

Background

Approximately 2200 babies are screened per year in the newborn nursery at the Oregon Health & Science University. A two-stage screening process utilizing distortion product otoacoustic emission (DPOAE) and automated auditory brainstem response (AABR) is completed as an inpatient. Implementation of a paid, dedicated, screener reduced the overall hospital refer rates to 3-4%.

Budget cuts in 2007 forced the elimination of the hearing screener position. Consequently our referral rate rose to 11-13%. With the increase in referral rate, it became evident that OHSU needed a different solution. Annual competencies and one-on-one trainings were subsequently implemented.

A trial use of a select group of hospital volunteers proved beneficial and led to increased use of volunteers. Volunteers must be undergraduate students in a communication disorders program and complete one 3-4 hour shift once a week for 14 months.

Objective

- Determine the number of screens being completed by volunteers and staff.
- Determine the referral rates for volunteers/staff
- Determine if volunteer based program helped reduce referral rate.
- Consistency of the referral rate over time

Methods

Initial steps:

- Complete data set including screening results from volunteers and staff.
- Increase number of volunteers and the number of screens completed by them.
- Decrease number of staff conducting hearing screenings
- Implementation of annual core competency exam, including hands on training and practical evaluation.

Data:

- Data pulled from hospital databases/sources
- Data was categorized into:
 - Year
 - Month
 - Type of screener
 - Type of screen
 - Pass or refer

Results

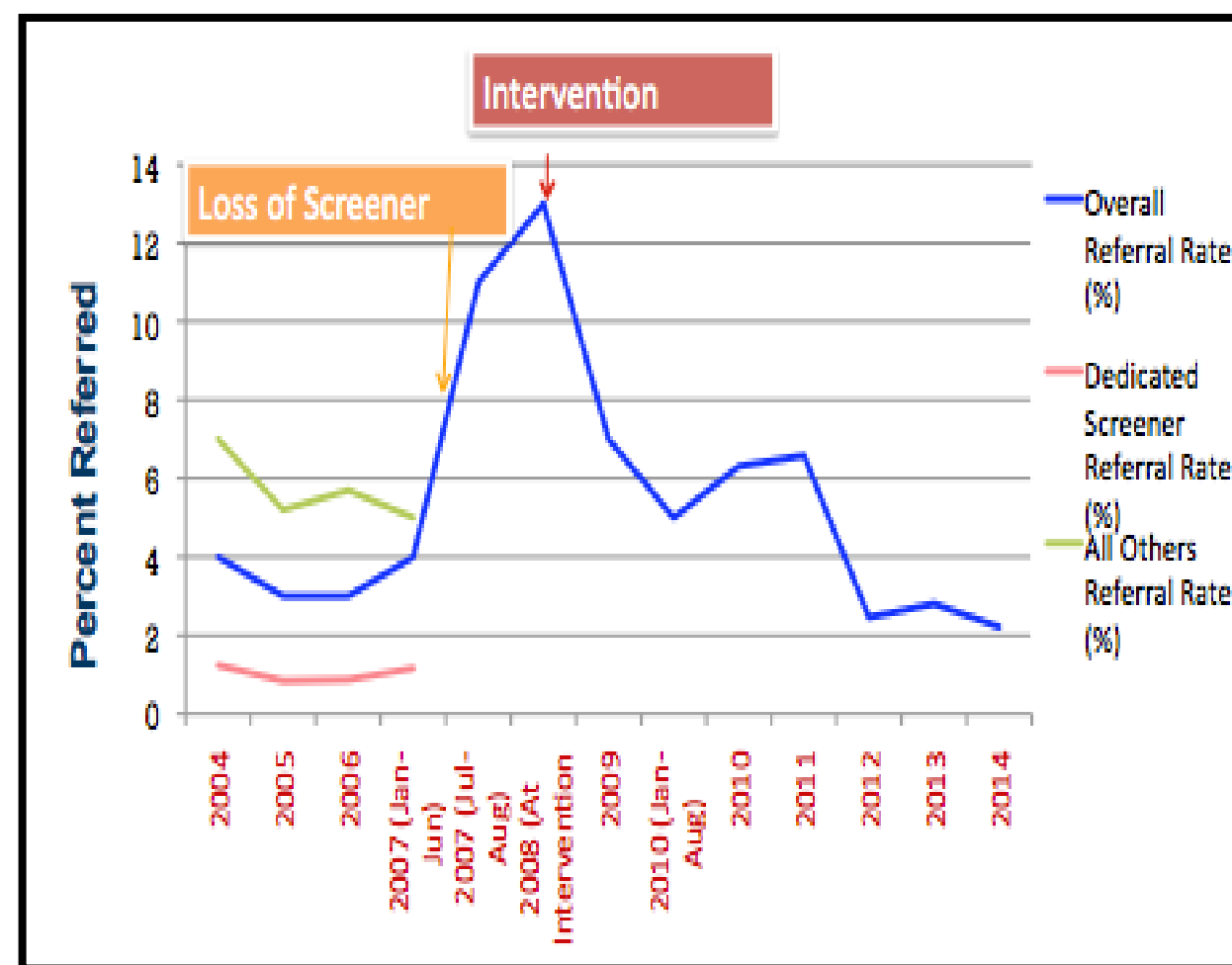


Figure 1: Assessment of referral rate over time.

- Targeted intervention decreased hospital referral rate to 5-7%.
- Increase from 2 volunteers (2010) to 9-11 volunteers (2012) reduced hospital referral rate to 3%.

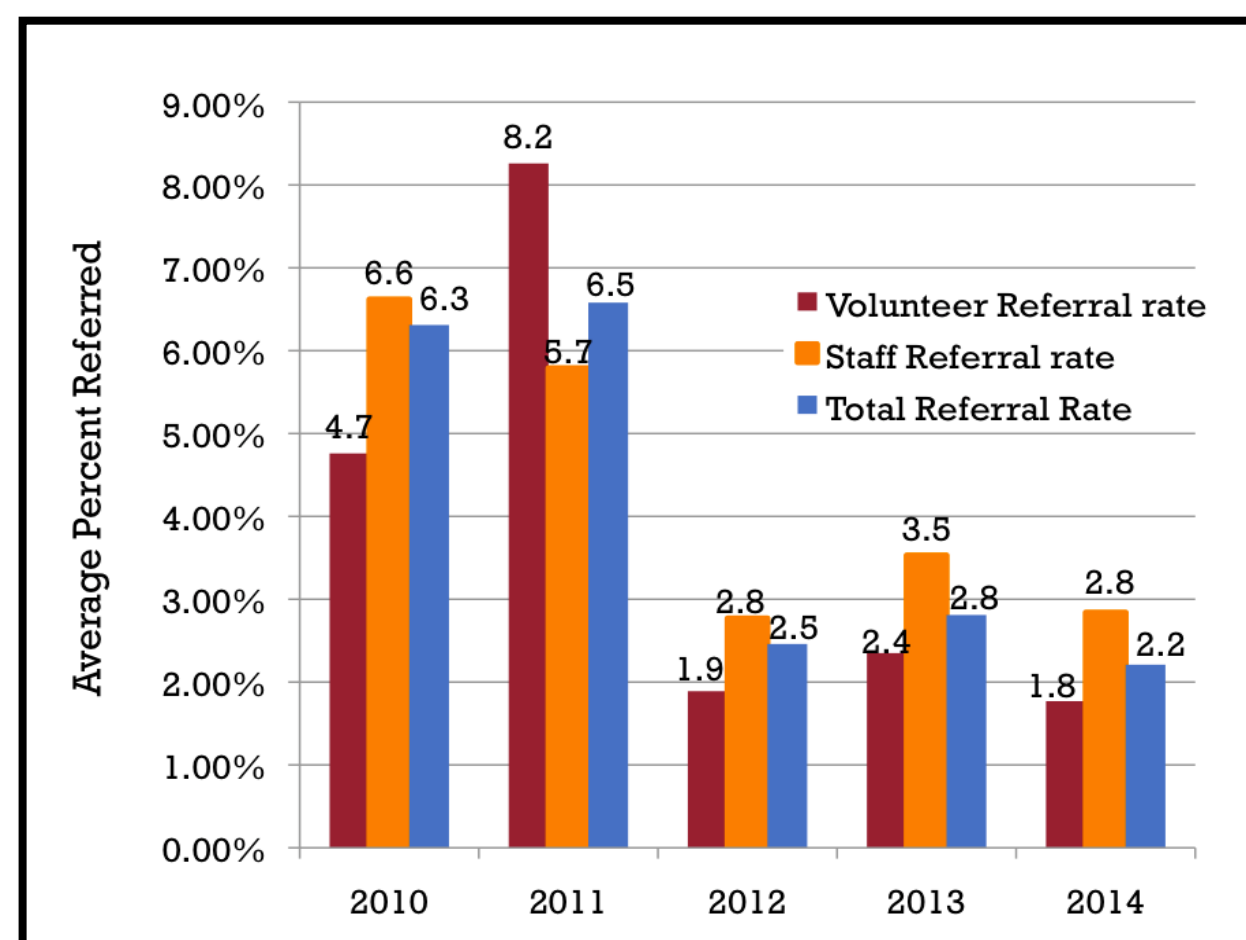


Figure 2: Hospital referral rate comparison.

- Referral rates among volunteers are less than those among staff, resulting in an overall reduced hospital referral rate.

Results

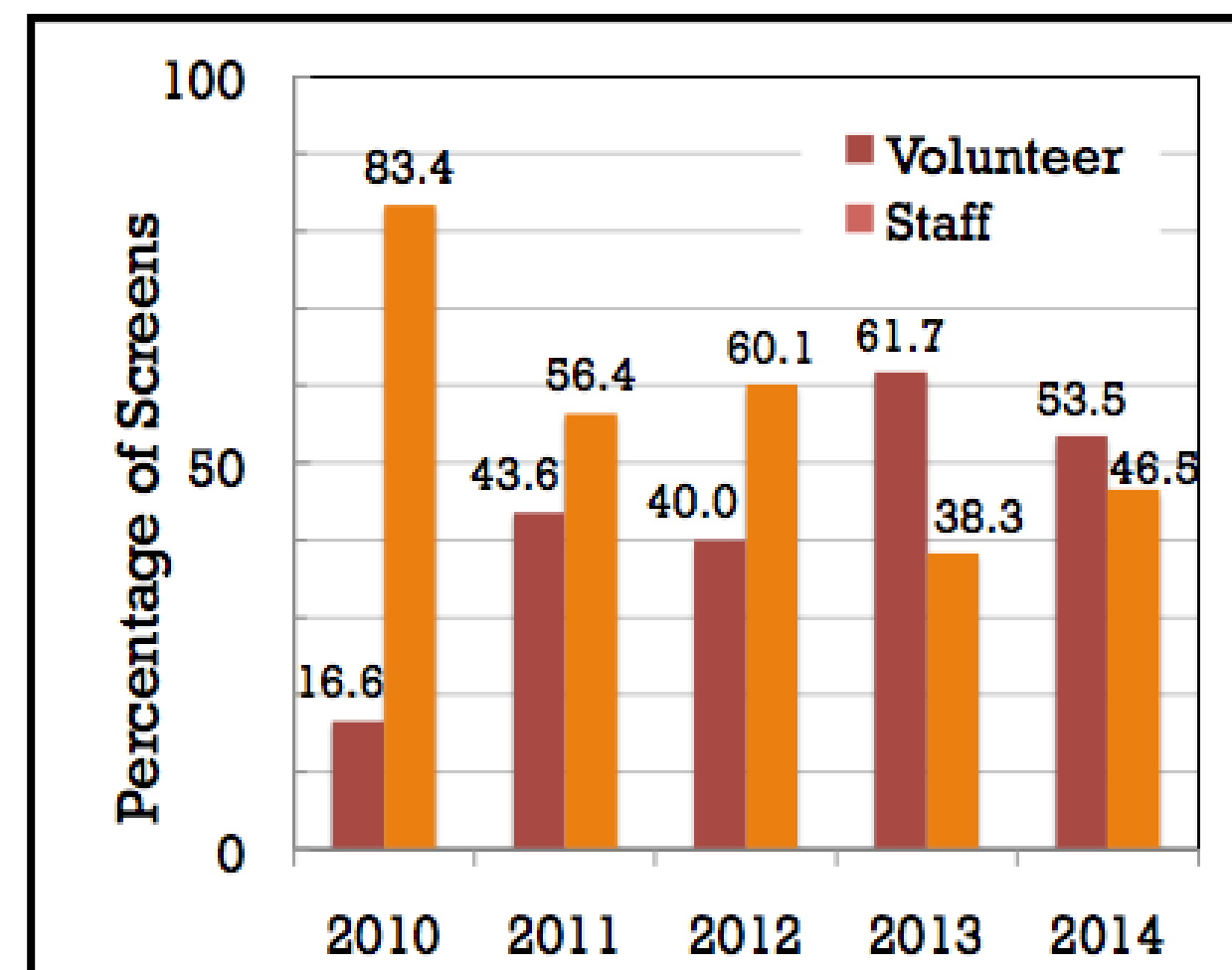


Figure 3: percentage of screens completed by volunteers and staff.

- Increase in number of screenings completed by volunteers directly related to increase in number of volunteers performing screenings (2012-2013).
- Decline in number of screenings completed by volunteers in 2014 related to construction and division of well baby nursery into two units that were not in close proximity to one another.

Discussion

Refer rates have declined due to:

- Increased staff understanding of screening equipment and screening process
- Increase in number of volunteers completing screenings
- Reduction in number of staff performing hearing screenings

Ongoing Challenges include:

- Training of large number of hospital staff
- Annual recruitment and training of new student volunteers
- Time to complete 2-stage screening process as hospitals reduce length of hospital stay

Discussion

Future goals:

- Maintain overall refer rate of ~ 3%.
- Increase number of screens completed by volunteers to 60-70%.
- Increase the number of volunteers
- Determine cost benefit of volunteers to hospital

Benefit to Screening Program:

- Volunteers can spend time needed to complete screening on difficult/fussy babies
- Volunteers are selected from pool of specific students
- Volunteers are more familiar with auditory system than staff
- Volunteers gain experience in medical setting and gain awareness of importance of early identification of hearing loss which may influence future practice.

Limitations:

- Volunteers cannot chart in electronic records
- Documentation of screening results dependent on communication between volunteers and staff.
- Availability of volunteers is dependent on their schedule
- Staff can become dependent on volunteers and lose familiarity of screening process and equipment.

Conclusions

As hospitals face budget cuts, pressure to streamline care and reduce length of hospital stay, staff are faced with increased responsibilities/duties and a reduced amount of time in which to complete mandatory tasks. This study's findings support use of volunteers to complete hearing screenings and a possible option to improve a hospital based newborn hearing screening program.

Acknowledgements

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