Healthcare systems across the globe face common problems: controlling costs while improving quality and performance. In response, the past decade has seen unprecedented activity in health system reform, with many countries turning their attention to the use of explicit financial incentives to reward provider performance. Such programmes draw on a range of economic and psychological theories and are based on a whole set of assumptions of uncertain validity and strength (1, 2):

- Financial incentives will motivate behavioural change
- Such behavioural change will in turn deliver improvements in quality and performance
- Policy-makers and managers can distinguish between those aspects of clinical activity that would benefit from financial incentives and those that would be affected adversely
- The net benefits of financial incentives outweigh any unintended and dysfunctional consequences.

Even if the above assumptions are well founded, the success of a particular incentive scheme will depend on a number of design choices which influence how providers experience and respond to financial incentives. Key elements of programme design:

**Magnitude of rewards**

The size of the financial reward provided by a financial incentive scheme is perhaps the key factor motivating changes in behaviour. Economic theory predicts that the higher the financial reward the larger will be the provider response and their impact on performance. However, due to diminishing marginal utility of income this will only work up to a certain level. This observation is linked to the ‘target income hypothesis’ which holds that once income reaches a certain level then additional payments will not lead to further significant improvement.

**Absolute versus relative performance**

The performance criteria or thresholds used to determine whether payments are triggered. may be absolute or relative. Absolute standards (such as specific targets for key measures) have the advantage that there is no uncertainty over whether a standard has been met. Relative standards (such as rewards for high positioning in league tables and rankings) focus instead on performance relative to peers and may stimulate continuous improvement. However, because they stimulate competition such rewards may impact deleteriously on other health system goals such as collaboration and dissemination of best practices.

**Scheme duration**

Expectations about the longevity of a financial incentive...
scheme (and performance measures therein) may influence whether providers are responsive to new schemes. If providers believe that a financial scheme will operate over a long period then they may be more likely to invest in quality improvement and supporting infrastructure than if it is perceived to be only a temporary initiative where it would be difficult over a short period to recoup spending on capital expenditure.

However, as Ruth McDonald highlights in her perceptive and timely article, to understand why some incentive schemes are successful and others not, it is important to go beyond a simple focus on design choices and widen the lens to capture the mediating influence of local historical and cultural factors (3). Furthermore, and as McDonald points out, incentive regimes are not self-implementing mechanisms to change behaviour and success depends crucially on the way in which a scheme is implemented, including the technological, administrative and supporting infrastructure used to embed and sustain new institutional practices. A related issue is the degree of provider engagement in the design and implementation of financial incentive schemes. There is some limited evidence to suggest that financial incentive schemes may achieve better results when they have been designed and implemented collaboratively with providers, for example in terms of the selection of performance measures/targets and where there has been extensive communication and consultation with providers about distribution of financial awards (4).

As with all managerial interventions in addition to generating the desired improvements in performance, financial incentives can also inadvertently induce a range of unintended and dysfunctional consequences (5). It is important therefore, that the potential for adverse consequences is anticipated in the design of financial incentive schemes and a range of strategies put in place to mitigate them. Once established, schemes will need constant trimming, recalibrating, and balancing to ensure that their objectives are being met at the right cost and without too many unwanted effects. Potential adverse side-effects of financial incentive schemes include:

- **Tunnel vision**—a focus on aspects of clinical performance that are measured and the neglect of unmeasured areas.
- **Bullying and intimidation** of staff to attain performance targets.
- **Adverse selection**—the incentive to avoid the most severely ill patients.
- **Erosion**—the potential diminution and crowding out—of intrinsic professional motivation as a key attribute of high quality healthcare.
- **Inequity**—creation of perverse incentives to exclude disadvantaged groups.
- **Over compensation**—rewarding providers who already meet or exceed the target threshold.
- **Misreporting, gaming, or fraud**

Despite the enthusiasm to develop financial incentive schemes the empirical foundations of incentives in healthcare are rather weak and there is currently insufficient evidence to recommend widespread implementation (2). The challenge is to generate robust evidence on what works, under what circumstances, for whom and with what intended and unintended consequences. Yet, researchers seeking to evaluate the effectiveness of financial incentive schemes must overcome several barriers for findings to be useful to decision-makers.

As with all research evaluations a rigorous study design enhances the power and credibility of the findings. The complex and dynamic nature of the phenomena under study suggest that research in this area will need to exhibit a number of features. It will need to be naturalistic, taking place in real world settings and making careful note of the mediating role of contexts and local contingencies. It should be mixed method and multidisciplinary in design, drawing on a range of quantitative and qualitative methods including detailed ethnographic approaches as well as more traditional research designs such as controlled experimentation, where feasible. As the phenomena under study are essentially dynamic (performance and change), longitudinal study will offer important insights over cross-sectional designs. To provide better opportunities for theoretical transference and generalizability to other contexts evaluation studies will need sound conceptual underpinnings rather than relying on simple empiricism. Finally, full economic evaluation should be undertaken to establish the cost-effectiveness of financial incentives. These should consider not only the direct costs and benefits, but also the unintended and dysfunctional consequences.

**Ethical issues**

Not applicable.

**Competing interests**

The author declares that he has no competing interests.

**Author’s contribution**

RM is the single author of the manuscript.

**References**