

# Implementation and dissemination research: the time has come!

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EDITOR'S CHOICE

In a provocative statement in a very recent issue of the *American Journal of Preventive Medicine*, Kessler and Glasgow have called for a 10-year moratorium on efficacy randomised controlled trials (RCTs) in health and health services research.<sup>1</sup> The authors argue that much intervention research has had minimal impact on both policy and practice because the very nature of efficacy studies means that focus has had to be on a limited number of specific causal and preventive factors; this ignores both the complexity of real-world implementation and the multilevel ecological context in which interventions need to be conducted. I have also previously discussed those same limitations as they apply to sports injury prevention studies,<sup>2,3</sup> most recently as part of my keynote address at the 2011 International Olympic Committee World Conference on The Prevention of Injury and Illness in Sport, to be published in a forthcoming issue of *BJSM*.<sup>4</sup>

Compared with other areas of medical and behavioural research, sports medicine is in its infancy and intervention research of any a kind, efficacy or effectiveness, is relatively scarce, though the former dominates.<sup>5</sup> It would not, therefore, be appropriate to halt all sports medicine efficacy studies or those using RCT designs. Recent reviews in *BJSM* have highlighted clear gaps in current knowledge that could be useful for the prioritising of such work.<sup>6,7</sup>

## OTHER TYPES OF INTERVENTION RESEARCH

Having said this, there is no doubt that unless we fully embrace the challenges of conducting implementation and translation/dissemination studies, our sports medicine prevention efforts will fail. Implementation research is a broad term

generally used to cover at least three things<sup>2,3,8</sup>:

- ▶ The specific development/refinement of population-targeted interventions (most commonly following demonstrated efficacy).
- ▶ The design of programme components to support the delivery of interventions.
- ▶ The design and conduct of evaluations of intervention effectiveness, uptake, adoption and sustainability.

However, as pointed out by the US National Institutes of Health's Office of Behavioural and Social Sciences Research,<sup>9</sup> there are distinct differences between research aimed at understanding how and why things might work and that more directed at how to translate, spread or disseminate knowledge, including the interventions themselves. Doing one does not guarantee the other.

Based on the National Institutes of Health definitions applied to our context, *Implementation Research* focuses on the extent to which health and safety interventions are applicable to, and effective within, within real-world public health, sports medicine clinical service delivery (both in formal clinic settings and on the field) and sports delivery contexts and settings. The focus of this research is on questions related to:

- ▶ *Intervention fidelity* (eg, Do they work? Are the interventions capable of being delivered as intended? When does non-optimal adoption or delivery lead to a significant degradation of desired intervention benefits?);
- ▶ *Short- and long-term intervention continuance* (eg, Do athletes comply with the intervention? Do they do so over long periods of time? What makes them discontinue?);
- ▶ *Intervention adaptations* (eg, Do interventions change practice patterns within specific settings? Can they be applied to other contexts with similar results?);
- ▶ *Intervention outcomes* (eg, Are they sustained in regular, ongoing practice?)

Are they responsible for observed health and safety changes?).

*Dissemination Research*, on the other hand, is more concerned with how sports medicine interventions are developed, packaged, transmitted and interpreted among a variety of important stakeholder groups, including the audience with most to benefit, namely the athletes themselves. Knowledge translation research is one aspect of this, as are studies comparing different modes of intervention delivery. Dissemination research clearly needs to be fully conducted within the ecological contexts of clinical sports medicine and real-world sports delivery.<sup>3</sup>

To forward the implementation and dissemination (I&D) research in sports medicine, there needs to be more literature that

- ▶ describes the rationale for implementation research, why it is important, what knowledge gaps it addresses or could/should address, and so on;
- ▶ describes exactly what implementation research is (and is not), including links to other relevant disciplines such as health promotion, behavioural science and social science;
- ▶ describes the results of well-conducted empirical studies that start to report the findings of implementation and/or dissemination-focused studies; and
- ▶ provides guidance on methodological approaches for this area that describe, specify and provide guidance on the qualities of good study designs and approaches in this new area.

Essentially this would cover the why, how and what of implementation/dissemination research, as well as provide good case examples and models of best practice.

## IMPLEMENTATION AND DISSEMINATION – A BJSM FOCUS

*BJSM* has risen to the challenge of furthering both I&D science for application to sports medicine. From this month, *BJSM* will include this as a strong theme in each issue and publish at least one paper in this emerging area of importance. In my new role as Senior Associate Editor responsible for I&D in *BJSM*, I am very excited about the impact that this emphasis will have on ongoing research into intervention development, delivery, uptake and effectiveness. We aim to both set new research agendas and develop novel methods/approaches/standards for I&D research. As a public health researcher working in

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sports medicine research, I am particularly interested in informing other researchers about the need for implementation/dissemination research focused on public health/health promotion. Of course, there is just as much a need for better clinically focused I&D studies in sports medicine. As a methodologist, I am even keener to develop and promote high standards of scientific excellence for the conduct of such studies. This Editorial is an invitation to all like-minded sports medicine researchers to join me by submitting their best work in I&D to *BJSM*, contributing to discussion forums via the *BJSM* blog (<http://blogs.bmj.com/bjasm>) and twitter (@BJSM\_BMJ) groups, and generally by having your say!

Importantly, the major target for this new *BJSM* focus will continue to be clinical and scientific audiences. However, given that the success of both I&D research requires the involvement of novel and strategic partnerships with key stakeholder groups, policy makers, advocates, media experts, legal experts, social scientists, social marketers, sports bodies, target athlete and participant groups, and so on, we are also aiming to engage those groups more in what we do. To do so, we will also use the same blog and twitter functionality aspects of *BJSM* to inform these groups and to hopefully engage them in future research.

The new *BJSM* I&D focus begins in this issue, with a paper from my own research team.<sup>10</sup> This paper explains why research

into understanding the intervention delivery context is an important crucial initial stage of any implementation study. It also shows how feedback directly obtained from Australian football players was critical for clearly identifying some of the likely challenges that would be met when implementing an exercise training programme with similar players. This information was then used to govern the implementation delivery plan of a subsequent effectiveness trial.

### AN ADAPTED MORATORIUM

It is a great time to be involved in sports medicine research, especially as it starts to expand into the frontier of I&D research, also a relatively new area for most other health research. Please join me, through *BJSM*, in this endeavour and help support our adaptation of the Kessler and Glasgow moratorium – namely to enforce a “Strict moratorium on NOT conducting sports medicine relevant I&D research!”

**Acknowledgements** CFF is funded by a National Health and Medical Research Council (NHMRC) Principal Research Fellowship. ACRISP is one of the International Research Centres for Prevention of Injury and Protection of Athlete Health supported by the International Olympic Committee (IOC).

**Competing interests** None.

**Provenance and peer review** Not commissioned; internally peer reviewed.

Accepted 6 June 2011

*Br J Sports Med* 2011;**45**:763–764.  
doi:10.1136/bjsports-2011-090252

### REFERENCES

1. **Kessler R**, Glasgow RE. A proposal to speed translation of healthcare research into practice dramatic change is needed. *Am J Prev Med* 2011;**40**:637–44.
2. **Finch C**. A new framework for research leading to sports injury prevention. *J Sci Med Sport* 2006;**9**:3–9.
3. **Finch CF**, Donaldson A. A sports setting matrix for understanding the implementation context for community sport. *Br J Sports Med* 2010;**44**:973–8.
4. **Finch C**. No longer lost in translation – the art and science of sports injury prevention implementation research. *Br J Sports Med* 2011; Published Online First: 22 June 2011 doi:10.1136/bjsports-2011-090230
5. **Kügl M**, Shrier I, McBain K, *et al*. The prevention of sport injury: an analysis of 12,000 published manuscripts. *Clin J Sport Med* 2010;**20**:407–12.
6. **McBain K**, Shrier I, Shultz R, *et al*. Prevention of sports injury I: a systematic review of applied biomechanics and physiology outcomes research. *Br J Sports Med* 2011; Published Online First: 20 April 2011 doi:10.1136/bjasm.2010.080929.
7. **McBain K**, Shrier I, Shultz R, *et al*. Prevention of sport injury II: a systematic review of clinical science research. *Br J Sports Med* 2011; Published Online First: 6 April 2011 doi:10.1136/bjasm.2010.081182.
8. **Finch C**. Implementing studies into real life. In: Verhagen E, van Mechelen W, eds. *Sports Injury Research*. Oxford University Press, Oxford, UK 2009:213–35.
9. Office of Behavioural and Social Sciences Research. The Science of Dissemination and Implementation. *Office of Behavioral and Social Science Research*, 2009. [http://obssr.od.nih.gov/pdf/DI\\_Highlights.pdf](http://obssr.od.nih.gov/pdf/DI_Highlights.pdf) (accessed 24 May 2011).
10. **Finch C**, White P, Twomey D, *et al*. Implementing an exercise training program to prevent lower limb injuries – considerations for the development of a randomised controlled trial intervention delivery plan. *Br J Sports Med* 2011;**45**:791–6.