

# Making sense of the evidence

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# The evidence we have

- A number of observational studies from Australia and the United States of America have shown beneficial effects in reducing cardiac arrests after the introduction of a MET/RRS

Buist MD, Moore GE, Bernard SA, et al. (2002) Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: preliminary study. *Bmj*. 324(7334): 387-390.

Bellomo R, Goldsmith D, Uchino S, et al. (2003) A prospective before-and-after trial of a medical emergency team. *Med J Aust*. 179(6): 283-287.

DeVita MA, Braithwaite RS, Mahidhara R, et al. (2004) Use of medical emergency team responses to reduce hospital cardiopulmonary arrests. *Qual Saf Health Care*. 13(4): 251-254.

Offner PJ, Heit J, Roberts R. (2007) Implementation of a rapid response team decreases cardiac arrest outside of the intensive care unit. *J Trauma*. 62(5): 1223-1227; discussion 1227-1228.

Hillman K, Chen J, Cretikos M, et al. (2005) Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. *Lancet*. 365(9477): 2091-2097.

# The evidence we have (2)

- A large cluster randomized control trial (MERIT) failing to show reduction in cardiac arrests by MET
  - The study was highly under-powered to detect such an effect

Hillman K, Chen J, Cretikos M, et al. (2005) Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. *Lancet*. 365(9477): 2091-2097.

# The evidence we need

- More studies
- Even more studies

# What we did

- Prospective before-and-after trial of implementation of MET at the Karolinska university hospital in Stockholm, Sweden
- All adult patients, apart from cardiothoracic, admitted to the hospital were regarded as participants in the study
- A control period of 5 years and 203892 patients preceded the two-year intervention period of 73825 patients
- Outcome:
  - Cardiac arrests/1000 hospital admissions
  - Short- and long term mortality, including hospital mortality

# What we should do now

- We should remove the MET!
  - Counting cardiac arrests/1000 admissions
  - Determining hospital mortality
  - Talking to ward staff; how do you like our new non-MET hospital?