Foreword: Safe and secure cities – what seems to be the problem

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Cities can be understood in many ways. They can be seen as geographical areas, as concentration of points of population, as superbrains (Jaview Carillo and Edvinsson, 2006) driving humanity, as melting pots of different cultures (Park, 1928), as complicated infrastructure entities, as potential problem pots, as gravity point of industrial and financial activity, as service centres, as focal points of education and culture – you just define your view.

For us in the naming of this special issue, a key point was that cities are points of interconnection. They offer easy, efficient and fast interconnections to humans, things and issues that might never mature, or mature very slowly, in less dense settings. Interconnections of almost anything create new opportunities, but also potential problems.

One of the most valuable assets that might be compromised in such setting is safety and security, touching upon all aspects of human life, finally even health and life. Less-valued aspects that might be sacrificed are for example culture, human dignity, physical and financial assets, fame and face-value, democracy or freedom of speech – again to mention just a few issues. Risks to health and well-being are obviously very different in urban and rural settings.

What kind of risks might we also meet in urban setting, risks towards safety and well-being? Who are the key players, decision makers in health issues? Decision makers in health settings are many and at different levels in society. The key decision maker in health issues is every citizen/patient him/herself, even though of course very often conditions and courses of action are beyond the control of the citizen. Activities that affect the individual's health are conducted by everyone around him/her, not least by those who are in daily interaction with the citizen: typically, the family and the workplace and its actors. Further, key decision makers in individual and population health are professionals in healthcare in many categories. Finally, at the political level many decisions are made, which are at the core of healthcare system, or at least have a serious direct or indirect impact on it.

Risks in healthcare are many and multifaceted. Our classification is not complete but we classify risks into medical, economic, social and information categories.

Central are health- and life-related medical risks, which touch upon the health, well-being and life of subjects, either individuals or different subgroups of populations, or even whole populations. Eventually, and in the long run, all other materialising risks in society have an impact on these.

Economic risk is always present in any human activity. Eventually it culminates in situations, when payback to investment is absent or substandard. We see and have witnessed both under (Lynch et al., 2000) and overinvestment (Bös and De Fraja, 2002) in healthcare. Underinvestment means that we have not allocated enough resources at some level (individual, organisation, and society) and so the health needs remain unsatisfied. Overinvestment means that we have a too large resource pool to cater for healthcare, in relation to demand. All these assessments are made difficult by the fact that demand in healthcare is in principle endless.

Environmental risk means that we deliver healthcare at an unsustainable impact on the environment. Human health is maintained at the cost of the rest of nature. Environmental aspects of healthcare are a fragmented and rather neglected topic, but include aspects such as recycling of healthcare equipment, environmental effects of medicine and other hospital and healthcare waste, carbon footprint of the activity, and the complicated interconnection between healthcare and climate change. It is also well-known that human-built environments can compromise health (Wen et al., 2003), and that cities can be rather dangerous places in many aspects.

Social risks in healthcare touch upon issues such as equality, digital divide, real and perceived health needs, poor health habits and poor incentive systems. One's health and well-being is maintained too much at the cost of others, or health is harmed because of bad activities, including individual and collective life habits and suboptimal incentive and reward systems.

Information risks have to do with false information about health issues, leading to bad decision making at all levels. Health-related decision making is based on wrong or poor quality information. Information risks might well materialise in the case of utilising big or open data.

We can have different other ways to classify health and well-being risks. One approach is to identify health risks based on the physical size of their root cause. Let us try this approach – knowing that we anyway come to a rather limited risk analysis.

Starting from the biggest factor, risks related to atmosphere are very crucial. Global warming (Guggenheim et al., 2006), climate change (Meehl et al., 2007) and air pollution (Seaton et al., 1995) are severe health problems, often materialising clearly in urban setting. As well water can be a health risk, such as the ongoing rise of sea water level or polluted water resources. Earth and ground also convey risks, such as polluted ground unsuitable for many human uses including agriculture, free-time activities and housing.

National economies and health systems are a major cause of health and well-being problems. The perfect healthcare national service system is not yet invented, and in all national settings there is some health and well-being deficit, sometimes bigger and sometimes smaller. Shortcomings and problems in one subsystem, healthcare information systems, are also crucial to human health and well-being. Problems can also be seen in many other subsystems of nations: social security, healthcare organisations, medicine delivery, immunisation schemes, …, you name it.

Different spheres of human life also risk our health and well-being. Mobility, especially traffic, is a major cause of sickness, even death, through accidents (Odero et al., 1997). A free-time several threats to health face us – even sitting at computer can be harmful to health in the long run. The same with working life. Occupational health remains a major problem, even though physically dangerous tasks might get fewer even in the global scale. Office and information work has brought about its own risk areas.

Food safety is a major concern always (Dosman et al., 2001). Even more problems might be caused by the very central commodity: water. Unfortunately, many world water resources are badly polluted, and good-quality drinking water is not a clear-cut right of everyone. Alcohol, tobacco and drugs are major reasons for health deficit and death, and even when some good developments have occurred, say in the field of tobacco consumption, this problem area remains far from solved.

Animals threaten our life and well-being. Fortunately, big animals are no longer a major threat in most human inhabited places. The real risk is in insects, and vector-borne diseases keep sustaining their presence.

In the smallest end, we have two worlds: that of physical items such as microbes, chemicals, minerals and like, and that of bits and bytes. Classical knowledge is that viruses and bacteria account for many diseases. An increasing amount of problems comes from different chemicals, the effect of which on health and well-being is still often unknown.

A modern problem in built environment is that of sick buildings (Mølhave, 1989). Normal rather well built buildings can have problems because of bad air quality, moisture and building mistakes. Diseases caused by these emerge over a long period of years, and are also a major economic burden if a lot of building infrastructure becomes unusable.

Bits and bytes do not usually cause health problems, but the lack of them even more. Missing or false health-related data causes constant problems and deficit in health. That is why we need research, education and conferences like our series for well-being in the information society.

The biggest threat to human health and well-being has not yet been included in this classification: the human being. Health and well-being problems are very much man-made, not made by nature. We all continuously and knowingly harm our own health and well-being, as well as those of our fellow citizens. Sexually transmitted diseases are a good example of diseases that maybe are not originally born because of human activity, but are effectively transmitted by human intensive activity. As an example, it is assessed that 97% of building fires are caused by humans – this has remained unchanged for over one hundred years.

Human-related problems are also caused by mental illnesses. At an extreme, mass killings and terrorism occur because of mental, social and societal health. Smaller nuisances are countless.

Add to this all the biggest threat: unknown reason. Humans have health deficits, and often the basic reason for the problems remains unidentified. We can name and partly understand many major nuisances such as cancer, but really we do not yet understand the birth mechanism of the disease so well that we could inhibit its occurrence. Many health problem causes still remain unidentified.

In the frame of our biannual conference series, Well-being in the Information Society the Fifth Conference in year 2014 in Turku concentrated on the topic of safe and secure cities. We threw out the challenge to the scientific community – what do you get out of the topic safety and security in an urban setting? Which are the risks and challenges facing health and life that they want to discuss? Out of the submissions in plenty of areas, the six included in this special issue were highlighted as having the highest academic standard. How well they reflect real problem areas in urban safety and security, will be left as an open question.

In their article ‘Communicating diabetes and diets on Twitter – a semantic content analysis’, Kristina Eriksson-Backa, Kim Holmberg and Stefan Ek witness the power of

social media. Social media can become for many a central source of information, as was in the article to be seen the case with diabetes and diets. This richness of information might have its dark side too: false and harmful information can become rampant very fast too. Everyone can post tweets, and at the extreme even purposefully submit harmful and false information. Often information might be commercially biased, for example marketing for certain medicines, diets, services, etc. What is left for healthcare professionals is to keenly follow discussions in social media, and to be prepared to fight against harmful information. This is not to say that all social media communication about diseases and symptoms should be avoided and is harmful. On the contrary, social media is a natural part of modern life, and as almost any resource in life, also social media can be turned into a productive resource to fight for health. For example, through follow-up of social media, improved social media era understanding of the public discussion, knowledge and awareness about diseases can be achieved.

The article 'The influence process of electronic word-of-mouth on traveller's visit intention: a conceptual framework' by Ping Wang moves as well in the world of social media. The safety of the tourism destination is high on any traveller's agenda, and often most authentic, fresh and detailed information about the safety situation can be gained from social media, where electronic word-of-mouth is being generated. The article discusses in detail two popular theories, and adapts them to the safety discussion. The theory of planned behaviour by Ajzen (1991) stipulates that before a concrete action, such as a tourism trip, can take place, the actor first has to develop an intention to do it. In this development, the factors of subjective norm, attitude toward the behaviour and perceived behaviour control play a complicated interplay to develop the intention. For example, the subjective norm can be risk-avoiding or risk-accepting. Taking risks in travelling might be awarded unique and rewarding experiences that might not have materialised without risk taking. The second model used, the elaboration likelihood model by Petty et al. (1983) is used to shed light on how the three aforementioned constructs develop. A central route is in the argument quality, a peripheral route is in the peripheral cues. An argument might be accepted through one or both routes, and the argument might have power to change intentions, and finally behaviour. In general and total, the article shows that the perception of the safety of a tourist destination is developed through very complicated processes that can be based on false information. Destination managers and advertisers might be better equipped to distribute the correct information after understanding the processes described in the article, and so tourists could avoid really dangerous places, and enjoy experiences in places that really are not dangerous.

Tomi Dahlberg takes up the issue of inter-organisational IT governance in his article 'The creation of inter-organisational IT governance for social welfare and healthcare IT – lessons from a case study'. IT governance is already as such a difficult issue, but complexity is increased as governance is studied and interpreted at an inter-organisational level. The article draws on results of a real Finnish case study for a Finnish health district. In the theoretical discussion, the author shows that traditional IT governance theory and the many frameworks in the area are not managing to tackle the complexity of inter-organisational settings. Based on theories in cognitive social psychology, the author showed that actually the concepts 'perceived need to cooperate' and 'willingness to cooperate' are actually very central. During the crafting phase of inter-organisational IT (or any) governance, a perception and willingness to cooperate can develop, or be ruined,

if the process is not managed well. Badly working inter-organisational systems lead to missing information and suboptimal processes, which can materialise in ineffective health and social care – that might be a big health risk for the individuals and population as well.

The article 'Information flow and situational awareness in emergency medical dispatch' by Teija Norri-Sederholm, Juhani Seppälä, Kaija Saranto and Heikki Paakkonen studies the critical are of emergency medical dispatch. To tackle the emergency situation in an optimal way, just the right kind of resources should be sent to emergency scene – these calls for situational awareness. The article defines two different roles and tasks in Emergency Response Centers: that of ERC operator and incident monitor. ERC operator takes the emergency alarm – often via a telephone call – and first evaluates the situation, and then sends the needed resources to the emergency scene. The incident monitoring staff takes over after that, and does all the needed follow-up and adjustment work to make the response to the emergency a successful one. The study – performed in three Finnish Emergency Response Centers – showed that the information needs are different in the two aforementioned work roles. The issue should be studied in even more detail, for example to support the building of information systems for Emergency Response Centers, and to build optimal work processes to emergency medical dispatch.

Emergency response is also the topic of the article 'FirstAED emergency dispatch, global positioning of community first responders with distinct roles – a solution to reduce the response times and ensuring an AED to early defibrillation in the rural area Langeland' by Finn Lund Henriksen, Per Schorling, Bruno Hansen, Henrik Schakow and Mogens Lytken Larsen. The article discusses first response to sudden out-of-hospital cardiac arrest (OHCA), where proper help and response is needed within 5–6 minutes. This is difficult if not impossible to attain in most rural areas, including the case area of Langeland (an island) in Denmark. Through voluntary action, 96 automated external defibrillators were installed on the island. In addition, 215 volunteers were recruited and educated to operate them. The system was augmented with a mobile application locating and dispatching the volunteers to the emergency scenes. During the first 21 months of operation, the system was used 588 times, and in 95% of cases the voluntarily responders arrived to the scene faster than the ambulance. Median response time was reduced to 4 minutes and 9 seconds. This article shows a convincing case on how voluntarily citizen action can increase safety.

Aung Pyae, Reetta Raitoharju, Mika Luimula, Paula Pitkäkangas and Jouni Smed in their article 'Serious games and active healthy ageing: a pilot usability testing of existing games' take up the topic of activating elderly people through game-like digital environments. A lot of potential is accredited to games in activating and supporting elderly people, but the preliminary studies of the research team have already found also many obstacles to be overcome in the way towards intense use of elderly of digital environments. Problems range from non-interest through missing skills and capabilities all through to physical inabilities by elderly people. Games that have a counterpart in real life seem to be favoured by elderly people, as well games that are played in groups instead of playing alone. A big problem seems to be that current gaming industry focuses on games that are based on activities favoured by young people. For example, motivating an elderly person to familiarise him/herself with the culture, vocabulary and exercises on roller skating or street dancing might be challenging.

We wish you will enjoy reading this special issue and gain some knowledge from it. At the same time, we want to thank the authors for their contributions, as well as the numerous reviewers who have performed quality assurance in the production of these articles.

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