



CASE STUDY
PUBLIC PARTICIPATION IN
RADIATION PROTECTION THROUGH
SOCIAL MEDIA

*Ivana Fojtíková
Michal Jankovec*

*SÚRO (National Radiation Protection Institute)
Prague, Czech Republic*

1

PARADIGM CHANGE

- 1986, Chernobyl accident
 - 2 separate groups
 - Radiation protection experts
 - Members of the public
- Fukushima
 - People ask for participation on decision making
- In these days – new situation
 - Regulators are obliged to act transparently and openly, ...
 - AARHUS convention, new legislation
 - Information must be available to citizens
 - The public decides what level of risk is acceptable
 - Regulators are challenged to provide education about threats and benefits of using ionizing radiation
- This paradigm can lead to unpredictable situations (vaccination)

COMMUNICATION, EDUCATION

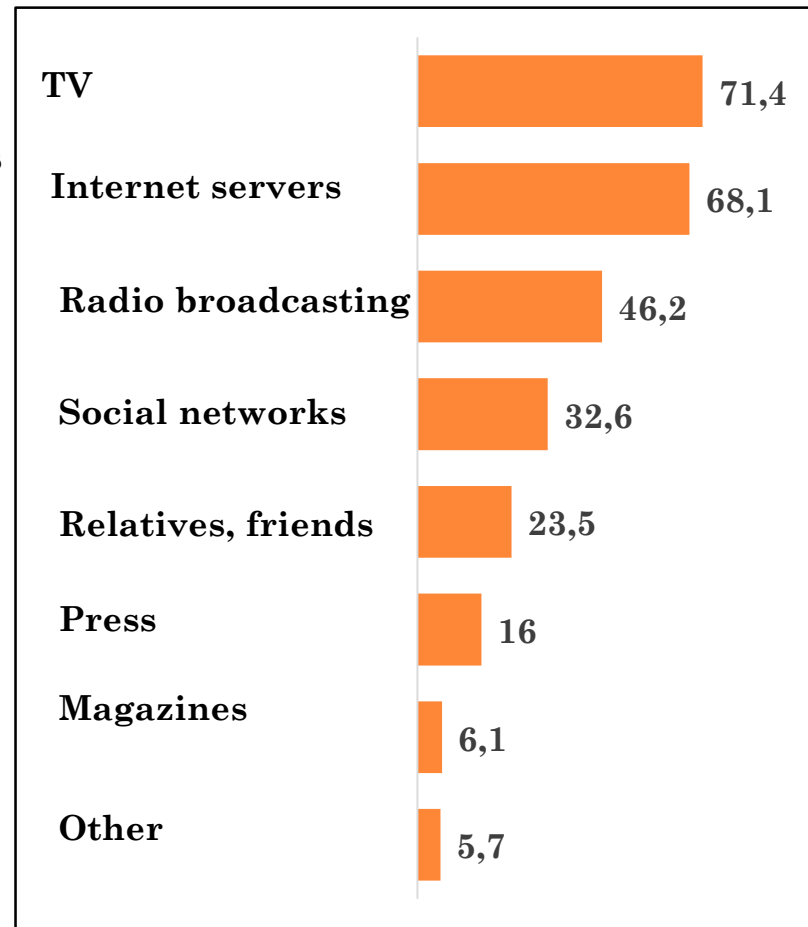
- First attempts after 1990
 - Radiation protection experts started to educate people
 - One way communication
 - **Formal** information through official communication channels
 - Information not always comprehensible (expert jargon)
 - Information invoked resistance and even distrust
 - Low level of trust is understandable
- In the last decade (after Fukushima)
 - Social sciences were included
 - Some radiation protection experts enhanced their education
 - European projects
 - Citizen science projects
 - New communication channels enable **informal** participation in the virtual space

NEW MEDIA

- Enable direct interaction among both groups (experts x population).
- Allow **everyone** to express their meaning through blogs, websites, videos, pictures, and other user-generated content.
- Further increase is expected in importance of social media and internet as an information source

- **Three main information sources**

SÚRO, 2018 (in %)



NEW MEDIA

- Features
 - Everybody can publish the opinion, even though not being authorized for the topic
 - Propagation rate of posts can be very high
 - Discussion partners do not know each other, they can use fake identities with the status they do not have in fact
- ➔ Potent environment for fake news spreading – this is the dark side of the new media; their ability to produce an „alternate“ reality
- The most vulnerable are **non educated people** and **young generation**

Age	18 – 29	30 – 49	50 - 59	Over 60
Social networks – one of three main info sources	51	28	25	26

Education	Basic	Trained	Secondary school	University
Social networks – one of three main info sources	57.4	40	29.5	23.2

NEW MEDIA

- In 2017, elevated levels of I-131 in the air provoked interest and fear among Czech population.
- Public fears were rising despite of the effort to calm them.
- Possible source – articles published on disinformation web sites
- Frightening graphics
- Situation was set in context of technical problems in nuclear facility in Flammanville, which was reported earlier.
- The main message of the fake new was that European Union does not inform people about the real danger coming from a nuclear facility,
- The aim was to provoke population's fear and distrust in the regulator and EU

PROTIPROUD
KONTRAREVOLUČNÍ MAGAZÍN PETRA HÁJKA

Hledaný text ... **HLEDAT**

Každý má svou volbu: Pohodlně plout do otroctví, nebo vstoupit do **PROTIPROUDU**

POLITIKA **ZDRAVÍ** **DUCHOVNÍ SVĚT**

Home > Politika



Radioaktivní spad nad Evropou: Byl Radioactive fallout over Europe: measured also in the Czech Republic. Why do the SONS and media keep silent? Possible nuclear accident ?

[Diskuse](#) [Tisk článku](#) [Poslat e-mailem](#) [Doporučit 0](#)

20. 2. 2017

First demonstration – radiation is a suitable topic for provoking fear, even though the dose is negligible

MEDIA ANALYSIS

- Media analysis results (9. 2. – 25. 3. 2017) – potential for propagation

Standard web sites		Disinformation web sites	
Number of published articles	39		19
Number of articles with open discussion	27		9
Number of posts per article	34,6		68,6

Facebook activities			
Post and comments	206		
Likes	444		
Shares	618		

LESSON LEARNED

- **It is worth to care for social networks content**
- **Challenges**
 - Detection of fake-news
 - Discovering mental maps which occur in the population
 - Detection of misconceptions
 - Looking for interest groups that can be engaged in RP
 - Looking for influential groups (medical personnel, local stakeholders)
- **The results can help**
 - Bridge the gaps in people's knowledge
 - Engage new stakeholders
 - Make education more efficient
 - Identify new partners for citizen science activities
- **Our final motivation**
 - Prepare an „early warning system“ for fake news in radiation protection

NEW PROJECT BEING LAUNCHED IN SÚRO

New media monitoring

- Zero (preparatory) phase
 - Gain the raw data from the new media used in Czech Republic
 - Prepare the methodology for monitoring (filter relevant posts, identify sources, etc.)
- First phase
 - Prepare the methodology for "manual evaluation" of posts characteristics
 - Relevance
 - Impact – shares, likes, ...
 - Sentiment – capacity to produce fears
 - Correctness – correct information, possible distortions
 - Others.....
 - Very time consuming – only a randomly chosen subset can be evaluated
- Second phase
 - Prepare a mathematical model which will evaluate the characteristics and identify possible threats in time

FIRST RESULTS

Data from new media (Fb, Twitter, discussion forums, Instagram, Youtube) in Czech Republic (March to May 2019)

- Investigating the posts in the context, their origin, the whole thread
- Looking for patterns, relevant characteristics

Case

- filter: mammograph*
- number of posts: 298

Interesting cases found showing the benefits and threats of informal participation in radiation protection

- Analysis of 1 discussion thread on the women discussion forum *rodina.cz* (*family*)
- Detection of possible fake new

LADIES ON DISCUSSION FORUM

- The thread was 414 posts long
- Topic: women health issues
- Mammography screening - **28 posts, 8 participants**
- **6** participants have positive attitude to mammography screening, especially in some age groups (above 50).
 - Aware of side effects,
 - Side effect accepted because of the potential to save lives
 - 1 of them had personal experience with the breast cancer in the family
 - 1 of them posted for others the link to a program broadcasted on radio concerning those topic
 - „Preventive measures are always better than later medication“.
- 1 participant has **strong** negative attitude,
 - Her gynaecologist did not recommend her to accept the screening.
 - Referred to an European study with a negative evaluation
- 1 woman was indecisive – asking for sources to be able to decide correctly
- Among the groups, tension was detected, sometimes with personal attacks

CASE 2 – ANTI-SYSTEM WEB SITES

- Published on 9 Czech web sites, 99 likes, 216 shares



- „... Mammography screening does not save lives. When you get mammogram, your **probability of death increases by 4 %.**“

DR. BEN JOHNSON

Information from his Facebook page

- Dr. Ben Johnson died on January 19th, 2019.
- Public Speaker, #1 Bestselling Author, Physician, Medical Doctor, Naturopathic Doctor, Doctor of Osteopathy, **Nutritionist**
- Leader in the field of complementary, integrative, and alternative medicine
- **Expert in complementary cancer care, thermography,**
- Author of a number of important health books, including Healing Waters, The Secret of Health: Breast Wisdom, and **No Mammograms!**
- **Helping to educate the public about the many effective, non-drug-based healing approaches**

- The article was published in Czech new media: Stop to media manipulation, lajkit (= like it), Anonymous news, World around us, Info wars, Politicians and political parties resign!!!
- In 2017, all these sites published also the disinformation articles about I-131.

THANK YOU
FOR YOUR ATTENTION

14

Ivana.Fojtikova@suro.cz
Michal.Jankovec@suro.cz