

Innovation in Medicine and New Ideas for Translation

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Abstract: *If ever a field needed remodeling, it is medicine. Chaotic, inefficient and often ineffective, health care is dying for innovation. Innovation and medicine go together. Today, innovation in medical technologies is about to take off. In next few years, medical technology innovations will fundamentally transform health care delivery system too. Nowadays, there is an enthusiasm to deliver breakthrough medical inventions that can eliminate the potential for errors, improve the quality of health care delivery and save lives.*

Keywords: Innovation, Medicine, Ayurveda, Technology, Translation etc.

1. Introduction

Innovation in medicine:

Over the past several decades, thanks to improved diagnostic and therapeutic options, health care has experienced an explosion of innovations designed to improve life expectancy and quality of life. As health care organizations face unprecedented challenges to improve quality, reduce harm, improve access, increase efficiency, eliminate waste and lower cost, innovation is becoming a major focus once again.

The innovation has defined as “The design, invention, development, and/or implementation of new or altered products, services, processes, systems, organizational structures, or business model for the purpose of creating new value for customers and financial returns for the firm.” The innovation represents the implementation of new or significantly improved products, services or processes and it can also imply new organizational models, methods of service delivery, way of relating to customers and approaches to marketing. Innovation has become one of those buzz words that connotes different things to different people, newness, discovery, or perhaps an advance in technology. But no matter how it’s defined, constant innovation has undoubtedly brought the science of medicine to dizzying new heights and we are all beneficiaries of an ever - improving health care system.

Unfortunately, many of these improvements have also been blamed for exacerbating the systemic problem of rising costs. The result is a longstanding contradiction in our attitudes toward health care; new technologies are both embraced as lifeline to better medical care and vilified as a determined path to self - collapse.

Making sense of this paradox requires that we first understand that innovation is not just about new breakthrough technologies, but more importantly about how those technologies are used. The technologies themselves can be quite simple, but the accompanying changes, they create in the workforce are responsible for transformative changes throughout entire industries.

The ability and willingness to adopt innovations is dependent on a mixture of factors and these phenomena can be analyzed on individual as well as organizational level. The hierarchical

organization between and among the professional categories working in healthcare is one aspect, both considering the capacity to adopt innovations and the conditions for the individual to be innovative. Regarding innovation in general, it is estimated that one third is based on research and the other two third originate from other sources.

The innovation is classified into 3 groups:

- 1) Devices: There are a number of interesting medical devices that contribute to treat different conditions and diseases for example: Robotic catheter, heart stent, artificial joints etc.
- 2) Technology: Advances in medical technology allow us to have access to a number of disadvantages that help increase the ability to diagnose and treat conditions for example: Electronic health records, Laser surgery, MRI, Ultrasound etc.
- 3) Drugs: It is important to note that some of the best medical innovations have been in the area of drug treatment and therapies for example: Vaccination, Penicillin, Insulin etc.

New ideas for translation:

Medical translation is the translation of technical, regulatory, clinical or marketing documentation, software or training curriculum for the pharmaceutical, medical device or healthcare fields. Most countries around the world require that literature and labeling associated with medical devices or pharmaceuticals sold be translated into the national languages. In addition, documents necessary to conduct clinical trials often require translation in order for local clinicians and patients and regulatory representatives to be able to read them. Regulatory approval submissions typically have to be translated as well.

Aside from linguistic skills, it requires specific training and subject matter knowledge in order to translate medical content. This is because of the highly technical, sensitive and regulated nature of medical texts.

Medical translation can be seen as multi - step process. Steps in the process can include:

- Extraction of the text from source format.
- Translation – the conversion of the source language text to the target language text.

- Editing – reading and revision by a separate person to assure adherence to approved terminology and the proper style and voice.
- Publishing – the translation is put back into the original format eg; Word document, Web page, E - learning program etc.
- Proofreading - this ensures that the formatted translation displays correctly with no corrupted text, has proper punctuation and line and page breaks are correct.
- In country review – a native speaking expert reviews the translation to ensure that it meets all specifications.

Early innovation hunting with an opening of the pharmaceutical companies towards very early innovation sources within academia and small startup companies. This can be done by different means: increased corporate funding, translational institutions to bridge innovation, increasing sponsored collaborations and technology hunting groups for front leading very early scientific ideas and concepts.

Especially, this trend of early innovation hunting demands special adaptations not only from pharmaceutical industry, but also from basic research in academia to bridge the translation into new medicines which matters to the patient.

Some key phases in this important translational bridge can be identified:

- 1) Prepare the organizations on both sides for opening up for new ideas.
- 2) Find the opportunities and open the doors to innovation.
- 3) Create trust within the scientific collaboration.
- 4) Develop and select the winning project as a team.
- 5) Translate the innovation into the value chain of a big pharmaceutical company.

To find the right opportunity is an easy sentence with a difficult translation. From the pharmaceutical perspective of pharmaceutical companies, the aim to find the right opportunity and to open the right door is dependent on the corporate strategy. A strong focus on the existing strategic and / or therapeutic areas will automatically lead to narrowing the window of innovation hunting. The opportunities found in these narrower windows are easier to find, select, develop and translate into the own organization of the pharmaceutical company because of the closeness of the idea towards the receiving organization and the scientific expertise.

There are three major areas of focus within medical translation, though they often overlap: pharmaceutical, technical and all manner of medical documentation. Each area has very real risks attached and having a specially qualified translator is often a non - negotiable, legal requirement. As a result, demand for this service over the last few years has been constant and is an increasingly competitive field.

Pharmaceutical companies have one of the largest markets of any industry. New medicines are being developed every day to combat diseases and conditions affecting people all across the world. Translation services are, therefore, an inextricable part of the medical industry, without which, much needed medical supplies and clinical research would be significantly delayed or incorrectly distributed. The consequence of either could result in a failure to save lives.

New medicines must be tested through clinical trials, a practice which is increasingly globalized and often takes place in countries separate to the one in which the drug was made. There are, understandably, very strict regulations around pharmaceutical import and exportation. For clinical trial materials to be legally transported they must be certified by the native health authorities. Any mistranslations during this process will set the company back time and money, as well as dramatically affecting those in need of pharmaceutical supplies. These are the importance of medical translations.

There are some ideas or tips for medical translation:

- **Feed up your medical knowledge:** If you studied a medicine degree or any medical specialization master/course, then you have the basis knowledge. Anyway, do not be a conformist as you have to keep on training. Continuity is essential; so, read, read and read. Your brain should absorb any new idea and you must use such information in the medical translation field.
- **Select your resources:** Choose the most practical and important medical translation resources for you: dictionaries, glossaries, manuals, publications etc. But do not bite off more that you can chew, so just choose the essential one's for you; otherwise, too many resources will make your head spin.
- **Do not fear about asking:** A second opinion, even a third or fourth, might be essential. If you have any doubt, do not hesitate to ask experts and professionals of the sector. You may contact a specialized doctor and / or resort an internet forum for obtaining answers to your questions.
- **Use common sense:** Does it make sense what you are translating? In medical translation, common sense is essential. Pay attention to false friends and read carefully your target text for avoiding misunderstandings. If you find anything strange, it might be a translation mistake.
- **Kill ambiguity:** You know that your medical translation can save lives, so pressure is always present. Unless the original text is ambiguous, avoid any unnecessary ambiguity in your medical translation. Surgeons, doctors, nurses or any other health specialist should perfectly know what to do at any moment. Pay a special attention and be sure that you have clarified any detail.

2. Discussion

Clearly, academia and universities are centers for learning, but they are also hubs for innovation. The innovation context can range from being highly exploratory, for example, cancer cell therapies, through to a more commercially aligned approach, for example: creating solutions to solve an immediate and specific clinical need.

Research academics may adopt different approaches to innovation. Some researches may have no desire or need, to work with industry while for others it is standard practice. In the case of the former, the researchers perhaps create an open innovation platform whereby their work is published and used by collaborating universities on pioneering, long term innovation.

A growing group of academics have a desire to commercialize their innovations and understand and

appreciate the need for industry engagement. They are accepting of a holistic and collaborative approach with a team of stakeholders with different skills and experiences, all with the common desire and goal of migrating the innovation into industry.

Medical translation does not require much interaction with patients. The specific task is to translate patient's records, information on websites, materials that patients have to read and sign.

You also translate informational materials related to medicine and healthcare. These are not the only things that a medical translator works on, or that medical translation is limited to.

You could translate patient information, informed consent forms, study budgets, study agreements, adverse events reports, study protocols, case report forms, contracts with research organizations, agreements with regulatory bodies and standard operating procedures.

Other medical related documents include summary of product characteristics, leaflets containing patient information, labels and marketing materials for medical products.

Medical translators also translate medical histories of patients, hospital discharge documents, instructions for medical devices, publications for medical journals and medical market research surveys. Medical translators are also needed to translate medical publications, such as magazines, journals and textbooks.

3. Conclusion

The efficacy and safety of most innovation have been studied through randomized clinical trials. In addition, there have been numerous attempts to calculate the cost effectiveness of specific interventions for well - defined clinical conditions. New medications, new diagnostic techniques and new surgical procedures have helped millions of patients not only to live longer, but also to possess better quality lives. The pace of medical invention is accelerating, inspiring hope for better clinical outcomes with less invasive procedures and short recovery times.