1. Scope and purpose

Zoonoses are defined as those diseases and infections naturally transmitted between people and vertebrate animals. There are three classes as follows: a) endemic zoonoses which are present in many places and affect many people and animals; b) epidemic zoonoses which are sporadic in temporal and spatial distribution; and c) emerging and re-emerging zoonoses which are newly appearing in a population or have existed previously but are rapidly increasing in incidence or geographical range. Examples of the latter include Rift Valley fever, SARS, pandemic influenza H1N1 2009, Yellow fever, Avian Influenza (H5N1) and (H7N9), West Nile virus and the Middle East respiratory syndrome coronavirus (MERS-CoV) reported in the recent past.

It is estimated that, globally, about one billion cases of illness and millions of death occur every year from zoonoses. Some 60% of emerging infectious diseases that are reported globally are zoonoses. Over 30 new human pathogens have been detected in the last three decades, 75% of which have originated in animals [1]. The emerging zoonoses are a growing public health threat in the Eastern Mediterranean Region of WHO. In last two decades, emerging zoonotic diseases have been reported from 18 out of 22 countries in the region, often, with explosive outbreaks and high fatalities never seen in any other WHO region [2]. The recent emergence of MERS-CoV exemplifies that the occurrence of these infections are unpredictable as they originate from animals, often these infections are caused by novel viruses and are only detected when outbreaks occur. The Eastern Mediterranean Region of WHO remains particularly prone to zoonotic infections owing to large number of people in the region living in close proximity to animals, increased volume of international trade, including trans-boundary mass population and livestock movement within neighbouring countries. As the region remains at the cross road of repeated outbreaks from emerging infectious diseases, international travel to and from the region either due to tourism, business or religious reasons, globalization and variable levels of health systems capacity to early detect epidemics have been identified as significant risk factors for emergence and rapid international spread of infectious diseases with zoonotic origin. Varying levels of surveillance and response capacity of the countries at the animal-human interface have often exacerbated these outbreaks.These zoonotic infections are also a concern to global health security owing to its ability to rapidly spread internationally due to global connectivity and proliferation of trade, including trans-boundary movement of animals. The emerging zoonoses have also economic consequences due to loss of animal trade, travel and loss of economic opportunities for the people through loss of livestock.

Given the scale and burden of emerging zoonotic infections in the region, this paper will highlight the (i) growing public health threats of emerging zoonotic infections in the region; (ii) challenges in controlling these infections; and (iii) underpin a strategic approach for predicting, detecting and controlling these infections through an integrated and interdisciplinary approach between the animal and human health sectors.