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OPPONENT'S REVIEW OF THE DISSERTATION THESIS

Author: **MUDr. John Michael Quinn V, MPH**

Title : **Disaster, war, conflict, complex emergencies and international public health risks**

Opponent: Prof. Milan Tuček, MD, PhD

Described topic was initiated as an interdisciplinary research project in 2007 and has been further pursued since the beginning of the postdoctoral study of John M.Quinn MD, MPH in 2009 at the Institute of Hygiene and Epidemiology, 1st Faculty of Medicine (tutor Prof. Vladimír Bencko, MD, PhD). The preliminary phase included a review of human security challenges in the 21st century by examining multiple perspectives. This dissertation integrates several perspectives and disciplines (epidemiology, hygiene, public health) and analysed different regional settings from the several global affairs perspective. This study reveals that the delineation between a natural and human-induced disaster has become blurred over time. It shows that, despite the many health indicators not influenced by human action, many truly are and the underlying factors that contribute to the impacts of such complex emergency events on populations and their public health are quantifiable, in some stages predictable, and to some extent preventable.

The general methodology behind this research was carefully selected based on a thorough literature review and country assessments made in the field and on the ground by the PhD candidate John Quinn, MD, MPH, who personally gathered data in Iraq, Jordan, Ukraine, Macedonia, Bosnia and Herzegovina, Timor-Leste, Indonesia, Kurdistan, Israel, the Occupied Palestinian Territories (oPt)

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and several border regions throughout the Middle East. The specific methodology was selected for each published paper represented by the separate chapters of the dissertation. All epidemiological and biostatistical methods, calculations and formulas are placed in one chapter, with their relevant applications to the research offered throughout. This simple presentation of complex computation should make clear the level of fluency in basic epidemiological and biostatistical methods that was applied regarding global health and prevention in this research and the papers published (and later presented in each chapter).

In order to carry out such interdisciplinary research, many factors need to be considered to understand the new challenges for the national, regional and global actors that protect, prepare, mitigate and respond to the health, safety and security of populations. This is relevant for current practice, as well as to disseminate the lessons learnt so that they are available for future public health programming in conflict, disaster and complex emergencies. Furthermore, the methodology includes a broad exploration of political, economic, social, cultural, environmental and ecological factors of events such as poverty, economic inequality, disease and decreased health security. It also takes into account how the core principles of hygiene, epidemiology and prevention can be applied to global and public health in order to address the shortlisted global problems through best practices and evidence-based policy. Furthermore, food security and poverty in general are also aspects of health and human security.

The subjects dealt in the thesis are up to date and the text of it is in 195 pages, split into 6 chapters, illustrated by 5 figures and 12 tables. A crucial part of the thesis are three chapters published in journals with impact factors in the original recently published version attached in appendix of the thesis. The list of reference contain more than 350 items relevant and majority of them are recent. Data indicators used to measure state fragility and failure in the study instruments of this research are summarized in each chapter; categories and definitions under scrutiny are reviewed and discussed in detail, as they relate to the metrics of health and correlate to disease and disease risk. Approaches to hazard identification in risk assessment – including methods for identifying and judging the quality of relevant studies and approaches for assessing the weight of evidence for causal relationships between war and health – are considered as well. It is important to appreciate that epidemiological principles including bias and error are applied throughout the research presented and in each publication and subsequent chapters. To mitigate selection bias the study instruments involved were either case studies, or countries were randomized by the use of research instruments that account for it e.g. in the methodology on the Failed States Index (FSI) and others in aggregate in each chapter.

Not all research and academic aspects of this dissertation fall into a standard publication format. However, many components and aspects of the research were tests that were implemented and carried out within country and regional assessments and other related projects. These assessments are descriptive in nature and not experimental, but some key recommendations based on the assessment results are descriptive and have helped to direct public health policy in their respective regions and countries.

The text of the thesis contains only a few mistakes and typing errors, some tables repeated information placed in the text. Missing is e.g. the link in the text for tables 7, 8 and 9. Not all abbreviations are explained in the text and placed in special list. Some parts of the thesis are written in a narrative way. Those rather relatively minor mistakes according to my opinion do not reduce the quality and importance of reviewed thesis.


To conclude, the author proved his ability to work systematically on given public health problems during critical situations on international context. The results presented in this thesis are not only interesting but as well practically usable for research and practice world-wide.

Given all other administrative duties has been fulfilled the author is entitled to be awarded with the title PhD.

My opponent's questions are:

- 1) Measles, cholera and tuberculosis were selected as the most relevant indicators of health safety status demanding increased activity in the public health prevention activities during a war and catastrophic situation of a natural origin. What is your opinion about prevention of poliomyelitis and malaria in this context?
- 2) What are main differences in public health related problems in case of heavy earthquakes in high mountains comparing with heavy floods in river plains regions?
- 3) In dissertation are repeatedly described problems registered in concrete war regions. What are differences among problems of public health a in a case of different ways of warfare (e.g. classic, hybrid, multilateral)?

In Prague, August 29, 2017



Prof. Milan Tuček, MD, PhD

opponent of the dissertation