Simulation modelling: building resilience and readiness for emergencies

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Policy Context: Since the COVID-19 pandemic, the government has placed renewed emphasis on resilience and readiness for emergencies. This includes preparing models to forecast possible future scenarios, particularly in health policy.

Simulation models can factor in the likely behaviour of groups to make more accurate predictions. It's easier to build understanding and trust in these models than in AI.

Invest in simulation models for your priority risks, which can be rapidly tailored to assess a real-world crisis when it occurs. Build robust assurance and trust of these models in advance.

Key research findings

Brunel academics have developed a suite of simulation tools for short- and long-term pandemic management, which have been received positively by health agencies across Europe. FACS simulates pandemics at a household level across all regions of the UK. CHARM uses this information to help hospital decision makers plan for bed management. CALM uses health evidence to predict lifelong care needs resulting from long COVID. This work shows that: