



EDITORIAL

TRANSLATIONAL SCIENCE RESEARCH: TOWARDS BETTER HEALTH

Even though it is considered a 21st century term, translational research has been present for much longer. Idea of translating experimental discovery to its' clinical application and use is old as research itself. However, it is the understanding of missing links between the basic science research and clinical research that emerged in the past decade and mobilized scientific and clinical communities and organizations worldwide. Hence term, translational research, which represents an “enterprise of harnessing knowledge from basic sciences to produce new drugs, devices, and treatment options for patients” (1). It has been also characterized as “**effective translation of the new knowledge, mechanisms, and techniques generated by advances in basic science research into new approaches for prevention, diagnosis, and treatment of disease, which is essential for improving health**” (2).

This translation is a complex process and involves more than one step for transfer of research knowledge. At least 3 such roadblocks have been identified (Figure 1) ; T1 translation: “The transfer of new understandings of disease mechanisms gained in the laboratory into the development of new methods for diagnosis, therapy, and prevention and their first testing in humans”, T2 translation: “The translation of results from clinical studies into everyday clinical practice and health decision making”, and T3 translation: “Practice-based research, which is often necessary before distilled knowledge (e.g., systematic reviews, guidelines) can be implemented in practice” (3-5). The international research community rapidly recognized importance for promotion of translational research and made it their priority(5). In the USA, National Institutes of Health, (NIH) expects to fund 60 translational research centers with a budget of \$500 million per year by 2012 (6). Besides academic centers, foundations, industry, disease-related organizations, and individual hospitals and health systems have also established translational research programs and at least 2 journals (Translational Medicine and the Journal of Translational Medicine) are devoted to the topic. In Europe,

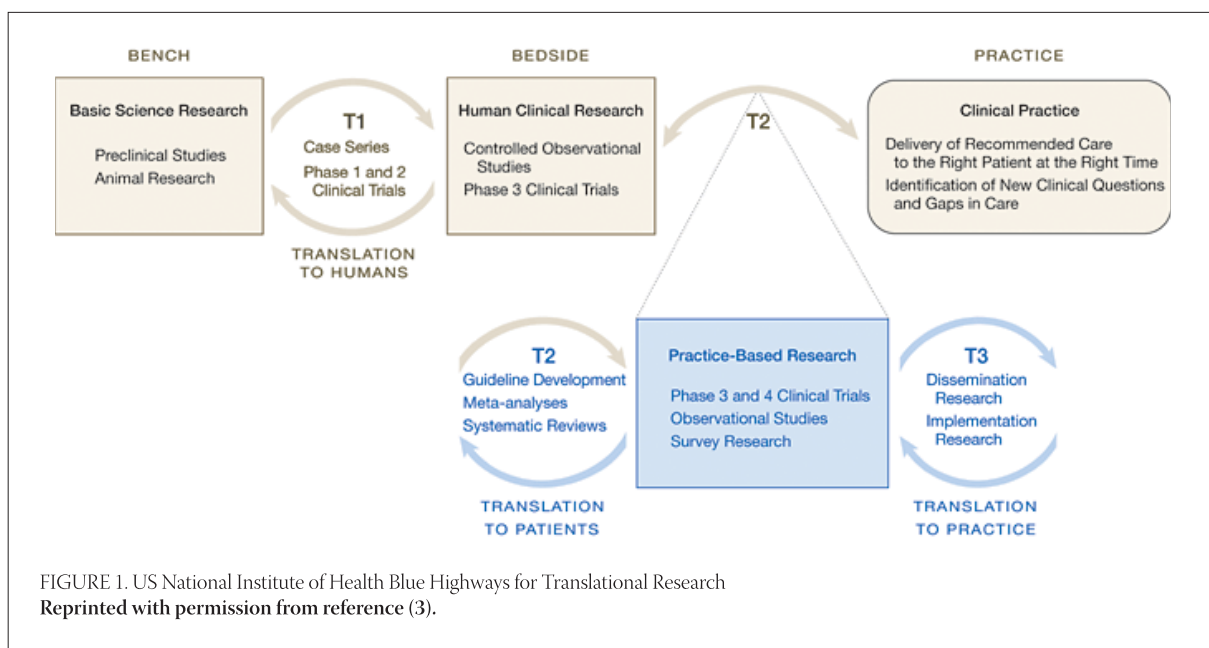


FIGURE 1. US National Institute of Health Blue Highways for Translational Research
Reprinted with permission from reference (3).

translational research has become a centerpiece of the European Commission's €6 billion budget for health related research, and the United Kingdom has invested £450 million over 5 years to establish translational research centers (7). In this issue of *Bosnian Journal of Basic Medical Sciences*, members of medical section of Bosnian and Herzegovinian-American Academy of Arts and Sciences (BHAAAS), contributed their own work and expertise to bridge the gap between basic and clinical research, between inventing the treatments and getting them used in practice, and laid down foundations for future collaborative development of translational research in Bosnia and Herzegovina, as well as in the region (8). At the first glance of this issue's table of content, a reader will easily notice the variety and breadth of topics and themes, **from medical informatics and genetics, to hematology and oncology, pulmonary and critical care medicine, orthopedics, trauma surgery and neurosurgery**. However, all of the articles share common ideas of translation of knowledge, from bench to bedside and back, and individualized approach to medicine, which are the true hallmarks of the 21st century medicine. Deeper under the surface and titles, there lies our common privilege and honor to be part of a broader mission of BHAAAS: to connect with our fellow physicians and scientists, and to build bridges of cooperation with our homeland, to promote the spirit of intellectual diversity and free exchange of ideas with the strong belief that this knowledge sharing will promote betterment of health in Bosnia and Herzegovina..

*Invited Editors from BHAAAS Emir Festic (Mayo Clinic, Jacksonville, FL USA),
Ognjen Gajic (Mayo Clinic, Rochester MN USA)*

REFERENCES

- (1) Woolf S.H. The Meaning of Translational Research and Why It Matters. *JAMA*. 2008;299(2):211-213
- (2) Fontanarosa P.B., DeAngelis C.D. Basic science and translational research in *JAMA*. *JAMA*. 2002;287(13):1728.
- (3) Westfall J.M., Mold J Fagnan L. Practice-Based Research--"Blue Highways" on the NIH Roadmap. *JAMA*. 2007; 297(4): 403-406.
- (4) Sung N.S., Crowley W.F. Jr., Genel M., et al. Central challenges facing the national clinical research enterprise. *JAMA*. 2003;289(10):1278-1287.
- (5) Mold J.W., Peterson K.A. Primary care practice-based research networks: working at the interface between research and quality improvement. *Ann. Fam. Med*. 2005; 3(suppl 1):S12-S20.
- (6) National Institutes of Health. Re-engineering the clinical research enterprise: translational research. <http://nihroadmap.nih.gov/clinicalresearch/overview-translational.asp>. [accessed November 17, 2007.]
- (7) Travis K. Translational research careers. *Science*. August 17, 2007. http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/2007_08_17/career_0700116/parent/68. [accessed June 4 2009]
- (8) Bosnian-Herzegovinian American Academy of Arts and Sciences (BHAAAS). <http://bhaas.org/> [accessed June 6 2009.]

This journal is indexed in:

Index Medicus /MEDLINE;
CAB abstract / Global Health databases;



THOMSON REUTERS

<http://thomsonreuters.com/>

Web of Science®

Science Citation Index Expanded



EBSCO HOST

Academic Search Complete

