# Research-Informed Teaching case study: Identifying adults at greatest risk of developing cardiovascular disease using an opportunistic sports-branded health screening approach.

**General Context**

Cardiovascular disease (CVD) accounts for more than 170,000 deaths in the U.K. However, with early detection and targeted lifestyle intervention these risks can be substantially reduced. Health screening can identify people at high risk of developing CVD but is rarely accessed by ‘hard-to-reach’ populations. The School of Nursing and Advanced Practice staff delivered a community-based health screening study in collaboration with 20 students nurses and Liverpool Football Club Foundation. The study demonstrated that hard to reach populations can be accessed if screening is delivered at a convenient time and venue. The students who undertook this work as part of a practice learning module reported increased understanding of clinical research, cardiovascular disease, health promotion, and enhanced communication skills.

**Specific Project Work**

School of Nursing and Advanced Practice staff in collaboration with 20 undergraduate student nurses and Liverpool Football Club Foundation delivered health screening sessions within five community centres in Liverpool, Wirral, and Knowsley. A total of 100 participants were recruited over a five-day period.

The students contributed to the planning and delivery of the events developing their organisational management and communication skills. During the screening, they collected participant demographic and physiological data under supervision of nursing staff. Data included self-reported gender at the time of birth, smoking status, age, blood pressure, blood lipids, blood glucose, and incident atrial fibrillation (AF) using a MyDiagnostik sensor. Depending on the participant’s age the Systematic CORonary Evaluation 2 (SCORE 2) or the Systematic CORonary Evaluation 2 for Older People (SCORE2 OP) were used to calculate the participant’s 10-year CVD risk. The students provided feedback on these results, provided health promotion advice and signposted participants to local health services using a QR code specific to each locality that they had developed in advance.

**Impact on curriculum**

The impact on the students was clearly visible over the five days. The development of knowledge of CVD and the contributing risk factors was evident as their confidence grew and their ability to answer participant questions improved. Moreover, their knowledge of the research process also improved. Students were discussing the eligibility criteria with research staff and were suggesting ways in which the study could be improved if repeated. The lessons learned from this project have influenced the way in which research modules are taught in the school with a greater focus on research practice, quality improvement and service evaluations and moving away from a purely theoretical standpoint. This is evidenced in all our recently validated Nursing and Advanced Practice programmes, which adopt this approach.

However, the impact was not restricted to the students. The community centres who had been sceptical at the outset were keen to engage further. Their experience of working with the students was very positive. Further, some of the students lived within the local area and felt that they were contributing to their own community. The centre managers have since requested to host student nurses as a civic engagement placement. This is now being actioned by the placement learning team.

In addition, as a consequence of the study findings we have secured a PhD studentship as part of a university funded Thematic Doctoral Pathway exploring the management of cardiovascular disease. The programme commenced in March 2023 and has already expanded beyond its original scope with the PhD candidate and undergraduate nursing students supporting spin off projects with colleagues in the policing school as they investigate the merit of using wearable technology to support the health of serving officers. The results of these studies will lead to larger grant applications in 2025 with students at the centre of the process.

**Broader Change**

Feedback from the study has led to wider discussion within the school regarding how research is taught. Recently validated research modules are more focussed on the transferable skills that research provides with a theoretical underpinning rather a purely theoretical focus. This approach and the examples provided was commended by the Nursing and Midwifery Council during their recent validation event. We expect these curricula changes to enhance student learning and enjoyment. The opportunity to participate in a primary research study has led to a greater understanding of both the subject matter and the research process. This is best described by one of the students who was involved in the project:

*I believe participating in the study has enhanced my knowledge of the importance of research within healthcare. I was able to grasp a key understanding of factors which influence a person’s cardiovascular health. This is something I will be able to transfer into my role as a registered nurse. Taking part in the study has opened my eyes to the possibilities within research and I plan to pursue this within my future career.*

**References**

The research team has since submitted a proposed article entitled, ‘Is sports-branded screening effective in identifying adults at greatest risk of developing cardiovascular disease: A convergent parallel mixed-methods design to identify adults at greatest risk of developing cardiovascular disease using an opportunistic sports-branded health screening approach’for consideration.