

Routinely optimizing blood flow during surgery using a new technique (HeartSmart) can save lives and money.

Optimisation by goal directed therapy involves manipulating the body's blood flow (cardiac output CO). Assessment of CO achieves maximum oxygen delivery to the cells, usually by giving fluids and cardiac drugs. This procedure has been consistently shown to improve outcome after major surgery or early sepsis<sup>1,2,3,4</sup>. Despite this weight of evidence routine optimisation remains uncommon. This is likely to be because of perceived difficulties in estimating CO being seen as dangerously invasive<sup>5</sup>, fiddly and comes with costly bulky monitors. Such difficulties coupled with the fact that almost all of the technologies require additional effort from the operator results in their limited application in theatre. HeartSmart is a software program by imputing heart rate, central venous pressure, blood pressure and temperature these variables routinely measured throughout surgery or in the intensive care unit permits optimisation. HeartSmart does not require new equipment or a change in nursing or medical practice.

The HeartSmart technique means that patients CO status can be evaluated prior to surgery avoiding the risks of complications, reducing length of stay in hospital providing a better prognosis and assisting hospitals meeting government targets etc.

The important message here for the Public Health Forum is that not only can lives be saved but substantial savings can be made, one hospital saved £1.1 million. Routine optimisation for health care providers makes economic sense concerning public health.

## **References**

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