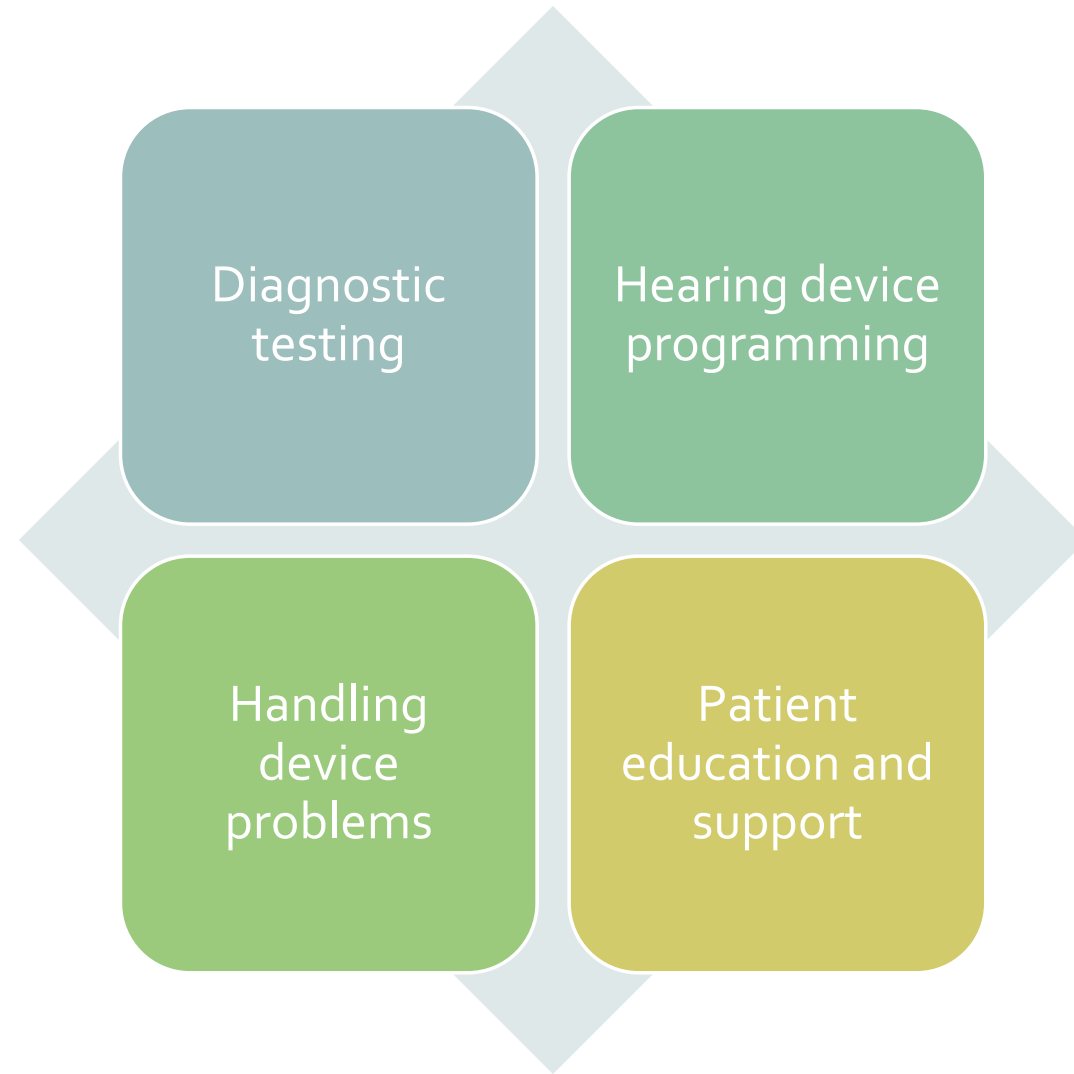


eAudiology Lecture Series - Considerations for Graduate Training

Karen Muñoz, EdD

Utah State University

Opportunities
to practice
eAudiology are
expanding



Audiology associations provide resources

ASHA

“There are no inherent limits to where telepractice can be implemented, as long as the services comply with national, state, institutional, and professional regulations and policies.”

<https://www.asha.org/Practice-Portal/Professional-Issues/Telepractice/>

AAA Toolkit

“The clinical literature on tele-audiology indicates a significant opportunity for telehealth applications in the practice of audiology. This kit is designed to provide tools and resources to help you address this evolving service delivery model... ”

https://www.audiology.org/practice_management/resources/tele-audiology-toolkit

Audiology is
not alone in
navigating
eHealth
opportunities

American Medical Association

"...exposure to and evidence-based instruction in telemedicine's capabilities and limitations at all levels of physician education will be essential to harnessing its potential." Past President Robert M. Wah, M.D. (2016)

<https://www.ama-assn.org/ama-encourages-telemedicine-training-medical-students-residents>



What are the boundaries?

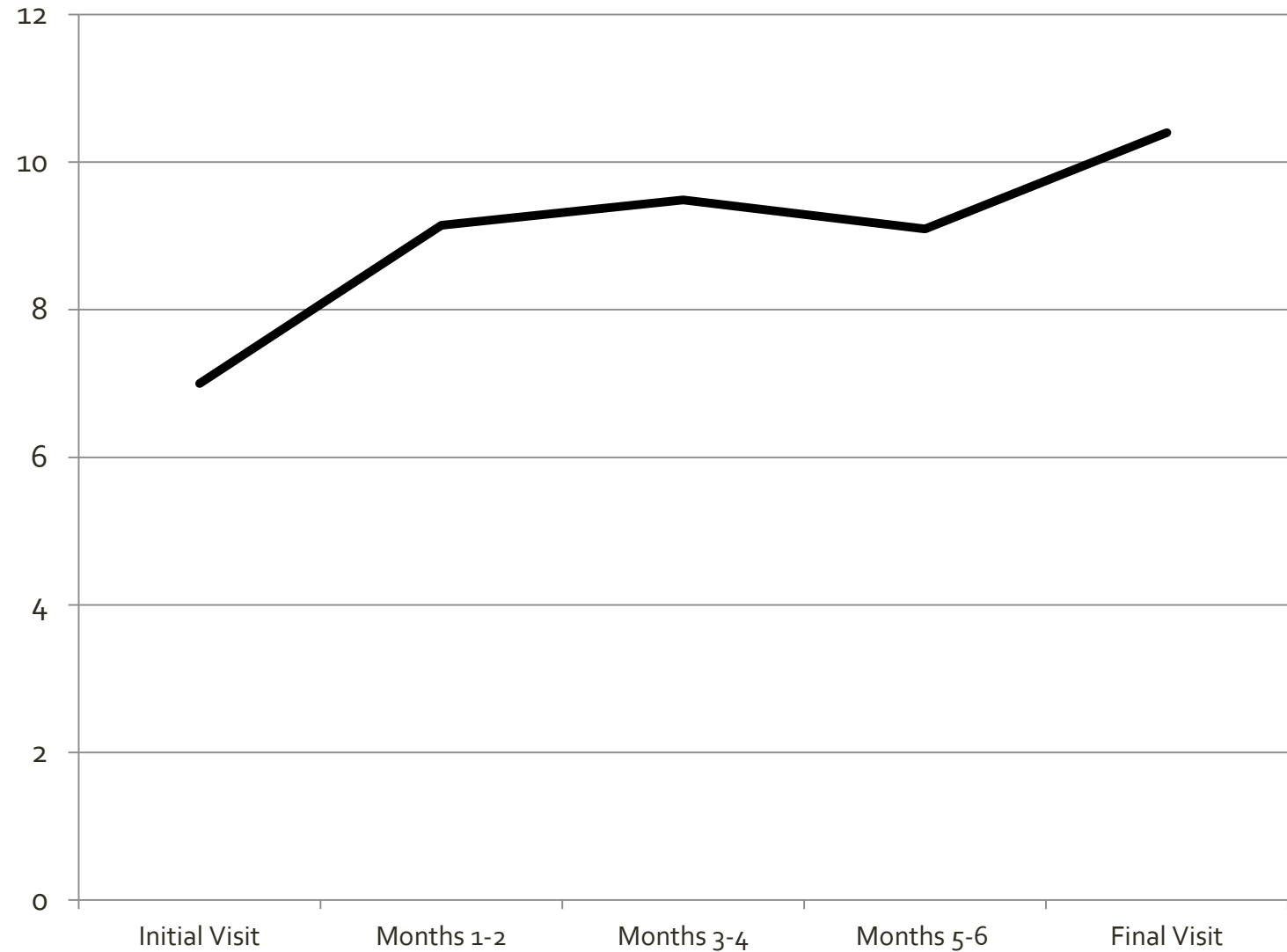
How do we learn to navigate them?



Graduate training can accelerate adoption of eAudiology



Remote support can help families overcome challenges



Muñoz et al., 2016

Teaching trends in 2013

28 AuD Programs

Not offered: 15 (54%)

Offered in courses and/or clinic: 10

Barriers raised:

Not enough time

Unsure there is a need

Lack of familiarity

Privacy concerns

Telepractice in University Au.D. Programs: Survey of Program Directors

Nichelle J. Wilson

Department of Hearing, Speech, and Language Sciences, Gallaudet University
Washington, DC

Brenda C. Seal

Department of Hearing, Speech, and Language Sciences, Gallaudet University
Washington, DC

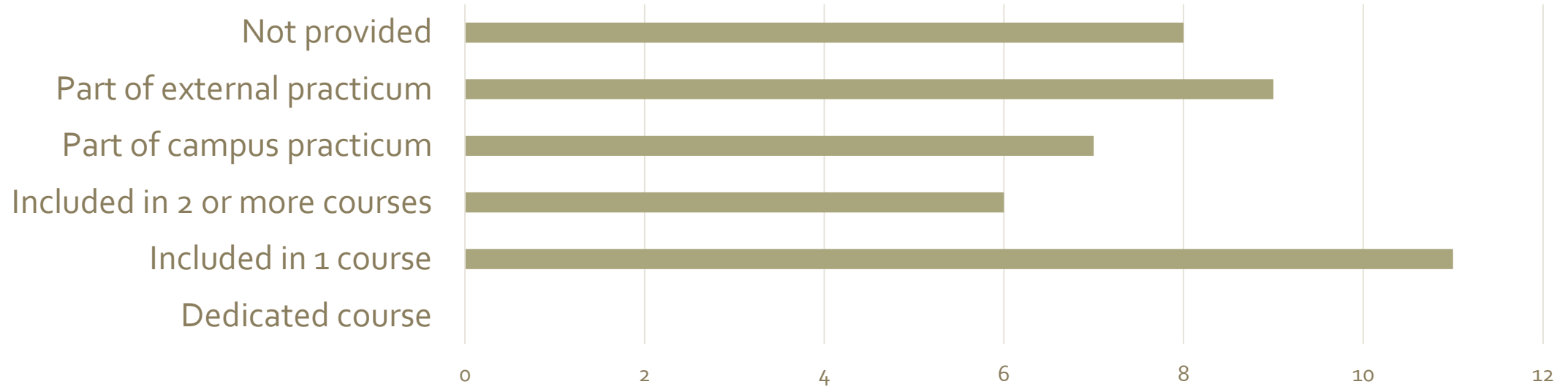
Financial Disclosure: Nichelle J. Wilson conducted this research in satisfying her Au.D. capstone project at Gallaudet University. Brenda C. Seal served as faculty chair of the research. Results were presented at the American Speech-Language Hearing Association Annual Conference in Orlando, Florida in November 2014 and at the Speech and Hearing Association of Virginia's Annual Conference in March 2014.

Nonfinancial Disclosure: The authors have no nonfinancial interests related to the content of this article.

Abstract

Permanent hearing loss is a global health care burden; 360 million people, including 32 million (9%) children, have disabling hearing loss (Chadha & Stevens, 2013, p. 2). About 80 percent of these people live in developing nations without access to hearing care services. The American Academy of Audiology (AAA, 2014) has reported "ongoing efforts to explore and enhance the use of telepractice...to expand the availability and accessibility of hearing and balance care" to individuals across the world. The American Speech-Language-Hearing Association (2014c) has also endorsed advances in telepractice for the world's millions with hearing loss and related disorders, and encouraged institutional involvement as a future direction for audiology training. In the first publishing of this nature, this report shares survey responses from 28 of the nation's 74 graduate programs about their inclusion of telepractice in the Clinical Doctor of Audiology (Au.D.) curriculum. Results suggest a slow response from university programs and challenges in addressing telepractice in current

Number of Programs (N=29)



Teaching Trends October 2018
29 AuD programs (39% response rate)
(Muñoz, unpublished)

Core Courses (n)		Services (n)	
Professional Practice/Practice Management	7	Hearing aid follow-up / troubleshooting	4
Advanced Audiology Assessment	4	VA services	3
Amplification	3	Pediatric aural rehabilitation	2
Cochlear Implants/Other Amplification Devices	2	Information/education-based counseling	1
Counseling and Professional Issues	2	Hearing aid orientation	1
Audiology in an Interprofesional Healthcare Model	1		
Aural Rehabilitation	1		
Pediatric Audiology	1		
Ethics	1		

Courses and
practicum
opportunities
reported

Barriers reported by programs not teaching eAudiology

Barrier/Challenge	n
Cost of equipment (e.g., diagnostic)	4
No current clinical opportunities	3
Billing/reimbursement	2
Working out privacy HIPAA concerns	1
Lack of interest from current providers	1
Working on a curriculum revision that will include tele-audiology	1
Identifying patient population in our area that would benefit	1
Clinic computers not connected to the internet	1
Tele-health space will be available in the next year	1
Faculty capacity to cover yet another topic	1
No one on staff is expert enough to instruct students	1
Current demand is so high there is not time to expand to tele-audiology	1
Legal will not allow use of apps for hearing aids due to how data is stored in other countries	1
Located rurally and people have access to the clinic	1

Barriers reported by programs not teaching eAudiology

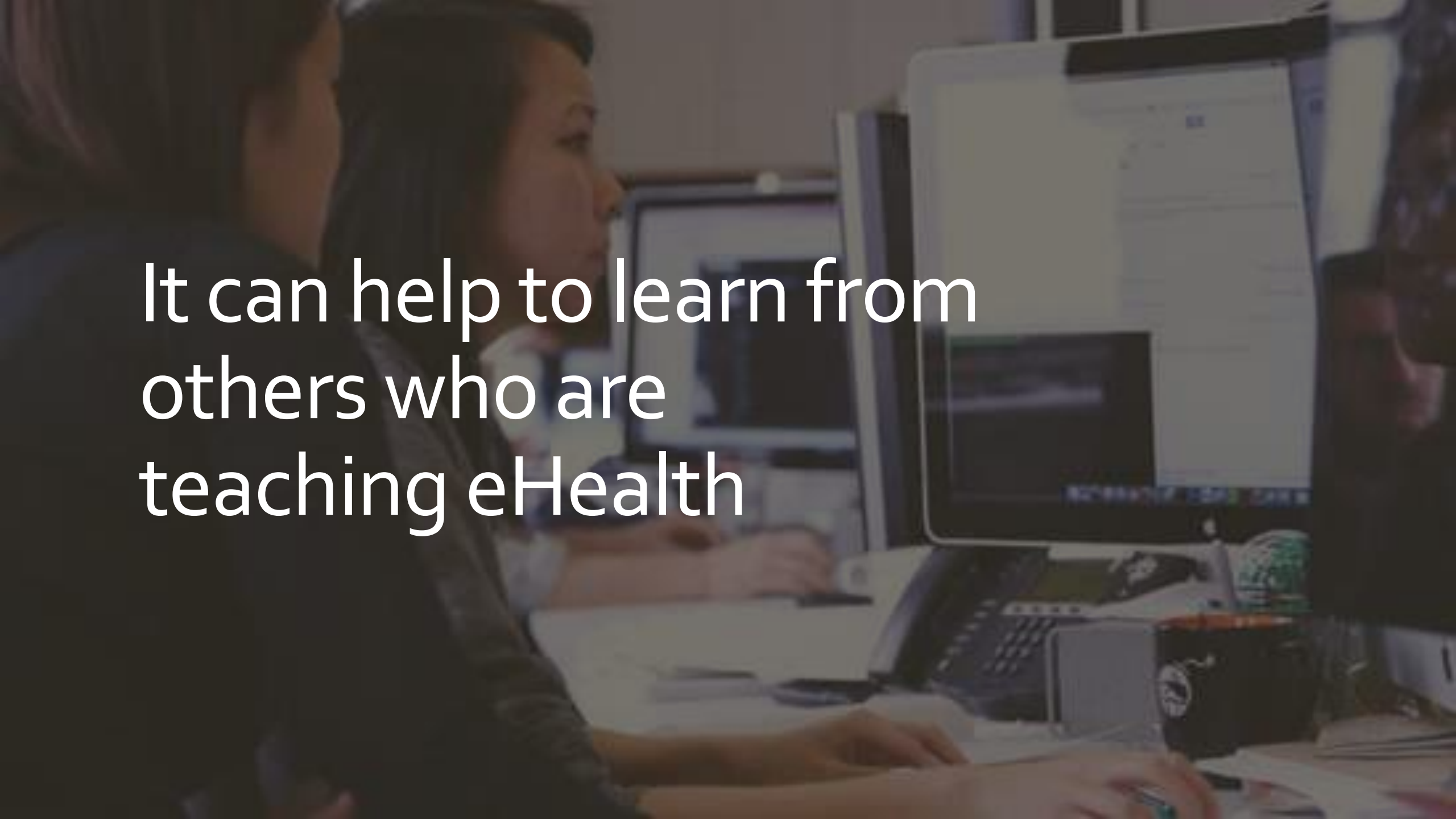
Barrier/Challenge	n
Cost of equipment (e.g., diagnostic)	4
No current clinical opportunities	3
Billing/reimbursement	2
Working out privacy HIPAA concerns	1
Lack of interest from current providers	1
Working on a curriculum revision that will include tele-audiology	1
Identifying patient population in our area that would benefit	1
Clinic computers not connected to the internet	1
Tele-health space will be available in the next year	1
Faculty capacity to cover yet another topic	1
No one on staff is expert enough to instruct students	1
Current demand is so high there is not time to expand to tele-audiology	1
Legal will not allow use of apps for hearing aids due to how data is stored in other countries	1
Located rurally and people have access to the clinic	1

Barriers reported by programs not teaching eAudiology

Barrier/Challenge	n
Cost of equipment (e.g., diagnostic)	4
No current clinical opportunities	3
Billing/reimbursement	2
Working out privacy HIPAA concerns	1
Lack of interest from current providers	1
Working on a curriculum revision that will include tele-audiology	1
Identifying patient population in our area that would benefit	1
Clinic computers not connected to the internet	1
Tele-health space will be available in the next year	1
Faculty capacity to cover yet another topic	1
No one on staff is expert enough to instruct students	1
Current demand is so high there is not time to expand to tele-audiology	1
Legal will not allow use of apps for hearing aids due to how data is stored in other countries	1
Located rurally and people have access to the clinic	1

Barriers reported by programs not teaching eAudiology

Barrier/Challenge	n
Cost of equipment (e.g., diagnostic)	4
No current clinical opportunities	3
Billing/reimbursement	2
Working out privacy HIPAA concerns	1
Lack of interest from current providers	1
Working on a curriculum revision that will include tele-audiology	1
Identifying patient population in our area that would benefit	1
Clinic computers not connected to the internet	1
Tele-health space will be available in the next year	1
Faculty capacity to cover yet another topic	1
No one on staff is expert enough to instruct students	1
Current demand is so high there is not time to expand to tele-audiology	1
Legal will not allow use of apps for hearing aids due to how data is stored in other countries	1
Located rurally and people have access to the clinic	1

A blurred background image showing several people in a classroom or office setting. They are seated at desks with computer monitors, appearing to be engaged in a learning or work activity. The text is overlaid on the left side of the image.

It can help to learn from
others who are
teaching eHealth

Nova Southeastern University

Health Sciences Programs: Doctor of Health Science

- Telehealth Concentration (12 credits) – starting Winter 2018
 - Telehealth Concepts, Applications and Future Trends
 - Technological Infrastructures of Telehealth
 - Strategic Planning for Telehealth Programs and Services

University of Illinois College of Medicine

Tele-medicine curriculum

- 5 online modules
- Resident physicians
- Includes:
 - Lectures
 - Learning activities
 - Simulated encounters
 - Participation in actual patient care via telemedicine
 - Pretests, posttests, course evaluation

The University of Queensland

e-Healthcare Undergraduate Interprofessional Elective Course

- Online modules, lectures, chat rooms
 - History of e-Health
 - Definitions
 - Applications
 - Associated social, ethical, legal, and workflow issues

Graduate Certificate in e-Healthcare

- Clinical practice
- Delivery
- Education
- Administration
- Research

Issues are not
unique to
audiology

Look for opportunities
in your setting to
provide
interprofessional
training

Sharing resources
may reduce load and
pressure on faculty


Teaching eAudiology: Student considerations



Needs are similar to learning other skills...

- Knowledge of relevant issues
- Access to technology
- Opportunities to practice
- Mentoring to develop skills



A photograph of a woman with long blonde hair, wearing a patterned top, pointing at a laptop screen. A man with long brown hair, wearing a plaid shirt, is sitting next to her, looking at the screen. The scene is dimly lit, suggesting an indoor setting like a classroom or office.

Teaching eAudiology: Instructor Considerations

Foundations for change



WHAT IS THE
INSTRUCTOR'S
KNOWLEDGE BASE?

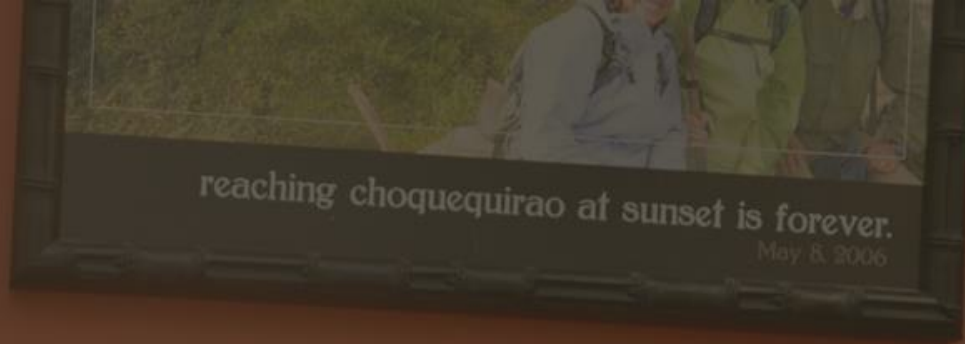
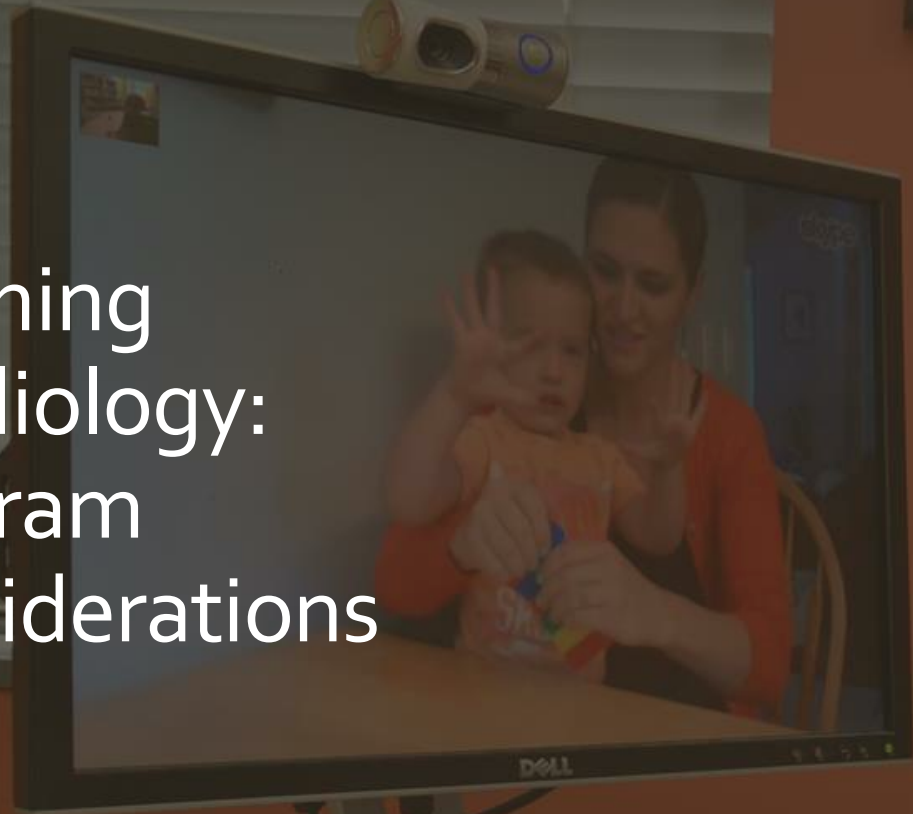


HOW CONFIDENT DOES
THE INSTRUCTOR FEEL?

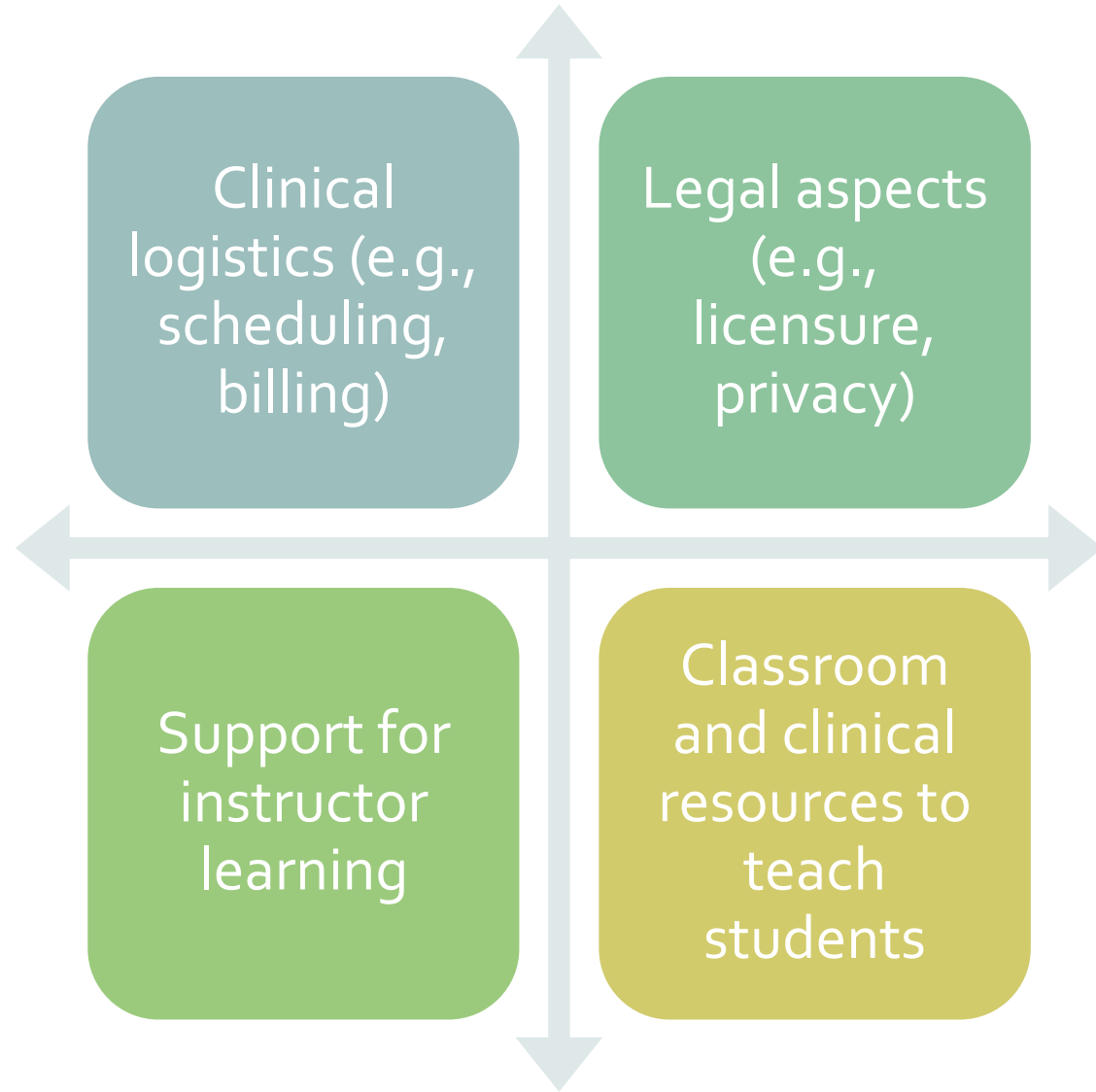


WHAT SUPPORT DOES
THE INSTRUCTOR HAVE
FOR IMPLEMENTATION?

Teaching eAudiology: Program Considerations



Infrastructure and planning



Patient/Parent Considerations



Do they have Internet access or a Smart phone?



How comfortable are they using the technology?



What instructions do they need to be a successful recipient of eAudiology services?



Our
Experience:
Thoughts from a
clinical faculty
member



Our
Experience:
Student
perceptions



Resources

University of California, Davis, Health

Center for Health and Technology

- Telehealth Education Program
- Continuing Education

<https://health.ucdavis.edu/cht/education/courses.html>

University of Mississippi Medical Center

- Telehealth for Providers
 - Establish requirements for your program
 - Address regulatory challenges
 - Understand stare laws
 - Establish financial objectives
 - Identify/recruit stakeholders

<https://www.umc.edu/Healthcare/Telehealth/Telehealth%20for%20Providers/Telehealth%20Clinical%20Training.html>

American Academy of Pediatrics

- Getting started in telehealth
- Example start-up checklist
- Business planning
- Staff training

<https://www.aap.org/en-us/professional-resources/practice-transformation/telehealth/Pages/Getting-Started-in-Telehealth.aspx>

ASHA Practice Portal

- Key issues (e.g., roles and responsibilities, licensure, reimbursement, technology, privacy)
- Resources (e.g., state information, HIPAA, links to other relevant information)

<https://www.asha.org/Practice-Portal/Professional-Issues/Telepractice/>

AAA Toolkit

- Background information
- Current practices
- Reimbursement
- Licensure laws
- Establishing a remote tele-audiology clinic
- Additional readings

https://www.audiology.org/practice_management/resources/tele-audiology-toolkit

University of Utah Audiology Clinic

Presentation describing the steps they took to develop their tele-audiology clinical services

<http://www.capcsd.org/proceedings/2017/Tele-Audiology-Enhancing-Patient-Centered-Care-and-Clinical-Education-Training.pdf>

Take steps to implement change...



WHAT IS YOUR PROGRAM
DOING NOW (IN COURSES
AND CLINIC)?



IDENTIFY INSTRUCTOR
SUPPORT NEEDS AND
PERCEIVED BARRIERS



IDENTIFY
UNIVERSITY/OTHER
RESOURCES AVAILABLE
(E.G., IT, BILLING, COURSES)



GET A TEAM TOGETHER



DEVELOP A PLAN



START SMALL AND TAKE THE
FIRST STEP

Thank you