

[DOI: 10.20472/IAC.2016.025.019](https://doi.org/10.20472/IAC.2016.025.019)

AHMED ELTOBGY

Faculty of Medicine, Al-Azhar University, Egypt

ABDULLAH AL-TEMANI

Faculty of Medicine, Tabuk University, Saudi Arabia

IBRAHIM ABDELHAFIZ

Faculty of Medicine, Tabuk University, Saudi Arabia

ASMA ALHARBI

Faculty of Medicine, Tabuk University, Saudi Arabia

WAAD AL NOMASI

Faculty of Medicine, Tabuk University, Saudi Arabia

ASHWAG AL-RWAILI

Faculty of Medicine, Tabuk University, Saudi Arabia

INTEGRATION OF PRECISION MEDICINE INTO FAMILY AND COMMUNITY MEDICINE PRACTICE: PROBLEMS AND CHALLENGES

Abstract:

Introduction: Doctors have long observed that their patients vary in their symptoms, their side effects from medications, and their responses to treatments. Therefore, guidelines for treatment and medication were based on what worked for the average person. Precision Medicine (PM), on the other hand, matches each patient with the treatment that will work best for them. It takes individual variation into account: variation in genes, environment, lifestyle, and even in the microscopic organisms. Beyond treating diseases, PM includes approaches to diagnostics, prevention, and screening. PM includes the concept of individualized or personalized medicine at a more exact level through advances in science and technology, such as genetics and genomics sequencing. The technology to undertake Precision Medicine Initiative (PMI) exists today, but many scientific, legal, economic and ethical problems and challenges about its practice remain unanswered. The active role and participation of family and community medicine specialty must be emphasized in regarding to big data management, geographical information systems, quality biomedical information and population based studies.

Study Objectives: The study aimed to identify, describe and prioritize major implementation and challenges of PM model integration into family and community medicine practice.

Materials and Methods: Internet literature survey has been conducted to identify and define the pertinent study independent (6 main physicians 'characteristics) and dependent variables (28 problems and 15 challenges). A cross-sectional analytical design was adopted in which the multi-stage random sampling technique has recruited 300 physicians from 3 different medical colleges and 6 hospitals and they were requested to complete a self-administrated pre-coded questionnaire. The simple scoring system was used for priority assignment of PM implementation problems and challenges. The quality of the collected data was ensured and sufficient descriptive and analytic statistical analyses were done.

Results: Top priority PM problems were pharmaceutical industry (1st), PM costs (2nd) and regulation of diagnostic tests (3rd). Meanwhile, the most important challenges were research issues (1st),

knowledge systems (2nd) and ethical practice (3rd).

Conclusion: The future of medicine based on PM is promising and a value-based healthcare model. While there is much optimism, there is also a great need for changing the current health system, solving most of the existing problems and meeting the facing challenges. What is needed now is a broad research program to encourage creative approaches to PM, test them rigorously, and ultimately use them to build the evidence base needed to guide clinical practice.

Keywords:

Precision Medicine, Family and Community Medicine, PM Problems, PM Challenges

JEL Classification: I00, I10, I19