UAE’s experiences with data collection of past UNSCEAR surveys (Medical and Occupational)

Online Presentation_ 13 November 2020, 11.30-15.00 h (CET)
Introduction

Outlines:

- UAE experiences related to data collection.

- Future UAE contribution in the public exposure data collection / analysis
Dubai Health Authority (DHA), as a UAE representative for the UNSCEAR Global survey, worked closely with the UAE Health Organizations (Governmental and Private) and with the UAE Federal Authority for Nuclear Regulation (FANR) to collect data on:

1- Medical Exposures (2014 / 2016)

and


Important to have all, stakeholders and data providers, informed and involved
Introduction

To enhance and encourage participation:

- By taking part in the UNSCEAR program, the UAE Strategic goals are achieved: the UAE Healthcare Strategy is stating:

  Since success requires an open mind and healthy body, the UAE Vision 2021 National Agenda aims to **achieve a world-class healthcare system**

  The Government will work in collaboration with all health authorities in the country to have all public and private hospitals accredited according to clear national and international quality standards of medical services and staff.

  Furthermore, the National Agenda emphasizes the importance of preventive medicine and seeks to **reduce cancer** and lifestyle related diseases such as diabetes and cardiovascular diseases to ensure a longer, healthy life for citizens. In addition, the Agenda aims to reduce the prevalence of smoking and **increase the healthcare system’s readiness to deal with epidemics and health risks**. This will result in the **UAE becoming among the best countries in the world in terms of quality of healthcare**.

  DHA strategic goals in the light of the DHA’s vision for providing a **healthy, happy and safe community** as well as DHA’s mission to **achieve the highest international levels of healthcare services**. The strategic goals are as stated below:

  1. To protect public health
  2. To improve the quality of healthcare services.
  3. To enhance the population health status.
“A **goal** without a **plan** is just a **wish**.”

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**Steps taken at UAE level for the project**

1. **Phase I: (not an official)**
   An unofficial Phase I of our work plan started from the same day i.e. 5th October 2016. Tasks were assigned to Ms. Farhana Riaz which included:
   - General Reading on the subject to gain and collect all the required information.
   - Reading relevant material and assessing previous work done on the topic at an international level.
   - Writing down a draft Introduction part by highlighting important points for the research paper.

2. **Phase II: (official)**
   From 10th December 2016, Phase II of our work plan started with Ms. Farhana Riaz joining the DHA team officially. The period of this phase was three weeks long and included the followings:
   - Assessing the overall collected data from the exported file from QMS.
   - Removing irrelevant values and data redundancy.
   - Analyzing data to check and separate the empty, complete, incomplete and repeated responses.
   - Interpreting the challenges encountered in Data collection and planning solution strategy.

3. **Phase III:**
   A 4 week long Phase III is planned which will involve the following:

   3.1 **Actions to be taken by DHA team to recollect the data**
   - Separate Excel spreadsheets will be prepared for each facility highlighting regions that provided with repeated contradicting or incomplete data.
   - Facilities will be contacted via direct E-mail messages with an attachment of the spreadsheet and instructions made specifically for them.

   3.2 **FANR to take action for the rest of the facilities that did not respond**
   - The DHA team will request FANR via E-mail to take action for both the private and public facilities that have not responded or have the incomplete data to take part actively in the UNSCEAR survey data collection.

   3.3 **Comments and responses section**
   The comments from each facility will be used and a future strategy will be planned to address them accordingly.

4. **Phase IV**
   In Phase IV, the comments and responses from the facilities will be addressed and action on the comments and responses will be taken.
Steps taken at UAE level for the UNSCEAR Global Survey project

- Since Radiology is the largest expected data, DHA informatics team specifically established an electronic questionnaire management system (QMS) to collect data for the Radiology practices.

- The link to QMS (http://hiu-rh.com/qms/admin) along with a detailed user manual provided by the UNSCEAR was distributed to all government healthcare organizations and to the private sector.

- The private healthcare sector was approached through FANR and the DHA regulatory department. FANR also participated in distributing the UNSCEAR survey forms to governmental hospitals. All the facilities were required to save and submit their responses on it.

- DHA contacted all UAE Nuclear Medicine Departments to collect the required data (through email communications).

- DHA contacted all UAE Radiotherapy Departments to collect the required data (through email communications).
We organized campaigns to disseminate information related to UNSCEAR and the Global Survey:

1.1 Objective and Purpose of the Global Survey

- To educate and raise awareness among the patients and public health workers (Radiology workers and general health workers).
- To assess the levels and effects of exposure to all sources of ionizing radiation to patients, workers and public.
- To estimate and report global exposure levels and radiation risks associated.
- To identify gaps in the treatment capabilities around the world.
- To identify unwarranted variations in doses for the same radiological procedure in different countries.
- To improve the radiation protection measures in order to reduce radiation risk for a better environment.

We organized campaigns to disseminate information related to UNSCEAR and the Global Survey:

- Official letters through the DHA DG office sent to all healthcare organizations at the UAE and to UAE Federal Authority for Nuclear Regulations (FANR) to invite them to participate in the UNSCEAR survey.
- FANR contributed in the management process of the data collection. That was done through the UAE National Radiation Protection Committee.
- Medical Education department – Radiation in Medicine Development Team – held an Open Day on UNSCEAR Survey, with a call to the private facilities to submit scientific data on radiation exposure.

http://hmaward.org.ae/
Registered facilities in UAE (dental + medical) as per FANR 2016 = 2297 (1332 dental and 965 medical)

For the Medical Exposure data collection, we achieved as overall UAE farcicalities:

- 16% for radiology exposure data collection*,

- 87% for Nuclear medicine and

- 100% results for radiotherapy data.

*(for UAE governmental facilities (excluding the private sector), the achievement is about 80%)
The Private sector were not willing to cooperate mentioning that the survey was not mandatory. They were unaware of the importance of the survey and didn’t want to take a lot of time out of their busy schedules.
Lessons learned, challenges and ways for improvement of collection, and analysis of data for future UNSCEAR evaluations.

- Data collection on such a huge level with limited workforce led to limited collection.
- The private medical sector was not willing to take out their time and fill in the extensive survey even when we paid visits to some of them. A team visit instead of individual visit might helped in better response.
- The UNSCEAR Open Day, arranged by DHA and FANR teams, was a success.
- More awareness programs were needed; it would have been better to use TV and media awareness campaigns.
- Many people failed to understand the level of the research been undertaken.
Lessons learned, challenges and ways for improvement of collection, and analysis of data for future UNSCEAR evaluations.

- Distribution of questionnaires improved via online portal.

- Our team designed Excel macros to introduce some improvements for the data collection and analysis. An additional tech support (coding / programming) is highly required since the data was huge and needed automation.

- For the total number of registered staff under provided categories, we were given contradictory figures since private and government facilities use different terminologies for their staff categorization. Hence, this could be improved by applying a standard to all.
Public Exposure(s) definition in UAE Nuclear law:
Exposure incurred by member of the public from Radiation sources, **excluding** any occupational or medical exposure and the normal **local natural background radiation** but **including** exposure from **authorized sources and practices** and from **intervention situations**

Regulatory Framework : Regulation for Existing Exposure Situations (FANR-REG-19)
13 November 2018, Abu Dhabi, United Arab Emirates: The Federal Authority for Nuclear Regulation (FANR) has released its first annual report on Radiological Environmental Monitoring in the United Arab Emirates. The report establishes the baseline level of radiation either from naturally occurring or from man-made radionuclides sources in the UAE and reveals that in general the radiation dose rates are very low when compared to most other countries in the world.
UAE current experience in collecting public radiation exposure

FANR – Radiological Environmental Monitoring Programme:
- Monitor radiation in the areas around Nuclear Facilities (Gamma Monitoring Network, Environmental sampling)

Barakah Nuclear Power Plant Operator – Semi-Annual Radiological Environmental Operating Report
Pre-operational measurements to:
- Measure background levels and the variations along potentially important pathways;
- Provide baseline data for statistical comparisons with future operational analytical results.
UAE future contributions to include in the upcoming UNSCEAR project on public exposure

• FANR and Barakah Nuclear Power Plant Operator jointly working on: UAE Radiological Environmental Monitoring Programmes to:
  ✓ Identify any un-monitored release pathways.
  ✓ Identify changes in the areas at and beyond the site boundary that may impact the principal pathways of exposure.

• National Environmental Radiological Measurements (NERM) Work Group, under the Radiation Protection Committee:
  ✓ National Indoor Radon Survey for United Arab Emirates for Dwellings of High Occupancy Factors for Member of the Public
  ✓ Enhance National Capability in the area of for Radionuclide Measurement in Food and Drinking Water
  ✓ Support management of Existing Exposure situations;
  ✓ Enhance the National infrastructure and capabilities in the area of environment radioactivity measurements and radiation protection; and
  ✓ Provide technical support to the national Joint Emergency Radiological Monitoring and Assessment Team (JERMAT).
Thank You for Your Kind Attention

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