

CE Podcast: Implementing Evidence into Real-World Practice with Older Adults

Gap between Research and Practice

As we train to be healthcare professionals, we develop an underlying assumption that the techniques and interventions we use in practice are the best options for our clients and are based on science and evidence. But the science in healthcare changes and practice does not keep up.

- It is estimated that there is a 17-year gap between the development of a new assessment or intervention and the application of it in clinical practice
- 30-45% do not receive evidence-based care
- 20-25% receive unneeded or harmful care
- Only 14% of new scientific discoveries ever enter “real world” contexts

The gap exists in all areas of healthcare practice but is especially critical in relation to older adults. Changing demographics and a growing population of older adults is fueling an abundance of research on ways to prevent decline and disability.

- The population age 65 and older increased from 38.8 million in 2008 to 52.4 million in 2018 (a 35% increase) and is projected to reach 94.7 million in 2060.
- Older adults are the largest user of healthcare services (highest cost)

Reasons for the Research to Practice Gap

There are many reasons why this gap has occurred. Two primary reasons for the research to practice gap we currently face:

1. Researchers and healthcare providers did not work together in developing solutions to improve healthcare problems
2. Change is hard, and research often occurs under ideal conditions. There used to be a sort of “field of dreams” mentality from the film about building a baseball field in the middle of a cornfield – “build it and they will use it”. No one bothered to study or provide solutions on how to tackle the process of changing practice, implementing the evidence at the practice level

Take fall prevention as an example. There is a robust body of evidence on falls prevention interventions that clinicians should be using with their older adult clients. Yet, healthcare is still struggling for providers to even remember to ask older adults if they’ve had a recent fall when they are seen for care.

Science on Implementation of Evidence

The good news is that the gap is finally on everyone's radar – researchers and healthcare providers. There is now a growing science solely focused on the process of implementing evidence and the solutions being developed include input from everyone involved from start to finish. The terminology behind this science can easily become confusing. Some key concepts include:

- Implementation: The act of using strategies or interventions to support people, organizations, and/or systems to use evidence to change practice
- Dissemination: The sharing of information, ideally in a bi-directional way.
- Diffusion: The process by which evidence and innovation is communicated over time among members of a healthcare system
- Knowledge Translation: An umbrella term that includes both dissemination and implementation.
 - The understanding, exchange, and application of knowledge by relevant stakeholders in applying global and local evidence to strengthen health systems and improve people's health
 - Key point #1: Stakeholders include clients, families, clinicians, administrators, insurance and anyone else who will be involved in the innovation if it is to be accepted and used
 - Key point #2: The use of the evidence should result in change that is obvious and measurable. Otherwise, it's shortened the "gap" but to what benefit?
 - Other terms used in conjunction or in replacement of knowledge translation:
 - Knowledge Transfer
 - Knowledge Mobilization
 - Knowledge Exchange

In rehabilitation, the language we typically use that most closely relates to implementation terminology is evidence-based practice or "best practice".

Barriers to Implementation of Evidence in Rehabilitation

Every healthcare practitioner feels like the reasons that make implementation of new evidence hard are specific to them. However, there is actually a large body of evidence of why we don't use evidence and the overall barriers are the same for most individuals and systems. In thinking about your own practice, you can probably already guess a few of these barriers

- Workload pressures
- Time pressures
- Insufficient staff/resources
- Lack of training/knowledge
- Lack of skills
- Lack of support
- Relevance/applicability
- Communication and team functioning
- Too much effort/personal motivation
- Patient safety/priorities
- Conflict with client-centered practice

I'd like to focus on this last barrier- conflict with client-centered practice. This barrier comes up frequently in rehabilitation with clinicians.

Evidence-based practice is defined as the conscientious, explicit and judicious use of the best evidence in making decisions about the care of individual patients, It combines and considers 3 factors:

1. The best available research
2. Clinical experience
3. Client values and beliefs

Many therapy clinicians will challenge that evidence limits their ability to be client-centered. Yet the very definition of what we accept as "best practice" reflects that we can and should include both.

Alan Jette, who is a leading scientist in rehabilitation research wrote a provocative article a few years back challenging rehabilitation professionals and their lack of initiative to engage in evidence-based practice. He boiled it down to 2 factors – ignorance and ineptitude. These are words that generate a lot of emotion – but he's saying the first problem is we don't know of the evidence and the second problem is that we don't put forth enough effort to use it.

OT Barriers to Using Evidence

In addition to these barriers that cross practice areas, occupational therapy faces some additional challenges.

- First, is the fact that the body of evidence specific to occupational therapy is growing, but still in its infancy. Different types of evidence are associated with

different levels of evidence “strength”. Meta-analyses and systematic reviews (which combine and analyze evidence from multiple research studies) and randomized controlled trials which test an intervention against a control group are few. We often end up relying on evidence that is not specific to occupational therapy.

Research analyzing occupational therapists’ attitudes, knowledge and implementation of evidence-based practice by Upton and colleagues revealed some additional challenges:

- OTs tend to overly rely on personal clinical experience
- OTs do not tend to develop evidence-seeking behaviors
- OT less likely to report +changes in their practice due to EBP use
- OTs lack confidence in their knowledge of EBP
 - Skill is equal to other professions
 - Rate themselves lower than other professions
- Prefer evidence provided by colleagues; 83% rely regularly on information from non-occupational therapists to guide their occupational therapy practice

The list of barriers is evident in all areas of clinical practice and for services across the lifespan. However, many of those barriers are often amplified in therapy services for older adults. Research on implementation of occupational therapy services specific to older adults by Juckett and Robinson revealed many of the same barriers we’ve already discussed. Additionally, old age is considered a new phenomenon of the 20th and 21st centuries. People used to die when they got sick and long before their bodies wore out. The science is changing rapidly when it comes to aging. Not only do we have newer and better interventions for when people experience acute or chronic illness, but we also have evidence of prevention strategies to support a well elderly population. It’s hard to keep up! Additionally, myths, misunderstanding and ageism exist about what older adults can and should be expected to do. This limitation of expectation can be from older adults themselves, their families and often even therapy professionals themselves.

Strategies and Resources to Facilitate/Improve Implementation of Evidence in Practice

The good news is that there is a growing list of effective resources to help clinicians move the needle in terms of implementing evidence. There are multiple theories, models and frameworks. Many researchers and community partners are introduced to implementation using one of these resources and may therefore favor the tool. It’s important to note, however, that there is NO GOLD STANDARD for a single theory, model or framework for

implementation. For today's discussion, I'd like to share one theory and one model that I think are user-friendly in clinical practice and can help clinicians successfully lead implementation projects at their place of work.

The theory I would like to discuss is the Diffusion of Innovation Theory (Figure 1). The theory focuses on the process of change and how we respond to change as humans.

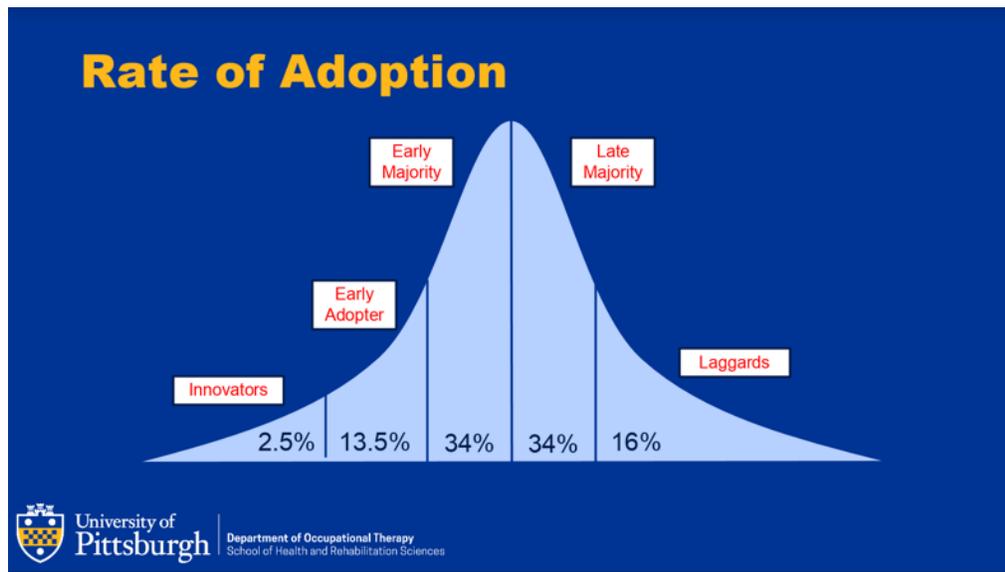


Figure 1. Theory of Diffusion.

As we all know, CHANGE is challenging for everyone. Change requires us to rethink our habits, routines and roles. It requires more effort and energy, and the new change may or may not easily fit into our context of practice. The diffusion of innovation theory suggests that there is a pattern in human behavior when it comes to adopting new evidence in a practice system and categorizes people with the pattern. Imagine a bell curve divided into 5 sections.

- The far-left section of the bell curve includes people who are INNOVATORS. Clinicians who are the idea generators, the evidence seekers, the people with the crazy scheme that is supposed to revolutionize practice are typically the people who are innovators. Innovators are the risk takers. Innovators make up approximately 2.5% of the people within a system or setting.
- The next section of people on the Diffusion of Innovation bell curve are the EARLY ADOPTERS. Early Adopters jump on the bandwagon quickly. They didn't come up with the idea but they support innovators and are quicker to adopt the change than average. They are also looked upon as opinion leaders by the rest of the group. Early Adopters account for about 13.5% of the population.

- Next in the model are the EARLY MAJORITY. People in the Early Majority category tend to trust people over science. They are typically not risk takers and respond to familiarity, including opinion leaders. They make up 34% of the population.
- Second to the right in within the Diffusion of Innovation bell curve includes the LATE MAJORITY. The Late Majority are slow to adopt change. They are risk adverse and only try new things once they are sure that its safe and when “everyone else is doing it” (peer pressure). Like the Early Majority, they too make up 34% of the population.
- The final category are the LAGGARDS. Laggards are traditionalists who do not like change. They prefer to rely on their personal clinical experience over evidence and only change their behavior when the system forces them to do so. They account for 16% of people in a system.

When innovators try to implement new evidence in clinical practice, they typically educate and try to convince everyone to adopt the change. Research tells us that this requires a lot of effort and is generally ineffective. Instead of arguing with the laggards about why a new assessment tool or innovative technique is good or bad, Innovators should focus their time and energy convincing the Early Adopters. As opinion leaders, Early Adopters will naturally influence the early majority who then adopt the new evidence and influence the late majority. Its essentially a chain-effect. The laggards will never be transformed or convinced until they have to adopt the change. This doesn't mean they will be ineffective – in fact, they are likely to eventually become champions of the new evidence once it becomes commonplace in their setting.

Tips for Implementing Change

- Be sure the evidence/innovation is good
- Find and support innovators (ex. support innovative ideas)
- Invest in early adopters (ex. provide them with time and resources to adopt and lead)
- Make early adopter activity observable (ex. to influence adoption by the majority)
- Trust and enable reinvention (ex. recognize it will be an evolving cycle)
- Create slack for change (ex. provide learning time, allow for lower productivity)
- Lead by example

The Diffusion of Innovation Theory is a good starting point, but it's more of an approach rather than a template for change. There are a number of models and frameworks that are very effective in outlining steps and markers of success for implementing evidence. These tools are helpful in at least 2 key elements:

1. They cue the clinician (or the person wishing to implement new evidence in their practice) to address multiple components that are all “make or break” elements in the process.

2. They force the person (or persons) leading the project to plan ahead all aspects of the change before getting started.

A tool that I think is very friendly for occupational therapy clinicians and other rehabilitation professionals is the Knowledge-to-Action Framework (also known as the Knowledge-To-Action Cycle) as seen in Figure 2. The framework comes from Canada and the work of Graham and colleagues and provides a roadmap on how to take a piece of research evidence and implement it into your real-world practice. The actual framework is in the form of a circle, yet the components are not required to be addressed in a linear fashion but rather in a process that works for each setting and idea. The components include:

- Identifying the problem
- Adapting knowledge to local context
- Assessing barriers/facilitators to knowledge use
- Selecting, tailoring and implementing interventions
- Monitoring knowledge use
- Evaluating outcomes
- Sustaining knowledge use



Figure 2. Knowledge-to-Action Framework

I would like to talk about adapting knowledge to local context, first. Most intervention research occurs under “ideal” conditions. Ideal can mean anything from having unlimited time, the right equipment, clients seen individually or in a group or ideal can even simply mean a quiet environment. It’s impossible to think that those ideal conditions can be duplicated in everyday practice. There is a common phrase I implementation – Adapt to Adopt. It represents the idea that new evidence will never be adopted without some permission or leeway for adaption. This being said, a clinician needs to understand what can and cannot be adapted, maintaining what we call the “fidelity” of the intervention or evidence.

For example, I may be interested in replicating the Well Elderly study using the Lifestyle Redesign model. My practice setting may require me to modify the total number of

sessions or change one of the session topics to better meet my population needs, but I cannot say I am implementing the same intervention if I eliminate or change the approach or “active ingredients” of the evidence.

This is a good transition to another component I would like to discuss – selecting, tailoring and implementing interventions. On the surface, this seems straightforward, but there are several elements in implementation that clinicians do not naturally consider. It should go without saying that the selection of a particular assessment, practice or intervention should be grounded in evidence. The tailoring component is a little trickier. Tailoring an intervention includes consideration of Intensity (what will work for the population, practice, clinician), Stage (readiness of the team to implement), Range of options considered (focusing on whole scale or one component at a time), Perceived importance (to the team and recipient) and last but not least, Feasibility/Cost. This is all while being sure to maintain fidelity.

Monitoring Knowledge and Evaluating Outcomes

While some of these components have parallels to clinical delivery of care, there are also distinct differences when applied to implementation. Monitoring knowledge use and evaluating outcomes are their own separate challenges but also complement each other and overlap in the process. Once you put the evidence in the hands (or minds) of your team, it’s important to monitor how that knowledge is being used.

There are at least 3 ways to consider and evaluate knowledge use:

1. Conceptual – changing level of knowledge and understanding (ex. Learns a new technique for reducing spasticity)
2. Instrumental – changing actual behavior and practice (ex. Begins to use the new technique with a client)
3. Strategic – using the knowledge to influence on a larger scale (Convinces manager to fund training of technique for all therapists in department)

Depending on the way you choose to monitor knowledge use and which outcomes you choose to evaluate can really sway your level of success. When implementing evidence, we can consider:

- Implementation outcomes
- Service outcomes
- Client outcomes

Because it is our domain and area of interest and we don’t have the forethought to consider more, occupational therapy practitioners often limit implementation project

outcomes to the client level. While things like client satisfaction and function are important, they may not lead to adoption on a bigger scale. Sometimes, we expand our efforts to include service outcomes such as efficiency and safety, but rarely do we consider implementation outcomes. Implementation outcomes that can be considered include:

Acceptability -The perception among stakeholders that a given treatment, service, or innovation is agreeable or satisfactory

Appropriateness -The perceived fit, or compatibility of the innovation for a given practice setting, provider, or consumer; or to address a problem.

Costs -Varies based on complexity of: -intervention; implementation strategy; setting

Feasibility The extent to which a new treatment, or can be successfully used or carried out within a given agency or setting

Penetration The integration of a practice within a service setting and its subsystems

Finally, we can't neglect to discuss sustainability. Building an innovative model, demonstrating its value but then failing to ensure its continuation beyond one innovator or a temporary funding source is short-sighted. Sustainability should be considered with each step of the project. While all steps should include stakeholder input, this component of the model is arguably one of the most important components to have stake holders input and support.

How to Implement the KTA Framework

Research tells us that clinicians need to incorporate a variety of training strategies that remain ongoing in order to implement new evidence or innovation in their practice setting. Some are more effective than others, but it's the use of a combination of the strategies that is most effective. These include but are not limited to:

- Education (preferably interactive and hands-on if possible)
- Modeling (demonstrating in a visible way)
- Role Playing
- Strategies to engage and motivate (such as a contest)
- Champions (leaders who adopt and promote the change)
- Intentions to change (readiness to accept and use new evidence)

KTA Framework Examples

The first example is a local example reflecting how the Knowledge-to-Action framework was effectively used to implement community-based occupational therapy services for aging in place. The problem was that older adults who wish to remain in their homes are frequently offered long term service and supports that “do for” the older adult rather than help the older adult learn strategies to do things for themselves. An example would be meals on wheels as opposed to compensatory strategies for meal preparation, or providing a health aide instead of teaching an older adult how to safely use a shower chair. The project leaders were interested in adding occupational therapy to an existing menu of services within a local community program. Using the KTA framework, project leaders identified ways to complement and not compete with the services already offered. They engaged with the program’s staff and the participants to reduce barriers and selected to offer occupational therapy to older adults who were either new to the program and had not already started receiving “do for services” or who indicated that they would like to be more independent. Because of the KTA model, the project leaders included evaluation of outcomes that demonstrated the value of adding occupational therapy in ways that increased participant satisfaction and reduced cost due to avoiding the need for “do for” services. Justifying the value of adding occupational therapy promoted sustainability of continuing to offer occupational therapy after the trial was complete.

Once you’ve identified a sound innovation or evidence, it almost becomes secondary to the contextual factors that can influence its adoption!

The other examples I would like to share are evidence-based programs for older adults that are currently being implemented across the United States and started as intervention research studies. Both programs are well-known.

The first is A Matter of Balance, which is a community-based intervention to reduce fear of falling in community-dwelling older adults. Matter of Balance was designed to be delivered by skilled professionals – a trained occupational therapist or physical therapist. The intervention was effective in reducing fear of falling. However, the model as designed was not adoptable nor sustainable. Skilled professionals were too expensive to deliver the program on a broad scale. To maximize program access and benefit, Matter of Balance was adapted into a Lay Person Model – anyone interested could complete the training and deliver the program. That transformation required a considerable number of steps to ensure that the program was still being delivered as intended (meaning that the fidelity of the program stayed intact) and that the program remained effective (with similar outcomes) despite no longer being delivered by a skilled professional. The adaptation worked and few people even remember the program in its original form.

The final example is the Community Aging in Place—Advancing Better Living for Elders program or CAPABLE. CAPABLE is a person-centered intervention to promote aging in place that includes an occupational therapist, a nurse and a handyman. The original research tested effectiveness for low-income older adults who were Medicaid eligible. Outcomes demonstrated reduced ADL disability and significantly reduced costs related to avoided hospitalizations and delayed nursing home admission as a direct result of the intervention. In contrast to Matter of Balance, fidelity to the CAPABLE intervention does not permit a change in the personnel who deliver the program (minimum of an OT, nurse, handyman). However, the CAPABLE creators do allow for flexibility related data collection and evaluation of outcomes and offer numerous resources on other ways the program can be adapted for use in a local context.

These examples illustrate that implementation of evidence CAN successfully be implemented into practice for older adults with the right evidence, thoughtful planning, use of resources and engagement of stakeholders.