In the name of God

Designing a knowledge transfer program

Tehran University of Medical Sciences

Center for Academic Health and Policy

TUMS-KTE Study Group

This package has been derived from;

From Research to Practice: A Knowledge Transfer Planning Guide

Authors: Reardon R., Lavis J., Gibson J.

Institute for Work & Health- Toronto, Ontario

The material in the text has been updated in the Center for Academic Health and Policy. With the help of this guide you can design the knowledge transfer program suitable to your research projects.

> # (WHAT) message should be transferred?

Stage 1: Extracting messages

➤ What is the message of this research? Write the messages of your research in two sections: the important (main) messages and side messages.

Main message(s):

Side message(s):

Each of the research-driven messages may be one of the following types:

Message type 1:
The message includes exact, precise and tangible information.
Example: "Point prevalence of backache among workers is 10-20%."

Message type 2:
Results and findings which cannot directly guide the decisions due to the study's limitations or the type of evidence, but which can be used in a dynamic exchange between the researcher and target audience. Example: "All workers are prone to physical injury in their first month of work, irrespective of their age."

Message type 3:
A message derived from a collection of evidence that can be presented as an Actionable message; suggests direct measures, gives various advice and consultations; is related to a particular target audience's decision making, and specifies who should do what and what should change. Example: "When the risks and main diseases are ruled out after a complete physical examination of the back, the patient should be reassured and encouraged to have physical activity, and told that X-rays or treatment with exercise is not necessary."

(TO WHOM) should the message be transferred?

➢ Think of the following questions in order to determine the target audience(s):

1. Who is the message related to?
2. Who will benefit from the results of this research?
3. Who can apply the results of this research in practice?

Note: Define the target audience completely and precisely. For example say "physiotherapists who treat shoulder injury in adults" instead of 'clinician'.

Stage 2: Determining the type of message and target audience

Enter the research messages, their types and target audiences in the table below. No doubt each target audience may have more than one message or one message may have more than one target audience.

Row	The message	Target audience	Type of message
1			
2			
3			
4			
5			

Stage 3: Knowing the target audience

Designing a research message requires familiarization with the target audiences, their environment, conditions and characteristics. Being familiar with these is an important determinant factor in the knowledge transfer process.

In order to effectively transfer the results of this research to the target audiences, what information do you need? Write them down as questions.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Some points that may prove useful in a better understanding of the target audience have been brought below. You may add them to your list.

1. Currently, how do the target audiences behave with respect to the subject matter, and what measures do they take?
2. What guidelines and regulations exist in this field?
3. Is target audience authorized to make decisions in this field?
4. To which target audience is transfer of the message most likely among the various target audiences?
5. Who do target audiences see as a credible messenger? In other words, who can influence these individuals?
6. Is there a network in which researchers and research users collaborate with each other? And, is the target audience related to this collaborative network?

Stage 4: The Message

Choose one of the messages of stage 2 and write it down in the following 3 forms. (Priority should be with type 3)

The Message
As a **Headline Version**:
As a **single-sentence message** (This message can come in two forms: lay emphasis on the research findings, lay emphasis on applying the findings for decision makers):
As a **single-paragraph** (Answer these questions in this paragraph: Why is this topic important? What do the findings of this research tell us about this topic? How much gap is there between the current situation and what is evidence-based? Who should take action and what should be done?)

(HOW) should the message be transferred to the target audience?

Many aspects should be considered in choosing knowledge transfer methods, namely type and number of target audience, available resources and budget.

Evidence shows that the more target audiences are involved the more impact is made. Also, practical experience shows that 'packaging the message' in a manner which will simplify its application is welcomed by target audiences (e.g. workbooks, decision aids, patient educational books, pocket or flash cards, home learning tools etc).

As already mentioned, when there is a dynamic relationship with the target audience, designing a transfer project can be done in collaboration with them and as a joint venture. This section reviews some of the various transfer methods that comes with a short definition or example. These methods have been extracted on the basis of the text of a systematic review article *"Grimshaw J et al; Changing Provider Behavior: An overview of systematic reviews of interventions; Medical care Vol 39; No 8 Supplement 2; 2001"* that has been updated in the Center for Academic Health and Policy and summarized in the following table. After reviewing the table complete stage 5, i.e. choosing the transfer method.

"Evidence-Based Practice" Should Be Complemented by "Evidence-Based Implementation"

Generally Effective (two third or more identified studies demonstrated improvement)				
Intervention	**example**	**effectiveness**	**strength**	**weakness**
Printed Educational material	Clinical Practice Guideline	4.9% improvement	Low cost, feasible	
Interactive Educational Meeting	workshop	11-20% improvement	feasible	time
Educational Outreach	Prescribing behavior	4.9% improvement	Across wide range of health care setting	Simple Behavior not complex, cost
Local opinion leaders	Educationally influential providers	10.0% improvement		Dependent upon intact social network, condition specific, they are not stable over time, cost for identification and training and service
Audit and feedback	Any summary of Clinical performance	10.0% improvement	Variable feasibility	Cost for data abstraction and analysis cost and dissemination cost
Reminders	Patient or encounter specific information	14.1% improvement		For complex decision is not suitable
Interactive Health Communication Applications	Information packages for patients that combine with one support (computer based)			
Mixed effects (between one third and two thirds of identified studies demonstrated improvements)				
Patient decision aids		dependent on healthcare options		
Interventions to enhance medication adherence	Counseling, telephone monitoring, family intervene.			
Ineffective (less than one third of identified interventions demonstrated improvement)				
Didactic meeting	Lectures, Conferences		feasible	time
Personalized risk	Uptake for screening			

communication	test			

Stage 5: Examining transfer methods

This stage has been designed to examine 'transfer methods'. Note that only **some** of the knowledge transfer methods whose impact has been examined on transferring the message to **health service providers** have been mentioned here. Message transfer methods to other target audiences such as policy makers and the community have not been mentioned, therefore, if your target audience is a group other than service providers you must consider other transfer methods.

Specify the feasibility of each of the methods in the transfer of the research message.

Evidence: Systematic review evidence shows that these transfer methods are generally effective	
Mechanism of transfer	Feasibility
Educational outreach Using a trained person who meets service providers in their working location to provide them with new information to apply change. For example a lunch meeting in a group work that is intended to review evidence in management in a particular situation. This method is used by pharmaceuticals. Mostly changes in relatively simple behavior that are under the clinicians control are targeted, such as choosing a medicine or prescription writing.	
Interactive Educational Meeting In this method the participants discuss what they have learned and apply it and practice new skills, like workshops that are held for small groups. In this method the participants have a higher chance of collaboration and the meetings are mostly feasible. The cost of this method is the time spent by the service providers.	
Reminders Any intervention that pushes the healthcare authority to take a measure for the patient or to face a particular situation. Example: A chest X-ray that has been ordered for an acute backache might have a reminder in the radiology report, in the sense that, x-rays are not necessary when 'alarming signs' are absent. Or, that the x-ray form should have a list of 'alarming signs' section which the clinician should mark when ordering an x-ray. (most studies on the effectiveness of this method are done in scientific computer centers and also as simple advices and their generalization is questionable)	

	Feasibility
Audit and feedback "Assessing the clinical performance of an individual in a specified period of time" that may include the mean number of diagnostic tests, the mean cost of each test or patient, the mean number of prescriptions etc. It may also include recommendations for clinical care. Example: sending information on referring families for back x-ray in the past 6 months to family physicians and comparing it with the mean physician in the same geographical area in the same period of time. This matter accompanies a collection of evidence that is based on using a vertebral column x-ray in an acute backache. On the whole it is seen that service providers overestimate their performance by 20-30%.	
Local opinion leaders Official local opinion leaders: Using individuals who are identified as well-known in a group or system. For example those who are well-known teachers, professional and union representatives… Unofficial local opinion leaders (educationally 'influential'): Using service providers who are recognized as 'educationally influential' by their colleagues. These individuals are identified by their colleagues. Multiplier (effect): When influential individuals' awareness, knowledge and behavior change with evidence, if they continue to interact with their colleagues, their performance will multiply in the bedside. These individuals usually have better communication skills and are generally more social and innovative. The success of this method is dependent on social networks in professional communities. On the other hand these individuals are different with respect to their clinical problems, and therefore a single individual cannot be considered as influential in all cases. Also, these individuals are replaced over time.	
Educational content "Distribution of printed recommendations for healthcare including clinical booklets, audio-visual and electronic writing, such as mailing evidence-based clinical guidelines on a large scale." This intervention aims at the gap between service providers' knowledge and potential skills. Aside of being cheap, this intervention is executable too.	
Interactive Health Communication Applications These programs are usually in the form of software. And apart from providing patients with necessary information, help them in decision making or behavior change.	
Evidence: Initial systematic reviews indicate the variability of the impact of these interventions	
Mechanism of transfer	Feasibility
Intervening with the patient "Any kind of intervention that is done with the intention of changing health service providers performance, where specific information is acquired from or given to the patients." Example: an injured worker is presented with a summary of his working needs and information related to his return to work, and his working potential. And is encouraged by sharing them with the health care authority.	

Patient decision aids Interventions that are designed to help patients in their decision making and provide the least information regarding the outcomes of the individual's health status. On the whole, these interventions can increase patients' knowledge, realistic expectations and participation in decision making in choosing treatment.	

Evidence: *Comprehensive and systematic reviews show that these methods are ineffective as interventions 'alone'.*	
Mechanism of transfer	Feasibility
Giving speeches Meetings in which target audiences receive information inactively; this is done through little or no interaction between the speaker and target audience (e.g. as Q & A's) like routine speeches that are given as conferences	

Evidence: *There is no evidence of systematic reviews on these methodologies*	
Mechanism of transfer	Feasibility
Electronic communications Using internet, intranet including websites, email, list serves, web cast, web-based interactive tools (chat rooms), notice boards	
Media Taking advantage of television, radio, newspapers, journals and notice boards in order to increase awareness or change in behavior. Example: Changing community awareness on the dangers of HIV and creating incentives for changing sexual behavior	

Examine the other methods executable for your research and in case there is evidence of the effectiveness of these methods note them down:

Stage 5: Examining barriers and facilitators

The impact of transfer will increase if barriers and facilitators are taken into consideration while planning for knowledge transfer. We can examine the factors affecting transfer and application of research results at various levels.

List the barriers and facilitators of research result transfer at various levels. Also, list the methods of removing them and utilization of facilitating factors.

- Barriers

- Facilitators

Now, design the final plan for transferring the research message after taking into consideration the target audience(s) to whom the message would be most successfully transferred to, and also the barriers and facilitators.

Stage 7: Message transfer program

Message:

Target audience:

Row	Mechanism of transfer	Reason for choosing
1		
2		
3		
4		

Message:

Target audience:

Row	Mechanism of transfer	Reason for choosing
1		
2		
3		
4		

How can we evaluate the effect of the message transferred? (EFFECT)

It is important to answer the question of "what does the knowledge translation program intend to change?". Therefore it is worth spending time on defining the desired effects at the beginning of the program, whether you want to officially evaluate it or not. Deciding what the desired results of the project are can help plan the objective of the knowledge transfer program and choose the methodology.

The effect of knowledge transfer may be in one of the following three forms:

1. Indirect use of knowledge ❑

This is a change in knowledge, awareness or perspective (in other words, "conceptual use" or "enlightenment"). For example, research gives information on political debates; or target audiences learn ideas, concepts or the research language for decision making and solving problems.

2. Direct use of knowledge ❑

It is a change in behavior (in other words, application or use in problem solving). For example changes observed or reported by individuals in policy making, executive procedures or programs, changes in clinical practice, improvement of patient care and their outcomes.

3. Tactical use of knowledge ❑

Here research is done to validate, legalize or defend a situation that has occurred due to other reasons (political, structural or strategic use). For example a politician chooses a study in a manner which will validate his political decision, but the entire evidence is against this decision. This type of knowledge use is not what researchers are looking for, but it may be inevitable at times. Strong ties between researchers and target audiences can minimize this type of structural use.

Taking into account the issues above, list the expected effects of the knowledge transfer program, its indicators and measurement criteria, and the methods of collecting this information.

Note: Please remember that by effect, we mean the 'outcome' and not the 'impact'. Please look at the following example to better understand the difference between these two:

Actionable message: "Tehran population's environmental health is unsuitable as compared to other countries."

Expected effect of transferring the message (Outcome): "Planning and conducting interventions for promoting the populations environmental health by the municipality"

Indicator measuring the effect of the message: "The number of programs that will lead to environmental interventions"

The long-term effect of the message that is not expected (Impact): "Promoting citizens' environmental health"

Stage 8: Determining the effect

The effect of knowledge transfer	Measurements and indicators	Potential methods for data collection