

Welcome & Introduction

Special Issue on: “Global Citizen Safety & Security”

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Joining our Editorial Board, the Editors-In-Chief, present greetings to you, our valuable reader, and welcome you to the *Health and Technology Journal*'s Special Issue on “*Global Citizen Safety and Security*.”

Editors-In-Chief have chosen to focus upon the “*Global Citizen Safety and Security*” theme in this issue, as we jointly recognize that humanity now stands at the precipice of facing indefatigable shifts in our habitat and the acceleration of the ‘change momentum’ within. The shifts in our habitat and the rate at which those changes are taking place have introduced a very large array of *highly interdependent, interconnected and interoperating* “*Global Citizen Safety and Security*” concerns and accompanying sets of risk levels for which, if we are not adequately prepared, and those that could exact a catastrophic toll on humanity everywhere.

Most of the authors, are members of the IFMBE¹ Global Citizen Safety and Security Working Group; a team of multi-disciplinary and interdisciplinary professionals, representing every continent, who in the last 6 years have covered many of the problems faced by society, and are represented in this issue.

As an example, the United Nation’s Programme on Ageing has stated, “the world is in the midst of a unique and irreversible process of demographic transition that will result in older populations everywhere.”² By the year 2050, the number of

people aged 60 or above is projected to triple and reach 2 billion. This condition is seriously being exacerbated by a declining global Total Fertility Rate (TFR),³ which began to fall from 5.0 per woman in 1950, to about 2.5 in 2010.⁴ Significant shifts in consumption of goods and services are expected with such demographic shifts, and consequentially, dramatic revisions in national economics should be anticipated. The ageing populations of the world will demand dramatic augmentations to World Healthcare Systems, reflecting modifications to the range and types of services adjusted populations are likely to need. Consequentially, the types of skilled labor forces that are required to staff revised Healthcare Systems will also likely be those that are matched to the many care dimensions for the ageing.

Three articles in this special issue will describe the new environment we envision for homecare, and particularly the ageing population. “*Envisioning Patient Safety in Telehealth: a research perspective*” by Drs Monteagudo, Salvador and Kun; “*Multidisciplinary, holistic and patient specific approach to follow up elderly adults*” by Drs Armentano and Kun are two articles which were presented at the IEEE Society for Social Implications of Technology (SSIT) annual conference during ISTAS 2013.⁵ The third article is “*Wearable Systems and Mobile Applications for Diabetes Disease Management*” by Georga, Protopappas, Bellos, D and I. Fotiadis.

¹ <http://www.un.org/en/globalissues/ageing/>

² Total Fertility Rate (TFR). “A measure of how many children a woman would have over her lifetime if she experienced the age-specific fertility rates observed in a population in a given year.”

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³ Total Fertility Rate (TFR). “A measure of how many children a woman would have over her lifetime if she experienced the age-specific fertility rates observed in a population in a given year.”

⁴ Lam, David and Leibbrandt, Murray; “Global Demographic Trends and their Implications for Employment,” Submitted to the UN - High Level Panel on the Post-2015 Development Agenda [<http://www.post2015hlp.org/the-panel/>], New York, NY., May 2013 [Initial Co-Chairs: President Susilo Bambang Yudhoyono of Indonesia; President Ellen Johnson Sirleaf of Liberia; and Prime Minister David Cameron]

⁵ International Symposium on Technology and Society (ISTAS) held in June 2013, Toronto, Canada

Today, developed nations are dealing with a “new” rapidly growing threat called “obesity”. According to the CDC⁶ more than one-third of U.S. adults (35.7 %) are obese. Obesity-related conditions include heart disease, stroke, type 2 diabetes and certain types of cancers, some of which are leading causes of preventable death. The estimated annual medical cost of obesity in the U.S. was \$147 billion in 2008 U.S. dollars; the medical costs for people who are obese were \$1,429 higher than those of normal weight. With so many converging technologies on personal devices, as it was predicted several decades ago, home care, tele-health and the care for the growing numbers of elderly citizens particularly, is becoming a very important health area to consider.

Another area of the big-picture, undergoing dramatic shifts and high risk development, will be the Water Sector. McKinsey, a Global Consultancy, and the World Bank (IFC) have jointly said that the demand for water will grow globally from 4,500 billion m³ today, to 6,900 billion m³ by 2030.⁷ This rise in demand is expected to out-strip existing supplies globally by 40%!⁸ Considering Global Warming, and the weather conditions in just the United States, it would be indispensable to observe adjacently that in August of 2012, for the contiguous United States, 80% of the total land mass had experienced abnormally dry, or drought conditions.⁹ These problems do not remain cordoned or isolated. The *Interoperable*¹⁰ nature associated with a Globalized existence; the high mobility of people, goods and services more universally, will all surely “re-present” water shortages in the form of food shortages, higher food prices, marginalized food safety and security and the manifestation of diseases from a lack of access to clean water, and access to proper sanitation among other things. Herein, Dr. Mathews’ paper: “*Duplicity at the U.S. EPA (A Legacy of Contrariness & Broken Pledges to Protect)*,” which examines for example, the contamination of waters by industry, and such matters as shortfalls in protections from one’s own government, advances a refreshing view that most scientists either miss, or tend to ignore due to a lack of knowledge and experience, insensitivity to comprehensivity, the desire to appease/be politically correct, or all of the above.

The area of Food Safety and Security was addressed at a Special Panel and Workshop that took place at MEDICON 2013

in Seville, Spain, last year, and is represented by the next five papers:

1. “*Global Food Safety Product Management: A Holistic, Integrated, Strategic Approach (Proposed)*” by Drs Boddie and Kun;
2. “*Securing the Food Supply Chain: Understanding Complex Interdependence through Agent-Based Simulation*” by Drs Armstrong, Alok and Rashmi Chaturvedi,
3. “The Impact of Fukushima on Global Health: Lessons Learned from Man-made and Natural Disasters” by Drs Kun, Hirose, Katsumi, Albin, Prendergast, and Mendoza
4. “*The Arsenic Threat: Interdependencies of Water, Agriculture, Food Supply, Public Health and Energy Critical Infrastructure*” by Drs. Kun, Linkous, Gibson, and Roldos; and
5. “*The Traceability: An Electronic Information System for The Meat Industry*,” by Abraham, Dassatti and Cal, from the “*Instituto Nacional de Carnes*” (Uruguay), is quite timely and central to the issue theme.

The importance of this last paper is paramount. In today’s global economy where products come and go, from and to everywhere, traceability is not an option. Eventhough mediating technology exists, many times we suffer from un-interoperability, that is, related information is not shared, and/or the correct policies are absent and consequently, unacceptable results are delivered. Such was the case in the U.S., where in 2012–2013, tainted steroidal injections from the New England Compounding Center caused a multi-state outbreak of fungal meningitis. The problem was discovered on October 6, 2012. At that time 7 was the total number of deaths and 64 was the total number of cases. By September 25, 2013 the total number of deaths was 64 and the total number of cases was 750. One could ask: why did no one alert those patients taking this injection, after the first 6 deaths had occurred? Or why did the pharmacies (who have the name and identification of every patient they serve, the referring physician ID., and the lot number of all their products) choose to not alert patients? Was this a result from an absence of policy? If nothing else, those 58 additional deaths seem “preventable” ... is it a case of not sharing information, or pharmacies not having the obligation to call the patient directly ?

The biggest national-level problem likely to affect humanity’s ability to assure “Global Citizen Safety and Security,” remains our collective inability to match critical solutions to problems, and to task the limited resources available against rising risk factors effectively. *Here, the prime solution requirements will include: high functioning governments, governmental institutions, and functionaries with the ability to configure actionable policies, supported by holistic intelligent assessment of prevailing conditions and assembling the will to deliberate upon the need to have elegant, profound and dynamic actions.*

⁶ <http://www.cdc.gov/obesity/data/adult.html>

⁷ Addams, Lee; Boccaletti, Giulio, Kerlin; Mike and Stuchtey, Martin; “Charting Our Water Future - Economic frameworks to inform decision-making” [The 2030 Water Resources Group], McKinsey & Company and IFC, Washington, D.C., 2009

⁸ *Ibid*

⁹ Folger, Peter; Cody, Betsy A; and Carter, Nicole T; “Drought in the United States: Causes and Issues for Congress,” Congressional Research Service, Washington, D.C., 22 April 2013

¹⁰ Please refer to the definition of *Interoperability* as offered by Dr. Mathews, inside the Invited article on the “*United Nations*.”

To assist our understanding of “*Global Citizen Safety and Security*” risks and opportunities therefore, the Editors-In-Chief have assembled a rare group of *eminent experts*, who, through their scholarship, will aim to present for you, the reader, an accounting of towering risks and skyscraper like opportunities - uniformly, to advantage “*Global Citizen Safety and Security*” issues in concern. The chosen items of scholarship offer real opportunities to light *pathways to change*, to promote *novel thought-ways* and to motivate the *creation of actionable directions*. As an example of these editorial aims, we present for your good understanding, the cornerstone scholarship of Dr. Mathews.¹¹

Let it be said that, rarely, if ever, do enlightened and authoritative scientists speak candidly of failures in whole systems and associated instruments. This Special Issue represents an instance where candor by the enlightened and authoritative, will aim to emerge true change possibilities, in full view of risks and opportunities, side-by-side. The invited article titled: “*Uninteroperability at the United Nations - The Case of a Runaway World Body (On Overcoming Leadership Vacuum, Structural Failures & High Risks to Human Development)*,” is a rounded and realistic narrative, which places the Health and Technology Journal’s “*Global Citizen Safety and Security*” issue in good perspective.

The United Nations is the only global inter-governmental organization with a capability and capacity to address peaceably and nonbelligerently those multi-national, trans-national, and exceedingly complex problem subjects, questions and disputes, that require meticulous and meaningful address, deconfliction, resolution and reconciliation. Since there is a universal expectation that the United Nations is indispensable in its role establishing global stability and averting future human conflicts before they can begin, subject matters that the United Nations will either consider, and/or address, is not always ‘just a question’ of matters being *institutionally, or procedurally germane*. The ability for the United Nations to effectively care for, and manage issues presented before that body, is a reflection of that organ’s general qualification and preparedness; a function of the arrangement and grouping of indispensable competencies, institutional efficiency, the integrated knowledge within and of the Organ’s ability to orchestrate between capacity instruments and the many institutional capabilities.

More than any other time however, the United Nations as a world body is besieged by high institutional dysfunction and operational complications on multiple levels. This invited treatise from Dr. Robert Mathews reveals through

Interoperability Analytics, the acute and systemic interconnections and interdependence among many of humankind’s trans-continental problems. Collectively, the World should question *the United Nations’ ‘mission and resolve to avert conflicts before they even begin,’* with respect to the case of the Cultural-Political-Military-Economic-Ethic volatility in Ukraine, Eco-Terrorism in Nigeria, the case of 600,000+ people who have been displaced by severe Violence in the Central African Republic, the mass exodus from Syria - where “one” entire family is now leaving Syria every 60 seconds>, or the record 51.2 million (as of December 2013) people now displaced globally due to conflicts, etc. It should be pointed out in addition that according to a study by the Internal Displacement Centre and the Norwegian Refugee Council, natural disasters such as floods, storms and earthquakes, forced 32.4 million people to flee (in 2012) last year alone, with the overwhelming majority (98 percent) due to climate and weather related events.

It is hoped that this stirring scholarship, albeit reserved in scope, will excitedly kick-start much-needed worldwide “intellectual labor” (albeit 50 years late) on the urgent demand to epitomize an array of “*Global Citizen Safety and Security*” challenges that civilizations are presently experiencing, and as explained through a window into operational spaces of the United Nations. Never before has there been such an authentic and forthright top-down public review of this World Body (unlike previous reviews of parts of the system, or specific programs), which is then followed-up with at least a nascent directional approach to improve the UN’s working systems, their works, and their outputs.

The reader is cautioned that this body of work is not intentioned to be an “equal time or opportunity” article. Although this writing can easily be misinterpreted, misattributed in error, and/or pigeonholed as a vilification of the United Nations, no such misinterpretation, misattribution, or misrepresentation should intellectually be permitted.

We hope that this Special Issue will prove to be a vehicle for a much-needed discussion on the many concerns that are highlighted. We welcome and remain eager to receive your comments and/or suggestions.

Sincerely,

Lodewijk Bos and Luis Kun
Editors-In-Chief

¹¹ Dr. Robert Mathews is the World’s most-leading scholar in the ‘*ultra-complex systems*’ area of *Interoperability*. It is critical to study his definition (in the first section of the UN Paper), since that term and subject have incomparably suffered from unnaturally narrowed contextualizations and accompanying uses, resulting in muddled and imprecise outcomes.