

# Building resilience into Primary Care

## A study to identify key features of building design and engineering that improve the resilience of Primary care and community facilities.

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**Abstract:** This qualitative study aimed to ascertain key features for primary and community care buildings or engineering installations to withstand the impact of threats (man-made with malicious intent) and hazards (man-made or natural, without direct malicious intent).

A wide range of GPs, healthcare staff, emergency planners and other professionals were contacted to identify and assess both the nature of threats and hazards and the impact of those incidents on continuity of patient care. Contributors were identified by Department of health and NHS emergency planners as being of interest. Interviews were conducted with those who had designed resilience into their buildings/supporting infrastructure and site inspections carried out. Semi structured interviews were held with practices who had experienced service disruption from a variety of causes to identify key features for prevention and recovery.

Causes of disruption identified include	Potential actions to mitigate the threat identified
Flooding	Location of services development
Fire	Control of fire threats (waste material storage)
Power loss	Power Generation, (generators and alternative supply)
Explosive / terrorist threat	Planned mutual aid
IT and Telephony loss	Digital systems, Uninterrupted Power supplies, remote servers and duplication of connections,
Loss of Drinking water	Stored water on site, hand gels
Severe weather	Planned strategy / accommodation close to surgery/ patients



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This work has never previously been done for primary care facilities and identifies both threats to patient services and potential means to mitigate those threats. It supports the approach that resilience can be improved by good design and planning. Guidance for primary care covering these aspects would be useful

**Introduction:** GP surgeries and other primary care facilities are subject to a wide range of events that impact on their ability to provide services. The impact of these events upon patient services can vary from minor inconvenience to catastrophic consequences for services and last from hours to years. Guidance exists to advise those responsible for secondary care<sup>1</sup> on how to build facilities that can withstand threats and hazards, but no guidance exists to advise primary care as to what is possible or appropriate. We sought to understand the challenges that had been faced previously by primary care and their impact on service provision. We also sought examples of new facilities where resilience had been considered in their design.

**Aim:** To collect examples of events impacting upon provision of services and where possible identify how design might mitigate the impact upon patients or facilitate the recovery from such events

**Methods:** A search of the medical literature revealed no material relevant to primary care resilience. UK health emergency planning leads and health building experts were asked for examples of resilient design of primary care facilities or incidents that had impacted upon them. We then sought to identify any contemporaneous records of events, or to interview those directly involved, aiming to capture examples of a wide range of different challenges. Facilities with features contributing to resilience were visited and those involved in their development questioned.



**Results:** Four general practices with direct experience were interviewed, other information was gleaned from official and unofficial reports into incidents.

Nature of Challenge	Impact on patients only	Things that helped	Recovery time
Power/Phone loss	Brief period of essential only work	Pre planned support from neighbouring practices.	Hours
Water loss	Service limited	Gel wipes and temporary relocation of services to other health premises not affected	Days
Severe weather	Essential work only for duration of severe weather	Alternative accommodation for Drs and key staff near the practice	Days
Loss of access to premises	Significant emergency only service, no access to records	Temporary accommodation for services from the local authority	Days
Fire and Flooding	Significant impact for weeks, paper financial and clinical records particularly vulnerable	Alternative premises within community facilities	Months - Years

**Discussion:** The effect of building design and systems upon the impact of threats and hazards to the provision of primary care has not formally been studied before and was limited by the lack, in many cases, of contemporaneous recording of events and their impact. We did not identify any primary care facility with experience of terrorist threats, though recognise that this threat could potentially impact upon primary care. The study clearly demonstrated the impact of risks on Primary care's ability to care for patients can be severe and long lasting. Consideration of resilience in the design of new buildings and forethought as to how a health economy can support itself would seem to offer a means to mitigate some of the risks and facilitate recovery. Guidance for primary care as to what could be achieved in building resilient practice would seem timely and appropriate. Further study into the frequency of these events would be facilitated by coordinated and systematic recording of incidents, and their impact. Improving our knowledge in this area would benefit patients by helping ensure continuity of local health services in circumstances when and where there may be most need of them. Understanding the frequency of these events both nationally and in specific locations could inform both local and national planning and investment.

The examples we have found of good practice encourage us that primary care can build resilient premises and it is important that this aspect is considered in all new primary care building work. Although cost was not explored as part of the study, indications from those who had modified new builds to be more resilient were that the cost was negligible in terms of the cost of the whole project.

4 new buildings were visited, ranging from a community hospital, to single practice buildings. Examples of improved resilience by design included

- On site generation / Generator Hook up points
- Uninterruptible power supplies
- Stored water on site
- Controllable access to premises
- Alternative lighting / light tubes.
- Provision for high risk / infectious patients
- Capacity to support other services
- Security of flammable waste materials and site access



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