

*Roles, responsibilities, and relationships of clinical staff*—During the early stages of implementation, changes in clinicians' productivity may require extra staff and the ability to make continuous adjustments. As the organisation adapts to the new electronic system, the capability is needed to document what care a patient received, who provided it and when, so processes may need to adapt to revised professional and legal standards.

### Limitations of study

Our study captures only a snapshot view, during a volatile phase of implementation and transition from one electronic medical record system to another. The respondents' perceptions should be seen in this context. In fact, another Kaiser Permanente region had implemented an earlier CIS version successfully. However, our overall findings highlight issues likely to be faced by organisations implementing or modifying an electronic medical record system.

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## Commentary: Trouble in paradise—learning from Hawaii

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Scott and colleagues have set before us the sad story of the failed implementation of an electronic medical record system in hope that readers can learn from the mistakes.<sup>1</sup> The English National Programme for IT,<sup>2</sup> as the largest implementation of an electronic medical record system in the world, is singled out by the authors as being a potential beneficiary of the lessons in this report.

There are parallels between what Kaiser Permanente tried to do in Hawaii and what is planned for the English NHS: Kaiser Permanente is a very large healthcare organisation, covering a widely geographically dispersed population of eight million patients across all health sectors (though this implementation covered fewer than 250 000 patients). The overall goal was to implement an electronic medical record for use by all clinicians, providing an integrated system. This evaluation looked specifically at the organisational issues—consultation, communication, leadership, decision making, education and training, change management—as it is well known (though often sadly ignored) that getting these things right is crucial for the success of any innovation that involves people changing the way they do things in the workplace.

The reasons put forward for the failure of the implementation will come as no surprise to those with experience of working in health informatics: the initial decision making was seen as remote from the clinical user base; resistance was increased by poor product design; clinical productivity was reduced (although this had been planned for in the implementation, many staff felt that they would be unable ever to return to their previous levels of performance); roles and responsibilities were unclear and were constantly changed; the cooperative culture so prized by Hawaiians inhibited honest feedback; leadership styles were not appropriate to the successive phases of implementation; and a climate of conflict was the result.

The authors suggest ways of avoiding such outcomes—all of them involving people, not technology. Their recommendations echo those of Nancy Lorenzi, president of the International Medical Informatics Association and an expert on change management in health informatics. She recently enumerated strategies for effecting successful change, none of which are new, but without which failure is inevitable: set and communicate clear objectives and formulate a strategic plan (and modify when necessary); work at achieving ownership of the plan by people at all levels; pay attention to the organisational culture (“culture eats strategy for breakfast”) and whether it supports the changes being implemented; develop leaders and champions for the change (not just those in traditional positions of power); be patient and resist false urgency; stay involved and keep communicating; evaluate; seek feedback (and act on it); plan ahead for the next phase of change.<sup>3</sup>

There are now encouraging signs of increasing involvement of clinicians proficient in information technology within much of the National Programme for IT and an increasing level of informed and constructive debate, which is being listened to by NHS Connecting for Health. This is a positive and welcome development and one which must be fostered throughout the NHS; we simply cannot afford for this implementation to fail.

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