

Malina Jordanova¹, Todor Uzunov²

¹Space Research & Technology Institute, Bulgarian Academy of Sciences, Bulgaria, mjordan@bas.bg

²nethelpforums.net, Sofia, Bulgaria

Abstract: The impact of Space-Weather on human health is neglected or underestimated. That's why when Space-Weather Awareness is concerned, it is considered as the raising awareness of the potential impact of space weather on critical infrastructures in view of the growing risk of technological catastrophic events.

The presentation is focused on the cross point between telehealth and space weather awareness. It will shape what is necessary to be taken into consideration in order to extend the scope of Space-Weather Awareness into the field of health awareness and prevention. The results are based on the achievements of the TeleSCOPE project (Telehealth Services Code of Practice for Europe, EAHC Contract Number: 2009 11 11) and will outline how telehealth can contribute to space weather awareness for the benefits of citizens.

Space-Weather Awareness

Space-Weather Awareness is usually focused at raising awareness of the potential impact of space weather on critical infrastructures in view of the growing risk of technological catastrophic events.

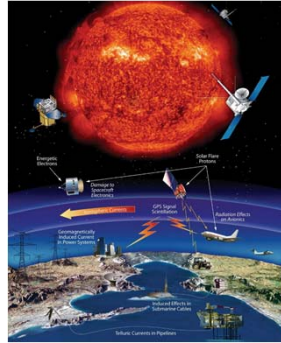


Illustration of technological infrastructure affected by space-weather events Source: http://www.nasa.gov/images/content/607989main_FAQ13-orig_full.jpg

Space-Weather Effect on Human Health

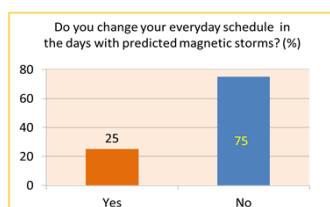
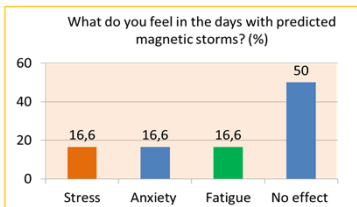
The impact of Space-Weather on human health on the Earth is underestimated. The possibility that Space-Weather may affect human health has been debated for many decades but is still a "scientific topic" in its infancy. It is confirmed that a subset of the human population (10-15%) is hypersensitive and predisposed to adverse health problems due to geomagnetic variations. Extremely high as well as extremely low values of geomagnetic activity seem to have adverse health effects. Geomagnetic effects on human health are more pronounced at higher magnetic latitudes.

Large scale studies reveal that Space Weather changes may influence the normal functioning of the central and vegetative nervous systems, cardiovascular system and cognitive performance (1-9).

False Predictions of Space Weather Phenomena hitting the Earth at a specific day, may cause stress and force citizens to reorganize their daily schedule. Results from our survey demonstrate the harm of false predictions and the necessity of structured, standardized **Space Weather Awareness**.



Sources: www.zdravnitza.com
www.zdravni.com
www.pro-bazar.com



Space-Weather Scientific Community is already facing the needs to set up rules how the information about Space Weather changes has to be presented to the general audience and to cast out of the temple the merchants.

It becomes a must organizations distributing Space Weather information related to human health to obey certain regulations in order to protect citizens and avoid dissemination of false information.

From Awareness to Action: Actions Needed

- Create awareness among interested parties, understand the implications and integrate space weather into emergency plans
- Answer the questions:
 - Who has the right to distribute the information about Space Weather Changes?
 - How the information has to be presented to citizens?
 - What is the strategic goal while distributing the info – medial effects or education & protection of citizens

No Necessity to Re-invent the Wheel:

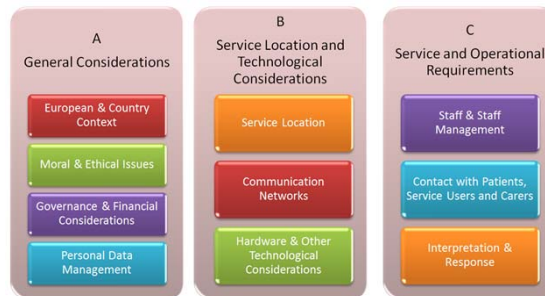
Incorporate Space Weather Awareness into Telehealth Services

Telehealth is a new concept for increasing the quality of life and summarizes "the means by which technologies and related services at a distance are accessed by or provided for people and/or their careers at home or in the wider community, in order to facilitate their empowerment, assessment or the provision of care and/or support in relation to needs associated with their health (including clinical health) and well-being. Telehealth always involves and includes the service user or client" [10].

Application of the framework of the European Telehealth Service Code of Practice into Space Weather Awareness in respect to protection of human health will save funds and efforts and will ensure that European Union criteria are respected.

The European Telehealth Service Code of Practice is developed within the TeleSCOPE project (EAHC Contract Number: 2009 11 11), offers a quality benchmark and provides much needed guidance for telehealth and telecare service providers, clinicians, careers, purchasers and other interested parties. Its responds to the increasing number of calls for such a quality benchmark that arise from increasing healthcare needs due to demographic changes and the imperative to adapt service frameworks to respond to those needs. The Code provides a framework by which service providers in all 27 member states of the European Union can aspire to or ensure the maintenance of minimum standards for telehealth services. It also gives the bases for regulation of telehealth services through appropriate monitoring and auditing.

The critical areas that the Code is focusing are below.



Areas Addressed by the European Telehealth Service Code of Practice relevant to Space-Weather Awareness



European Code of Practice for Telehealth Services is available at <http://www.telehealthcode.eu/component/content/article/70>

Development of Space Weather Awareness Code will not be an easy task as its has not only to ensure trust and confidence in the wide implementation and use of Space Weather Awareness but it must also reflect the local traditions, cultural and religious aspects. Having in mind this, a possible solution may be the outline of main principles that such Code has to be based on. As an example the referral-to-response model may be applied. Once main principles are outline it will be easy to check whether institutions respect them and to be sure that citizens rights of receiving correct information are protected.