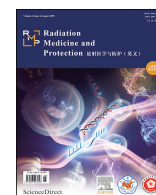




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## Radiation Medicine and Protection

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## Perspective

The need to implement better integrated and reasonably optimized protection strategy – One Protection<sup>☆</sup>

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## ABSTRACT

We are surrounded by various hazards and threats to the health of people, animals and the environment. Therefore, the protection work is multifaceted and needs to consider all potential hazards, and balance all potential impacts to the extent practicable. Whilst separated sectorial protections have proved capable of delivering adequate levels of protection for various risks we are facing, it is crucially important that protective activities of various sectors and disciplines be better integrated into a more holistic and reasonably optimized protection strategy – One Protection. Even though the holistic approach has been in practice for decades, more has to be done for better integration with the aim to achieve net health and societal benefits “as optimal as reasonably achievable” (AOARA). In this paper, radiological protection is taken as an example to discuss challenges when sector-specific protective activities are not well integrated and lack prioritization and optimization. It demonstrates the need for better integrated and reasonably optimized protective practices to achieve the objectives of One World One Health and the UN Sustainable Development Goals (SDGs).

## 1. Introduction

One Health has been defined by the World Health Organization (WHO)<sup>1</sup> as an approach to designing and implementing programs, policies, legislation, and research in which multiple sectors communicate and work together to achieve better public health outcomes. One Health aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. While health, food, water, energy and environment are all wider topics with sector-specific concerns, the collaboration across sectors and disciplines contributes to protect health, address health challenges such as the emergence of infectious diseases, antimicrobial resistance, and food safety and promote the health and integrity of our ecosystems. By considering humans, animals and the environment, One Health can help to address the full spectrum of disease control – from prevention to detection, preparedness, response and management – and contribute to global health security.

We are surrounded by various hazards and threats not only to the health of people, but also to animals, plants and the environment globally. To protect the world, many sector- and discipline-specific

protective strategies/policies have been developed and integrated to certain degree, such as the integrative guidelines for drinking water quality by coordinately managing the risk from microbial, chemical and radiological hazards that may compromise the safety of drinking-water,<sup>2</sup> the All-hazards approach applied in emergency preparedness guidelines<sup>3,4</sup> and the optimization process in radiological protection with the aim to achieve as low as reasonably achievable (ALARA) while taking account of economic, environmental and societal factors.<sup>5</sup> However, challenges exist when sector-specific protective actions/policies are not well integrated and lack prioritization and reasonable optimization. In this paper, radiation protection is taken as an example to demonstrate that various relevant sector-specific protective activities need to be better integrated into One Protection strategy to achieve net health and societal benefits as optimal as reasonably achievable (AOARA). The outcome of One Protection should help to achieve the objectives of One World One Health,<sup>6</sup> extended from One Health.

## 2. The history of One World One Health

In September 2004, health experts from around the world met for a symposium organized by the Wildlife Conservation Society and hosted

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