Resilience of urban ambulance services under future climate, meteorology and air pollution scenarios

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Ambulances are an integral part of a country's infrastructure ensuring its citizens and visitors are kept healthy. The impact of weather, climate and climate change on ambulance services around the world has received increasing attention in recent years but most studies have been area specific and there is a need to establish basic relationships between ambulance data (both response and illness data) and meteorological parameters.

In this presentation, the effects of temperature, other meteorological and air pollution variables on ambulance call out rates for different medical categories will be investigated. We use ambulance call out obtained from various ambulance services worldwide which have significantly different meteorologies, climatologies and pollution conditions. A time-series analysis is utilized to understand the relation between meteorological conditions, air pollutants and different call out categories.

We will present findings that support the opinion that ambulance attendance call outs records are an effective and well-timed source of data and can be used for health early warning systems. Furthermore the presented results can much improve our understanding of the relationships between meteorology, climate, air pollution and human health thereby allowing for better prediction of ambulance use through the application of long and short-term weather, climate and pollution forecasts.