Tympanometry:

Reduce Inappropriate Referrals for Review Assessment by Improving Staff Knowledge on the Procedure

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Background

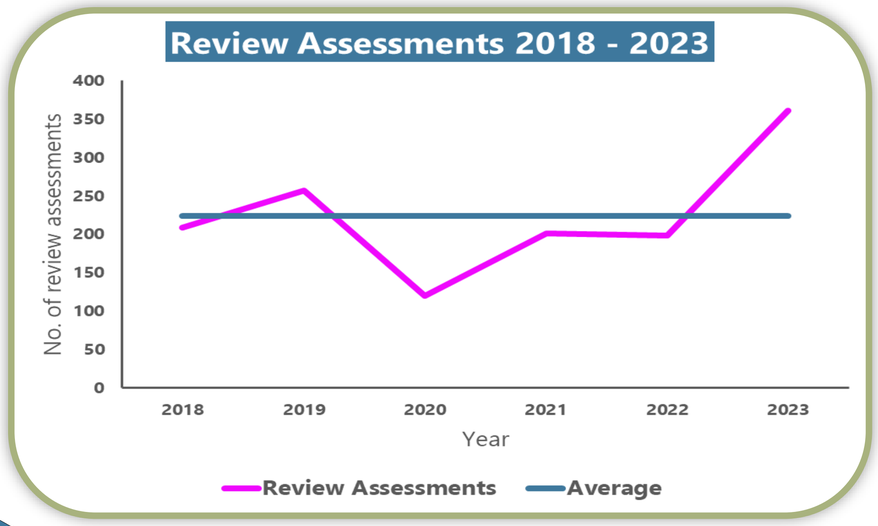
- 226Hz tympanometry is not sensitive to certain middle ear pathologies (Sanford et al., 2012).
- Acoustic immittance measures do not the make the diagnosis, they support the rest of the audiology assessment battery as it is very unlikely that a middle ear without a pathology would have a conductive component to the audiometry with normal acoustic impedance measurements (Shahnaz et al., 2009).
- Changes in guidance and the COVID-19 pandemic have resulted in tympanometry no longer being performed routinely, likely resulting in reduced knowledge and experience around performing and interpreting tympanometry, leading to the increase in inappropriate referrals for review assessments.
- Browning and Gatehouse (1992) state that most adults, >90%, will not have a significant middle ear pathology.

Aims

- To improve staff knowledge on performing and interpreting tympanometry.
- Reduce the number of unnecessary review appointments for patients.
- Reduce inappropriate referrals.
- Increase available capacity.

Method

- Five whys, in the form of a fishbone diagram to identify the root cause and therefore the appropriate intervention (Hewitt-Taylor, 2013).
- Quality improvement project of one completed PDSA cycle (NHS England, 2023).
- PowerPoint presentation with case-based discussions to cement learning (McLean, 2016).
- Pre and post training questionnaires completed to ascertain staff understanding and reported benefit of education session utilising the Likert scale. (Edmondson, 2005).
- 1 month of pre and post intervention referral data analysed and compared.

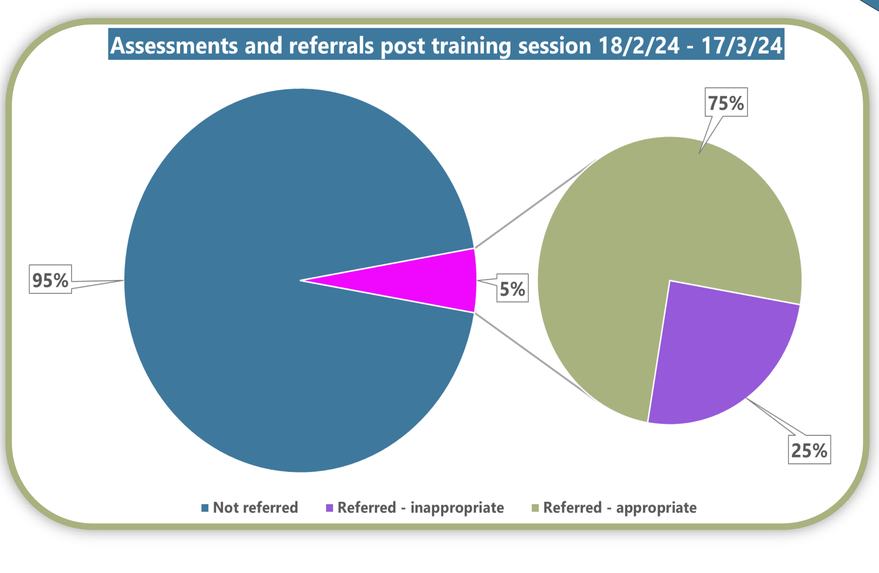


Results

- 24 members of staff attended the education session as part of the audiology clinical away day.
- 17 pre and 11 post training questionnaires obtained with staff reporting benefit from the session.
- Data analysis of referrals indicates a reduction in inappropriate referrals, with the only one made post training from a member of staff not present at the away day.

36% ↑ **Review assessments in 2023**

21% ↓ **Inappropriate referrals post training**



'More case based studies.'

'It was clear and concise. Great session. Enjoyed it a lot.'

'Would benefit from further tympanometry course as feel more thorough examination is expected from an audiologist than what is taught at university.'

'Great for confirming and reinforcing my current knowledge and understanding to help me feel more confident.'

Conclusion

- Initial data suggests an increase in staff knowledge and understanding around the procedure due to reduction in inappropriate referrals for review assessments following the education session.
- This creates an increase in available capacity alongside a reduction in unnecessary patient contacts.

Recommendations

- Review yearly data for 2024.
- Further case based sessions.
- Staff to rota on to ENT clinics to increase exposure to abnormal middle ears.

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