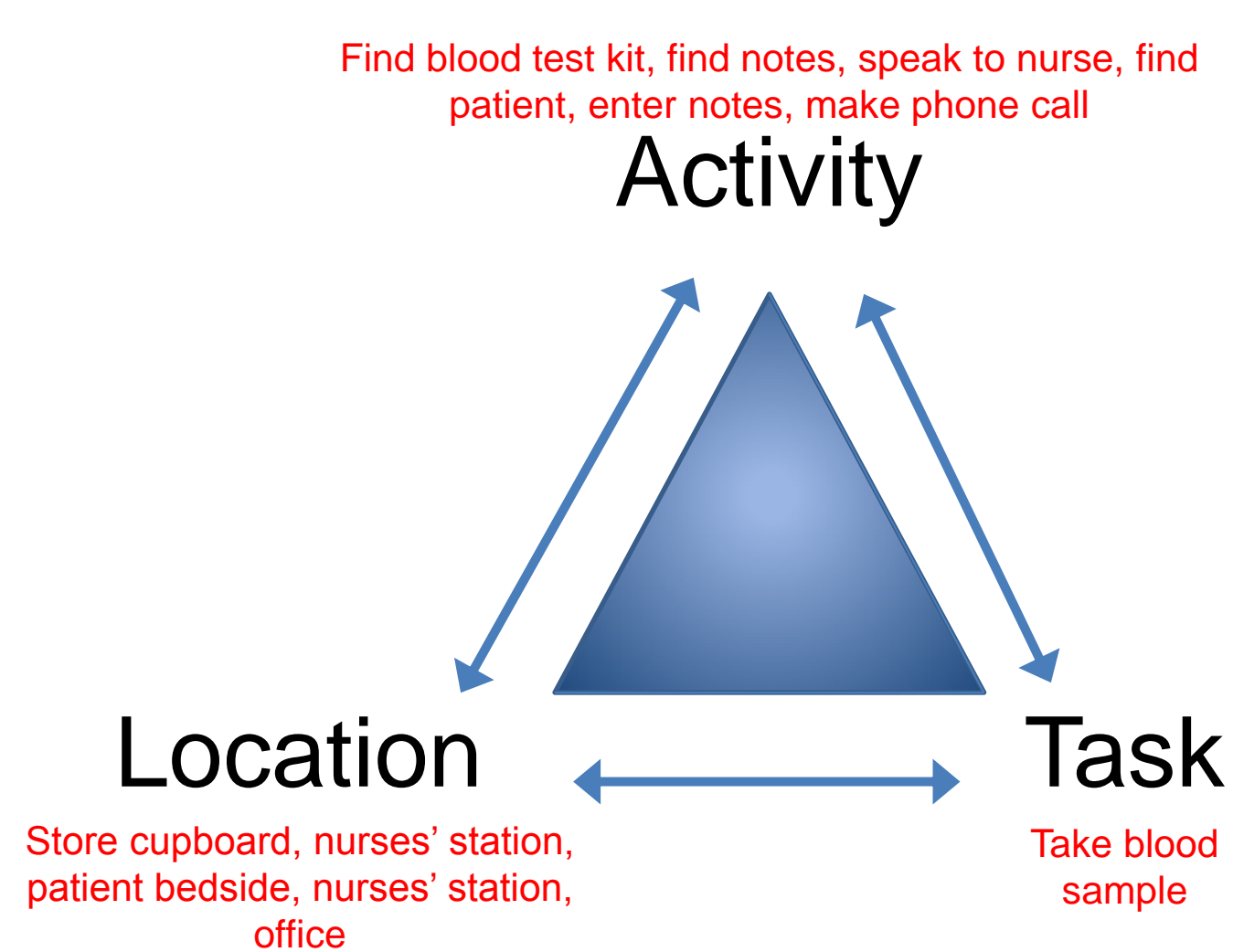**The Health Foundation**
Inspiring Improvement

Wayward

Informatics to Identify and Inform Best Practice in Out of Hours Secondary Care

For years concerns have been raised over 'Out of Hours' (OoH) care in hospitals. Numerous studies demonstrate drops in healthcare quality at night and on weekends, including significant increases in mortality. Demands of OoH working lower quality of life for staff and impact the costs of care through absenteeism and over-reliance on locums. Despite well documented effects, OoH care remains under-studied, due in part to practicalities of large scale manual studies in complex, geographically dispersed, and sensitive working environments.

We are using a combination of novel positioning technologies and cutting edge task management systems to measure and model the workload placed upon out of hours teams. Through understanding the workload, it's predictability and the capability of staff to react we can better design systems and training for out of hours care.

Data Triangulation

Find blood test kit, find notes, speak to nurse, find patient, enter notes, make phone call

Activity

Location — Task

Store cupboard, nurses' station, patient bedside, nurses' station, office

Take blood sample

Through measuring location we can infer activity and task. Measuring location removes the need for physically 'shadowing' a staff member and is therefore scalable to new sites and to multiple staff members, it is feasible to study every staff member on every shift.

Measuring Activity
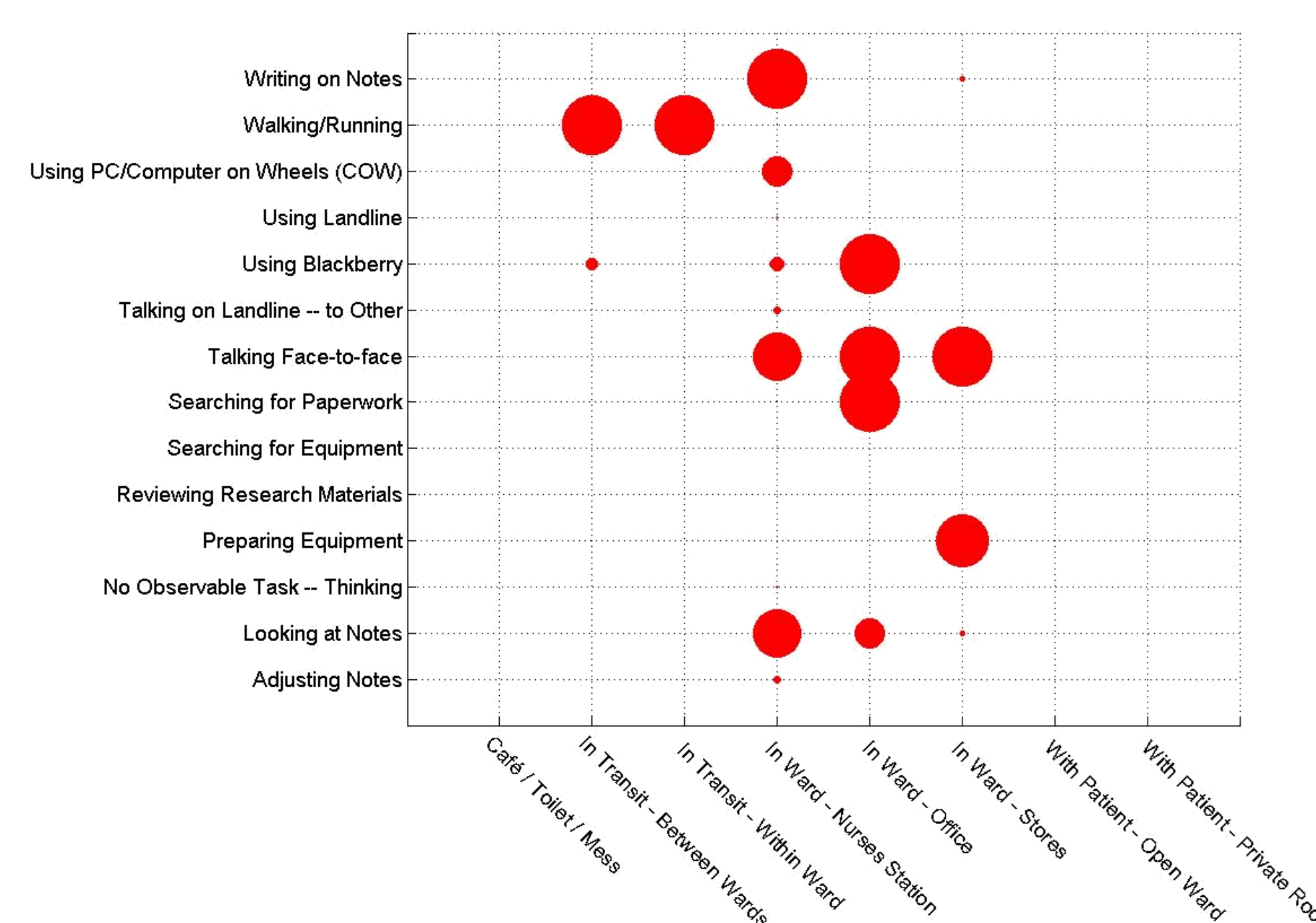
By combining observations of the activities which staff are completing and the locations in which they are completed we can inform the design of hospital layout and working patterns.

Measuring Task
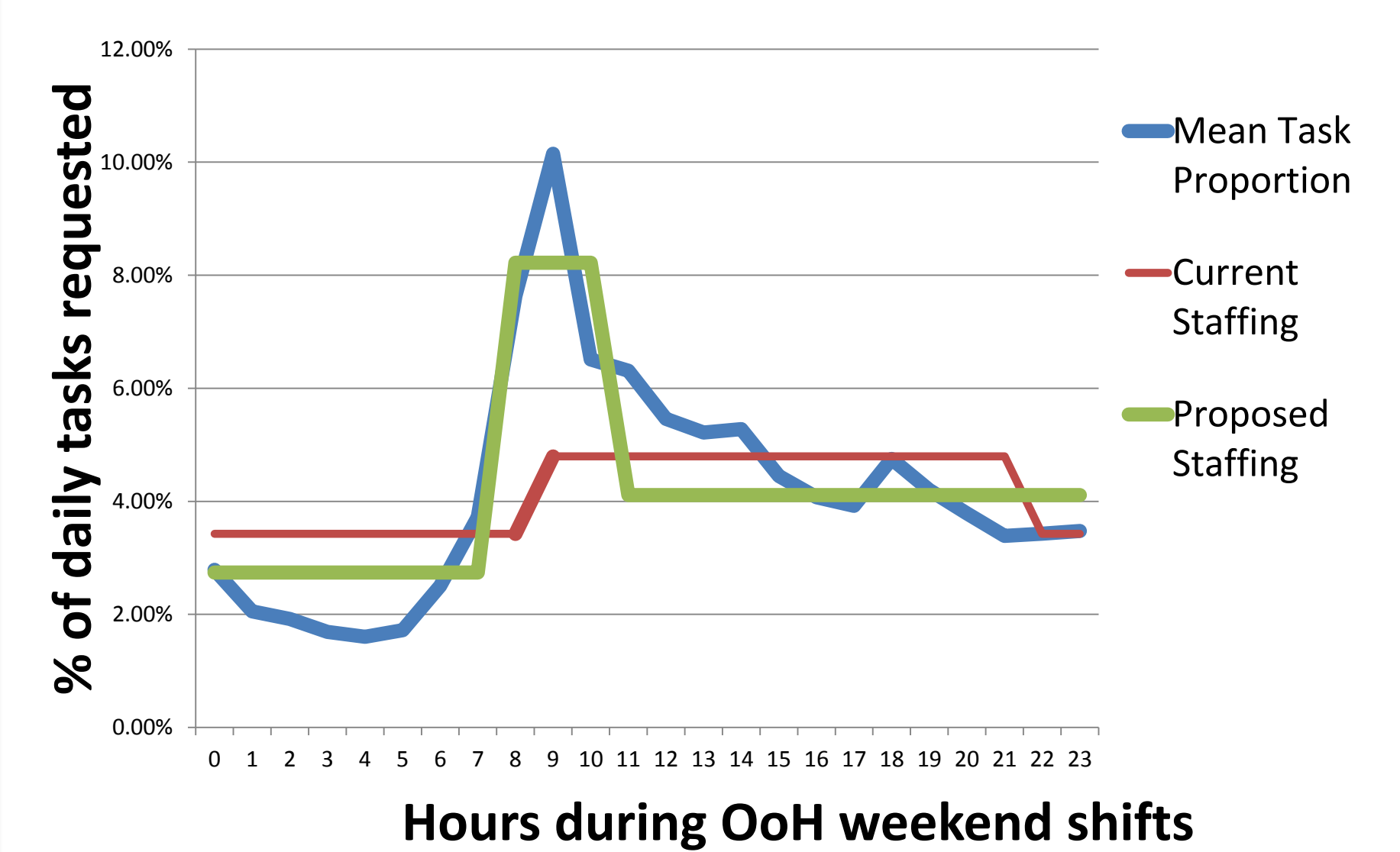
We are analysing data from multiple UK hospital trusts to understand the predictability of the demand placed on out of hours teams and support new approaches to rota design.

Measuring Location
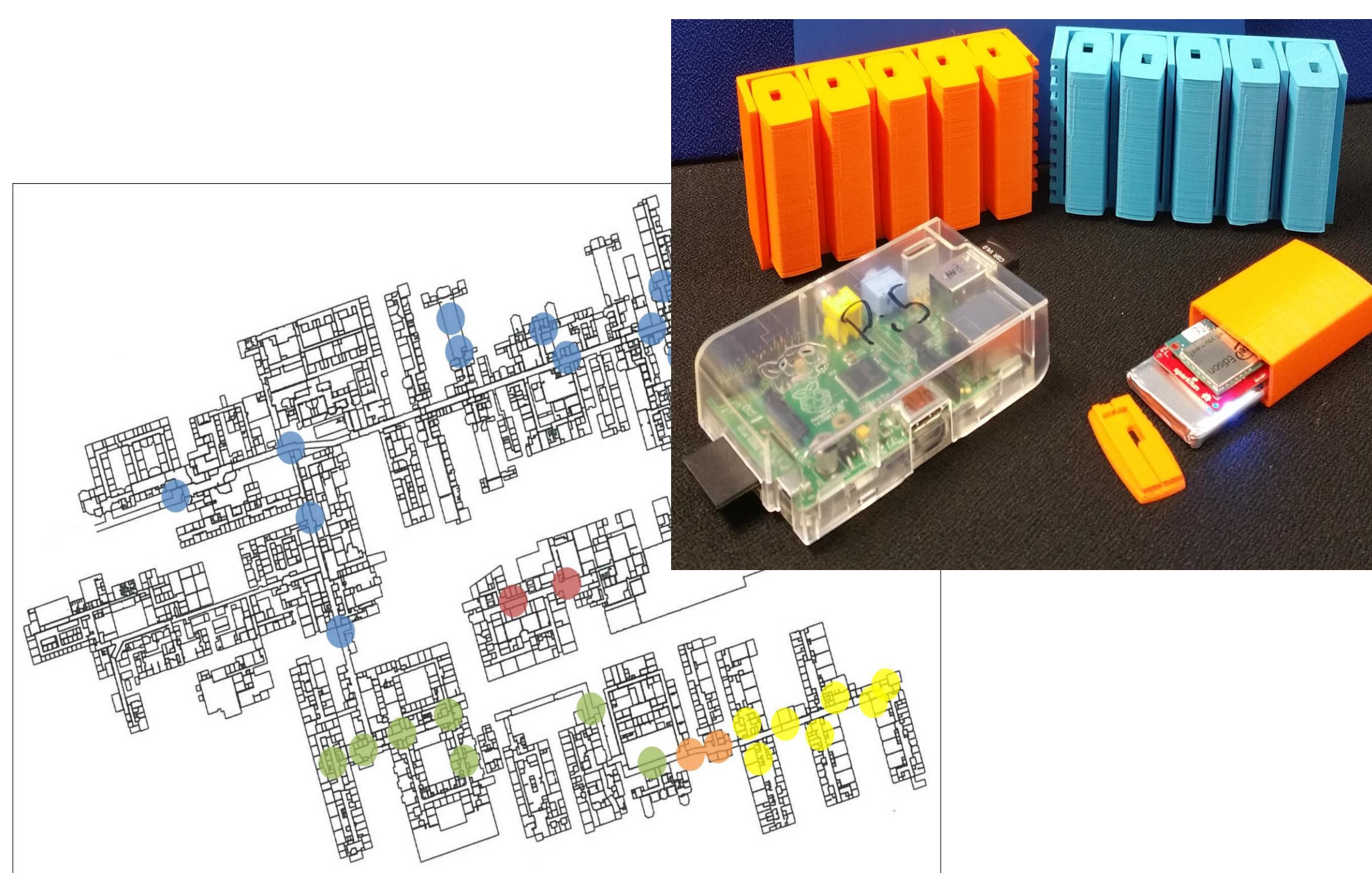
We are developing and deploying new methods for measuring location in a manner which is both scalable to new sites and acceptable to the staff being tracked.

Putting Data in Context

"…I had a vague idea of what was going on. He was having a major bleed. But because we don't have any access… we have a phone, and other than that, we have to go on to the computer. You have to switch the computer on and log on and that can take quite a while. So I just… I phoned the surgical F1, directed her to the ward, and to the patient, and a brief of what it was about. But to have the conversation I actually had to back into a bathroom, because obviously confidential information that I was then passing over.

… And that was all before I could actually input the data which I jotted down on a paper towel… that was the first thing that came to hand… then I got back onto the computer that was still switching on… and then went back to the cardiac arrest and finished helping there."

Study Participant

We are conducting a series of interviews and focus groups to place our data in context and help us understand the complex environment which is out of hours care.

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