Vision-D study improves health of hospital

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1: INTRODUCTION
Vital sign measurements are a widely adopted and integral component of clinical care and play an essential role in the early recognition of clinical deterioration. Despite their importance for clinical decision making, the accuracy and timeliness of vital sign observations is a recognised area in need of improvement.

Lifelight™ is a software application which when installed on a portable device with an integral camera, uses photoplethysmography and live video capture to calculate four key observations: blood pressure, heart rate, respiratory rate and oxygen saturations. This technology has the potential to take non-contact measurements with a device that has minimal requirement for clinical skill or training.

2: AIM
To compare measurements predicted by the Lifelight™ software with standard of care measurements for a large population sample of people attending the Queen Alexandra Hospital in Portsmouth.

3: METHODS
Inpatients, outpatients, staff and visitors to the hospital were recruited to the study and had observations measured by both methods.

STUDY PLAN
- Do
  - Data collection forms and Lifelight™ software was co-designed by clinicians and IT staff for research team members to complete during recruitment.
  - Participants were recruited using the Lifelight™ software and standard equipment data was captured on paper forms.

ACT
- Data was incorrectly inputted in the data collection forms due to difficulties using both the software and the forms. This caused problems for data analysts and data was subsequently lost.

PLAN
- Both the data collection forms and Lifelight™ software were edited and improved and data quality improved as a result.

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4: RESULTS
Over 8500 participants aged 5 to 97 had their vital signs measured using both the new Lifelight™ software and standard clinical equipment. The data collected has significantly improved the software’s accuracy signs and the technology will be CE marked later this year.

5: LESSONS LEARNT
- Research is accessible to all - not just academics and patients!
- Maintaining a PDSA process can help ensure data quality remains high throughout the study.
- I regularly engaged with and listened to the entire research team and responded to their suggestions and concerns. This enabled everyone to fulfil their potential and ensured that we delivered a really successful study.

6: CONCLUSIONS
For many hospital staff and visitors, taking part in the Vision-D study has changed their approach to healthy living and improved their health. Participation of hospital staff to the Vision-D study has opened their eyes to the world of research and the benefits that taking part in a study can bring.