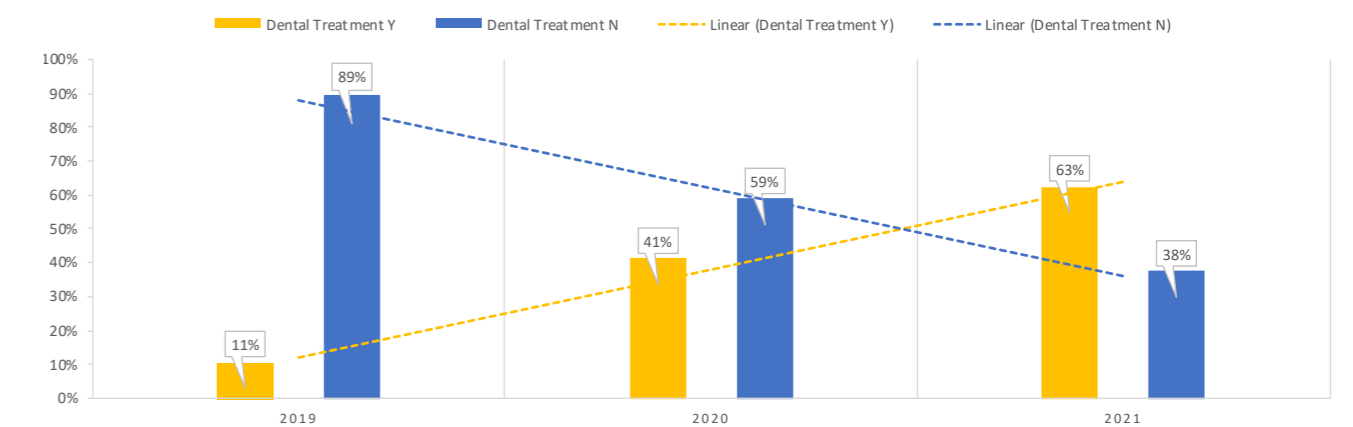


Figure 6

The graph above (Figure 6) shows the increased percentile of patients requiring dental treatment from 2019-2021. The number of patients requiring dental treatment has significantly increased from 2019 to 2021. The above graph shows 41% of the patients required treatment in 2020 compared to the 11% in 2019.

A limitation of this audit is we are still mid 2021 – thereby the results of 2021 cannot yet be fully compared. That being said, a spike to 41% is worth highlighting This further stresses the importance of dental reviews which enabled patients to access urgent dental treatment prior to cardiac surgery.

RECOMMENDATIONS AND ACTIONS

- Discuss results with departmental lead and present at monthly audit meeting.
- Further amendments to the Cardiology Referral Proforma to include specific cardiac conditions in line with the aforementioned standards
- Amending the dental ward referral logbook to include the date the patient was seen and date of review
- Providing additional training to cardiology colleagues with regards to appropriate referrals

CONCLUSION

A dental review prior to cardiac surgery helps us work in a patient's best interest with a multidisciplinary approach with cardiac colleagues to reduce the risk of post-operative infective endocarditis. The NICE guidelines (1) clearly advise patients of the importance of maintaining good oral health; improvements in oral hygiene may reduce the risk of developing IE. (4) A significant decrease in access to dental care was seen due to the COVID19 pandemic. (5) It is judicious to consider if this decrease in dental access to general dental practitioners and emergency dental services has contributed to further need for dental treatment via inpatient ward referrals.

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