

Audiology in Primary Care - One Year In Evaluation Report

Author: Jane Wild

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1. Purpose of this Report

This report evaluates the new and innovative Audiology service in Primary Care whereby patients access an Audiologist, preferably as their first point of contact with a primary care clinician. The service does not involve delivery of secondary care Audiology in primary care settings. This innovative scheme removes the need for many people with hearing, tinnitus and certain balance conditions, to see their GP. The scheme was first implemented in August 2016 and is now in 25% of GP practices across BCUHB. To date two other Health Boards have introduced primary care Audiology. It is understood that this approach to delivery of Audiology is unique to Wales. This report has been developed one year after the initial implementation of the scheme, and aims to provide an overview evaluation for Senior Management colleagues and other interested parties.

2. Introduction

2.1 Audiology: hearing, tinnitus and balance conditions

Clinical Audiology is a scientific discipline concerned with identifying, assessing and managing hearing and balance function and their associated disorders.

2.1.1 Hearing

- It is thought that hearing difficulties affect around 575,500 people in Wales, with more than 40% of people over 50 years old having hearing loss, rising to 71% of people over the age of 70. This is set to increase to 1 in 5 people in the UK by 2035.
- Hearing impairment is an important health condition and is ranked thirteenth in the top 20 health conditions identified in the WHO Global Burden of Disease initiative, and is the third leading cause of years living with disease. Additionally, in a recent Lancet Commission 'Dementia prevention, intervention, and care', hearing loss was identified as the biggest modifiable risk factor for dementia.
- Evidence suggests that people wait, on average, 10 years before seeking help for their hearing loss and that when they do, GPs fail to refer 30-45% to NHS audiology services. It is estimated that of the 11 million people in the UK with manageable hearing loss only two thirds have presented to healthcare services. This leaves a significant unmet need in our population.

2.1.2 Tinnitus

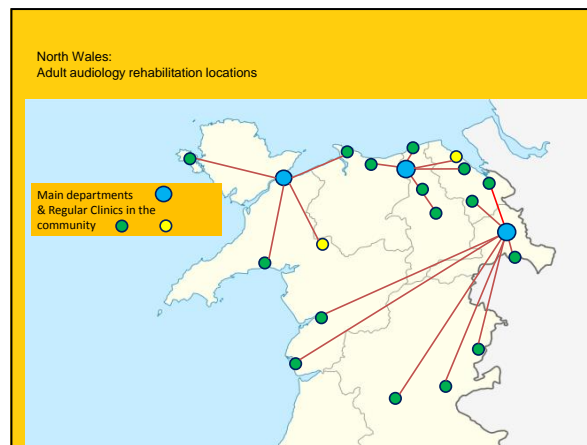
- Whilst many people will experience non-bothersome tinnitus at some point in their life, about 10% of people experience persistent tinnitus. Of those people who have persistent tinnitus, around 1 in 10 will find that it has a significant impact on their quality of life.
- Tinnitus can negatively affect a person's health and well-being causing distress, depression, anxiety, sleep disturbance and poor concentration. In some cases these effects are very significant.

2.1.3 Benign paroxysmal positional vertigo (BPPV)

- Benign paroxysmal positional vertigo (BPPV) is thought to be the most common cause of vestibular vertigo affecting 15% of the population and accounting for approximately 25% of balance referrals to ENT. Unmanaged BPPV is reported to lead to depression, anxiety, diminished quality of life and result in increased medical consultations.
- It is suggested that most individuals first presenting with BPPV receive no treatment or medication for vertigo and it is thought that only 10% are treated with positioning manoeuvres.

2.2 Secondary Care Audiology Services

Traditionally, Audiology services are delivered as part of secondary care pathways and people are referred into these services by General Practitioners or by ENT Specialists. In North Wales, Audiology services are delivered in the three main District General Hospitals and also at 21 other community locations.



2.3 The New Primary Care Audiology Service

This report evaluates a new and innovative Audiology Service. This new service is in addition to the service described above and puts Audiology within the Primary Care team, removing the need to see their GP, for many people with hearing, tinnitus and certain balance conditions.

The scheme aims to:

- Develop and implement the new and innovative role of Advanced Audiology Primary Care Practitioner who will deliver integrated hearing, tinnitus and balance services within each Primary Care Cluster. This is in line with BCUHB and Welsh Government Policy (e.g. Integrated Care Framework of Action for people who are D/deaf or with hearing loss; A Planned Primary Care Workforce for Wales; Prudent Healthcare).

Specific objectives are:

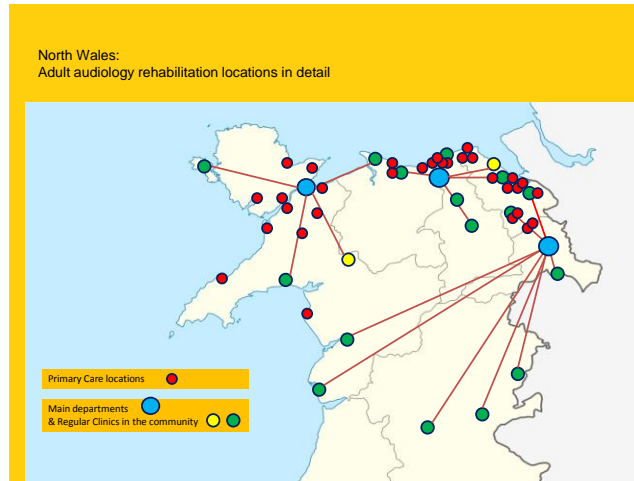
- Contribute to a sustainable Primary Care workforce aligned with the prudent principle 'only do, what only you can do', achieved through a reduction in demand on GP time by re-directing patients towards an Audiology professional rather than their GP.
- Provide more immediate and prudent access for patients ('right person, right place, right time'). People with hearing, tinnitus and balance difficulties will be able to access specialist Audiology services directly without the need for GP consultation.
- Contribute to an integrated primary and secondary care service and workforce by projecting Audiology into primary care. Thereby improving efficiency of referral through specialist knowledge earlier in the patient pathway resulting in more appropriate referrals.
- Provide specialist advice and management nearer to home, through Audiologists in primary care delivering the service within GP practices.
- Increase public health and professional awareness of hearing and balance through having Audiologists embedded within the Primary Care team.

3.Scheme Activity

3.1 Current Coverage and Staff

The scheme started in August 2016 with initial activity primarily related to pathway and protocol development, communication with GPs and primary care teams, practical set up of the service and staff training.

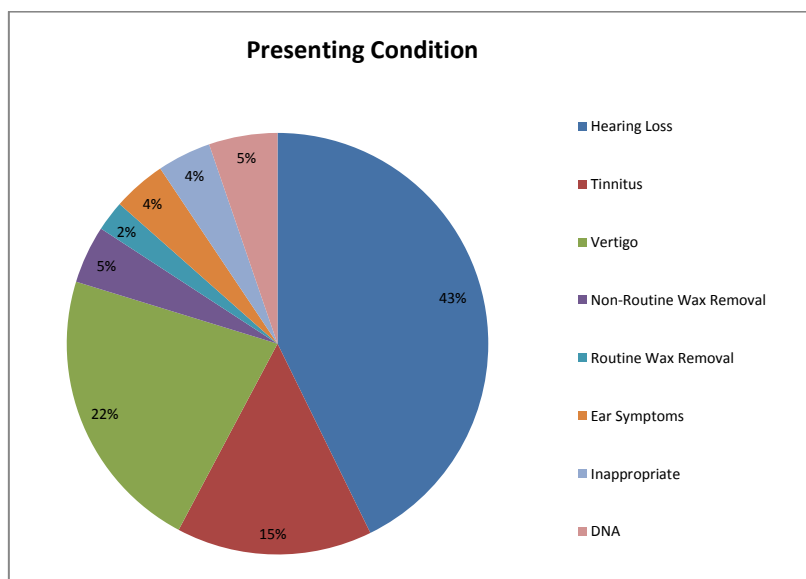
By January 2017 4.8WTE Advanced Practice Audiologists were in post and are now delivering primary care Audiology within 31 (25%) GP practices.



Up to the end of August 2017, a total of 4593 people have been seen by the primary care Audiology team. Many of these people are being seen by the Audiologist as the first point of contact either through self referral or following navigation by the reception staff. An additional proportion is being referred by the Advanced Nurse Practitioner.

3.2 Presenting conditions

The main presenting conditions are a mix of hearing, tinnitus and balance difficulties. This mix varies across practices although this is not thought to be due to demographic differences. There are a small proportion of people presenting with earwax that was unmanageable by other primary care staff and with other ear symptoms. Only 4% of referrals have been considered to be inappropriate.

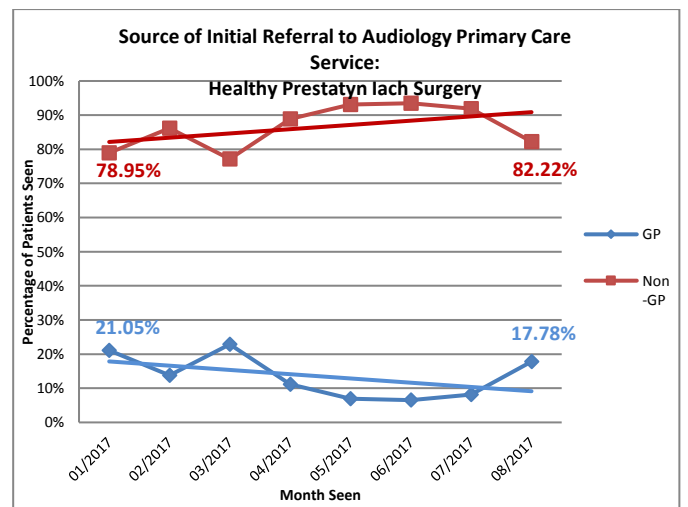
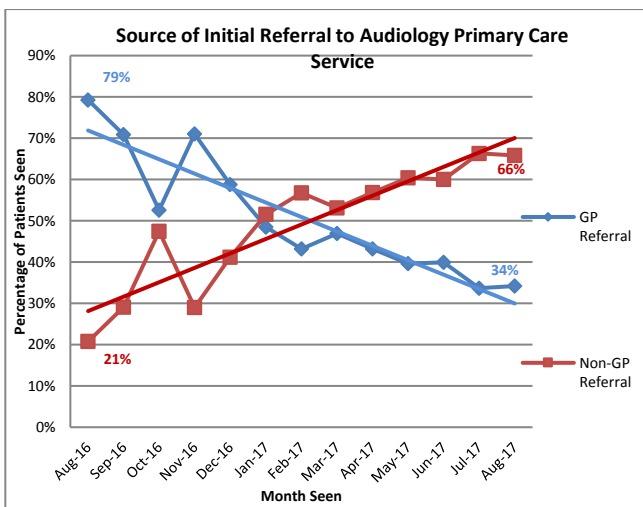


4.Scheme Outcomes

4.1 First point of contact

The proportion of patients accessing the Audiologist rather than other professionals as the first point of contact, is a key service performance indicator. It is expected that, as the Primary Care teams and public become more aware of the Audiologists presence in primary care, the rates of self referral directly to an Audiologist will increase. Data evaluated over the last year shows a steady decrease in the proportion of patients who saw their GP before seeing the Audiologist. In August 2017, only 34% of patients saw their GP before seeing the Audiologist.

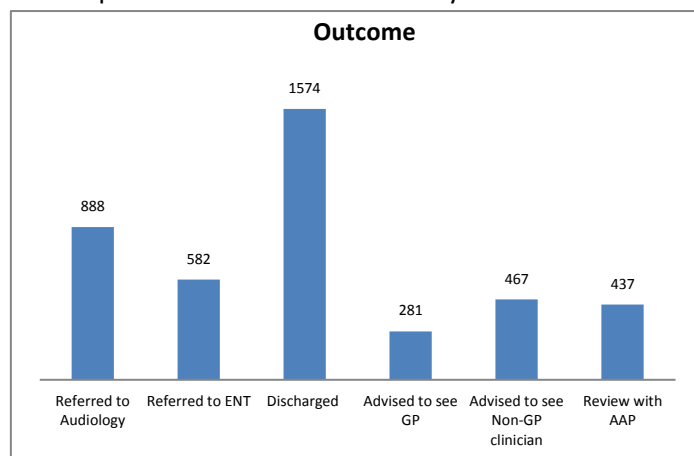
Furthermore, there are significant differences between different Practices. At some Practices as few as 10% of patients see their GP prior to seeing the Audiologist. It can be expected that this best practice rate can be achieved in all areas. The Audiologists are sharing this information with surgeries and working towards improved rates.



4.2 Effective Management by the Audiologist in Primary Care

Many (44%) of the patients seen to date have been effectively managed by the Audiologist in primary care, with the majority (78%) of these being managed at the initial appointment. These patients did not require any onward referral or to see another clinician within the primary care team. Only 6% of the total patients seen were referred to the GP.

This data implies that the Audiologist can effectively manage people presenting with hearing, tinnitus and BPPV in primary care, referring onwards for specialist care where necessary.



4.3 Changes in Presentation Rates

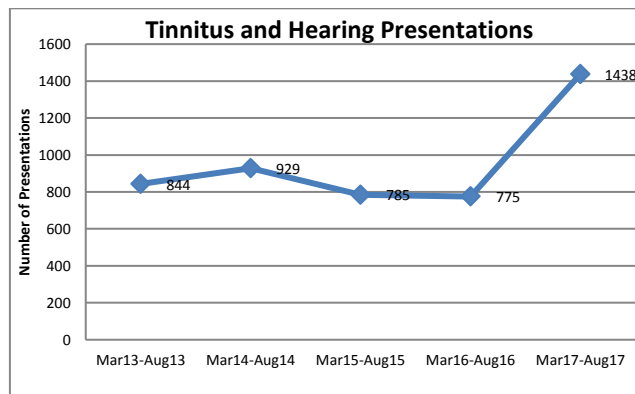
Data was collected for presentation rates over 6 month periods spanning the last 5 years, specifically 1st March to 31st August of the years 2013, 2014, 2015, 2016 and 2017. Searches were conducted using the Population Reporting

function of the EMIS patient management system to find the number of patients coded with specific conditions presenting in each sampling period. This data was only collected from practices where the Audiologist is currently delivering a service in primary care, however it is expected that this would be representative of other practices across BCUHB.

4.3.1 Hearing/Tinnitus

As described earlier, prevalence of hearing and tinnitus is significant and many people with these conditions, who could benefit from assessment and management, don't present to healthcare services. It was therefore not surprising that the presentation rate in Primary Care for these conditions increased once this service was implemented.

The graph below shows a steady presentation rate over the four year period prior to the implementation of the Primary Care Audiology Service and then a significant increase in the presentation rate in the latest period once the Primary Care Audiology Service was in place. It is thought that this step change may be due to i) an underlying unmet need discussed above and ii) a backlog of people willing to take this opportunity to resolve their difficulties through this new route. On this basis, it is speculated that this higher presentation rate, since the service commenced, may in time lower to a sustained level (although still greater than historic demand).

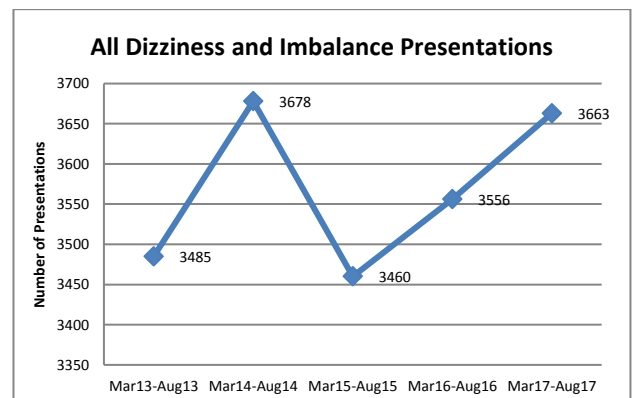
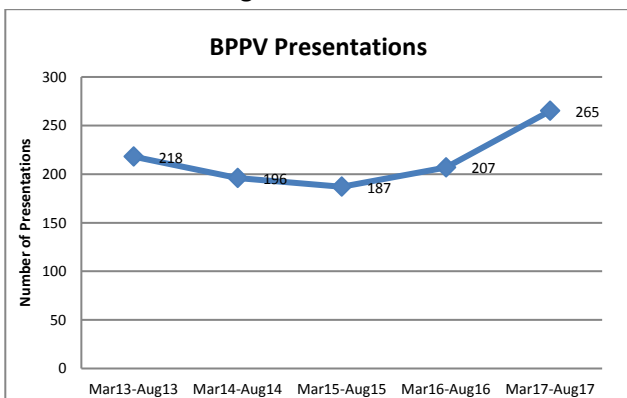


4.3.2 BPPV

The presentation rates for BPPV also show an increase during the period that the Primary Care Audiology service has been in place, although this is not as significant as the increase in presentations for hearing and tinnitus.

It's not known if balance difficulties under-present in the same way as hearing and tinnitus difficulties do. It is possible that the increase in the rate of BPPV presentations may reflect a change in the coding within the primary care system, in that Audiologists are able to positively diagnose BPPV in primary care where as GP may have coded as more general balance difficulties.

As can be seen from the data on general dizziness and imbalance presentations, the presentation hasn't increased suddenly during the last twelve months, supporting the theory that the increase in BPPV may be due to improved or more accurate coding of this condition.



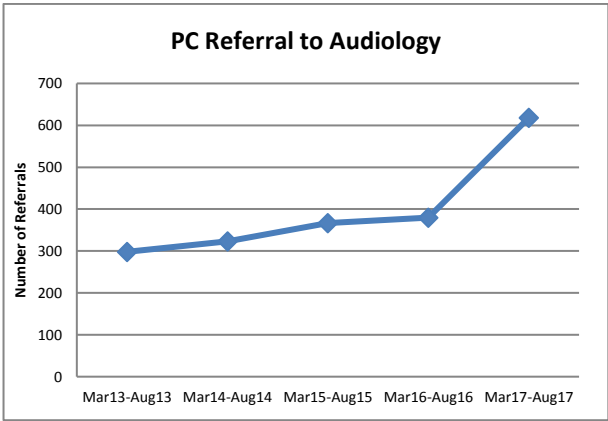
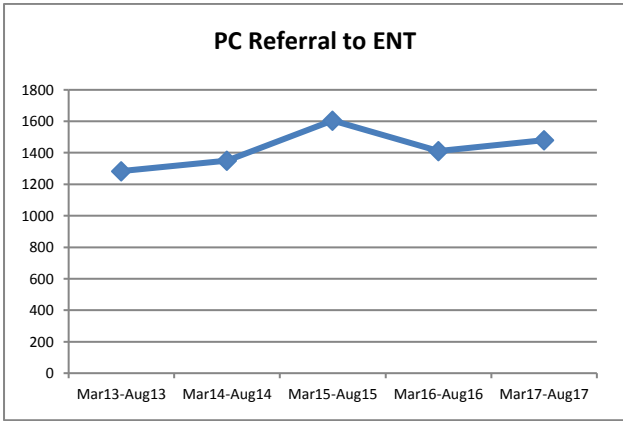
4.4 Onward Referral Rates

4.4.1 To Audiology

A number of patients are referred by Primary Care to Secondary Care Audiology Services for full audiological or vestibular assessment and rehabilitation. As can be seen in the graph below, the number of referrals to Audiology has been slowly increasing over the last 5 years but with a marked increase in the last year and since the Primary Care Audiology service has been in place. Although the numbers of referrals have increased, this reflects the increased number of presentations of hearing, tinnitus and BPPV in Primary Care.

4.4.2 To ENT

It was not expected that the presence of Audiology in Primary Care would have an impact on referral rates to ENT. It was proposed that Audiologists would be as effective as GPs at identifying those people who required onward referral to ENT for specialist medical assessment. Pathways were developed with ENT and GPs to ensure safe and appropriate referrals were made, in line with current practice in primary care. The data below shows a fairly steady referral rate to ENT over the last 5 years with no significant increase in the last period.



4.5 Appropriateness of Onward Referrals

Whilst a reduction in referrals to Secondary Care specialist ENT or Audiology Services was not within the aims of this scheme, the aims did include an increase in appropriateness of referrals.

To date, data has not been collected on the appropriateness of Primary Care Audiology referrals to ENT compared to those made by GPs. This evaluation would be based on the outcome of the ENT consultation and it is still too early in the scheme to evaluate this. However, this work is planned for later in the year or early 2018.

Early data is available for referral onto Secondary Care Audiology. Analysis of a sample of referrals (n=143) from Audiology in Primary Care shows that the appropriateness of referrals, based on indicators early in the pathway (i.e. people that end up being offered, accepting and receiving an intervention), has increased from 80% to 85%. However, long term outcomes, perhaps related to improved adherence to use of interventions provided, will be a better indicator of referral appropriateness. Again, it is planned that this data to be collected and analysed once enough time has passed. It is worth noting that it was thought by the Audiology team that the appropriateness of referral to Secondary Care Audiology would be higher than 85%. The team will be looking in detail at the possible reasons around this and modifying practice and processes with the aim of improving further.

5. Cost Savings

This scheme did not include cost savings within its aims. However, potential cost savings have been explored as part of the evaluation.

5.1 In primary Care: Initial consultation with Audiologist rather than GP

Costs comparing the old and new models have been calculated. The old model includes one GP consultation plus a practice nurse consultation for a proportion of patients (where earwax removal would have been required). The new model includes one consultation with the Audiologist in Primary Care (where earwax removal would be performed as part of that initial consultation). This data indicates a £3.83/pathway saving.

This is based on a 25 minute consultation with the Audiologist. It is hoped that the model can be developed and refined to introduce 20 minute consultations. If this were achieved the saving/pathway would be greater and would result in an overall cost neutral position, where the service would be able to manage the increased presentation rates within the current costs.

It is also worth noting that further evaluation is required looking in more detail at the average pathways of people with balance (specifically BPPV) in Primary Care and at the general Primary Care presentation rates for those people with hearing and communication difficulties.

It is reported that only 10% of people presenting with BPPV in conventional primary care services are managed using positioning manoeuvres and that most receive no treatment or medication. It's expected that many of these people will present to see their GP a number of times where as they could be treated successfully at their initial appointment with the Audiologist.

Similarly it is reported that people with unmanaged hearing and communication difficulties access their GP and Primary Care Services more than people without hearing and communication difficulties.

Detail of these and other potential cost saving or health economic benefits have not being included in this evaluation report.

5.2 In Secondary Care

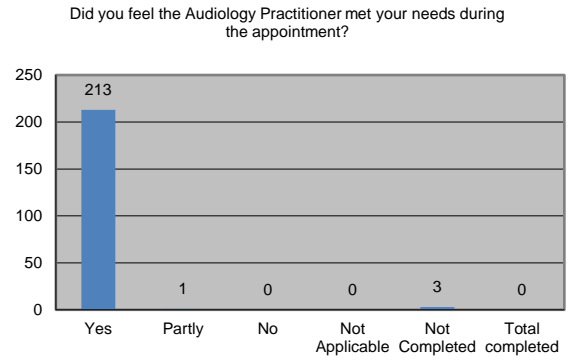
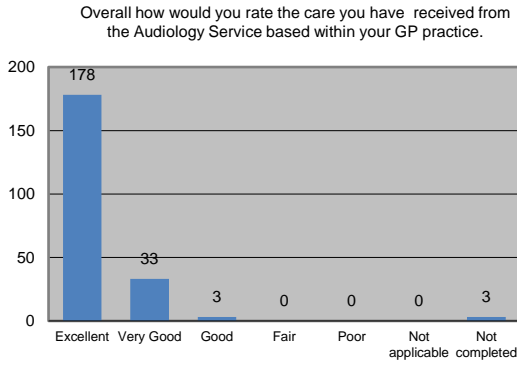
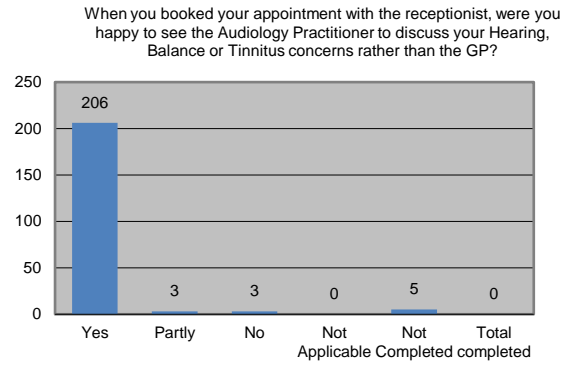
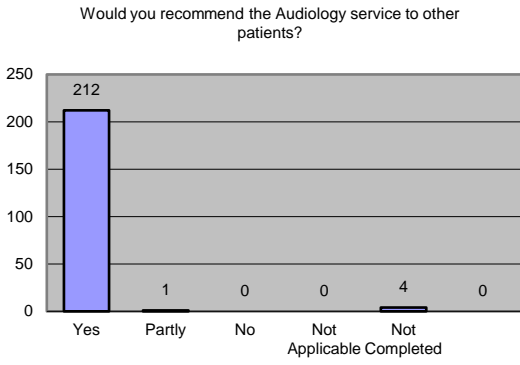
As described in section 4.4 above, there has been no reduction in the referrals to ENT or Audiology as a result of the Audiologists role in primary care. Therefore there are no Secondary Care cost savings associated with this scheme.

6. Stakeholder Experience

6.1 Patient Reported Experience Measures (PREM)

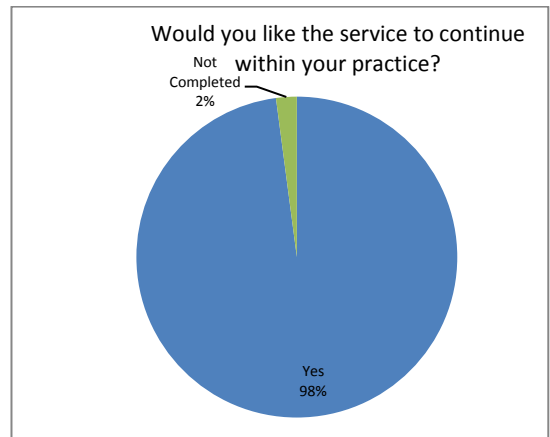
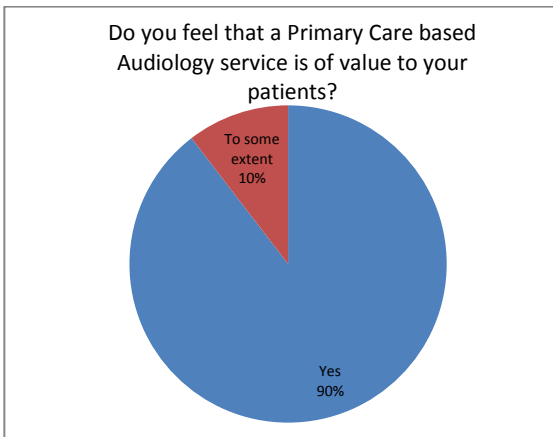
Service user experience has continued to be very positive. A survey has been handed out to all service users during set periods. They were asked to complete the survey anonymously and return to a box in reception.

Two hundred and seventeen people have returned a completed survey to date. The responses show a high level of effectiveness and acceptance of the Audiology service in Primary care, with 98% of people reporting that their needs had been met by the Audiologist in primary care, 97% rating the service as either very good or excellent and 98% of people saying they would recommend the Audiology service to others.



6.2 Primary Care Staff Experience

The experience of Primary Care staff has also been collected. The data below shows a similar high regard for the Audiology service in Primary Care with 100% of clinicians responding that they feel that the service is of value to their patients at least to some extent and 98% reporting that they would like the service to continue in their practice.



7.Future Requirements to Deliver across BCU

The current scheme is able to cover 31 GP practices which is approximately one quarter of practices across BCUHB. Initial scheme proposals estimated that a total of 14.0 WTE Primary Care Advanced Practice Audiologists would be required to deliver the adult hearing, tinnitus and BPPV service across BCUHB. This equates to 1.0 WTE per Cluster including the 3 Area leads.

7.1 Additional Funds required

	Required to deliver across BCUHB (WTE)	Currently in post/under recruitment (WTE)	Still required (WTE)	Full roll out pay costs	Full roll out non-pay costs	Current funding	Additional recurrent funding required	Additional non-recurrent funding required
Band 8a Area leads	3	3	0	166,605	16,500	183,105	0	0
Band 7	12	2.5	9.5	540,408	66,000	126,335	480,073	47,500

N.B based on 17/18 pay-scales

7.2 Roll out timescale

It's envisaged that roll-out would take place over 3 years to ensure effective engagement, safe implementation and successful recruitment of advanced practitioners. The additional funds would therefore be required over the following periods.

	Y1-2 (16-18) currently funded	Y3 (18/19) additional required	Y4 (19/20) additional required	Y5 (20/21) additional required
Recurrent		160,024	160,024	160,024
Non recurrent		15,833	15,833	15,833
Total	309,440	175,858	175,858	175,858

7.3 Demographic Analysis of Suspected Unmet Need

Demographic information along with prevalence data for hearing loss has been used to analyse where the most unmet need within the BCUHB area may be. A roll-out programme based on this data would be suggested.

8.Potential for Development and Extended Scope

The current scheme is limited to adults (aged 16 and over) and the pathways are the extension of those that already exist in Secondary Care.

Further development and extended scope and practice of the Audiology Primary Care team is being investigated. This could include paediatric presentation of hearing loss, outer ear management and middle ear management. Development of pathways for children aged from 11-16 years who are presenting with hearing difficulties or tinnitus is currently underway. Further development could then incorporate younger children.

Pathways for the effective and efficient management of outer and middle conditions would significantly benefit from the Advanced Practitioner Audiologist being a non-medical prescriber or able to use Patient Group Directions (PGD). There is currently a programme of UK-level work underway that would enable Clinical Scientists (including those in Audiology) to use PGDs. It's hoped that this legislative change will be in place by the end of 2019. This timescale would fit well with the completion of the roll out of the current scheme, leading to the opportunity to extend the scope to include the additional pathways mentioned above.






9.Summary

This new and innovative scheme, introducing and implementing the new role of Advanced Practice Audiologist in Primary Care, has been successful.

The Advanced Practice Audiologists have been able to take work from GPs, thereby releasing GP capacity and doing so safely and effectively by managing many patients within the Primary Care setting at the initial appointment.

Many patients have received specialist care closer to home and their clinical pathways have been shorter.

Patients have reported an extremely positive experience as have primary care clinic teams.

Aims	Achieved
Develop and implement the new and innovative role of Advanced Audiology Primary Care Practitioner who will deliver integrated hearing, tinnitus and balance services within each Primary Care Cluster.	 although not yet within every PC cluster
Contribute to a sustainable Primary Care workforce aligned with the prudent principle 'only do, what only you can do', achieved through a reduction in demand on GP time, by re-directing patients towards an Audiology professional rather than their GP.	
Contribute to an integrated primary and secondary care service and workforce by projecting Audiology into primary care. Thereby improving efficiency of referral through specialist knowledge earlier in the patient pathway resulting in more appropriate referrals.	
Provide more immediate and prudent access for patients (right person, right place, right time). People with hearing, tinnitus and balance difficulties will be able to access specialist audiology services directly without the need for GP consultation.	
Provide specialist advice and management nearer to home. Audiologists in primary care will be delivering the service within GP practices.	
Increase public health and professional awareness through having Audiologists embedded within Primary Care team.	