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## EDITORIAL

# Could 5R Research Help Achieve the Triple Aim?

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Is it possible to meet the standards of the bold research model proposed by Peek et al in this issue of *Annals of Family Medicine*?<sup>1</sup> And if it is possible, would it be worth the effort and investment required? In their "5R" model, the authors posit that health care delivery research could not only be relevant, applied, and implemented, it could also be participatory (all stakeholders), grant funded (rapidly), published

(quickly and retrievable), continued in the operational workflows of the practice setting (if successful), and replicable in other practice settings.

It is tempting to dismiss the expectations of this model as idealistic, unrealistic, and overly ambitious. Training a career researcher in any one of the methods outlined, launching a single junior faculty in a successful focused research career, or building a sustainable organizational research enterprise with a defined research agenda takes years of effort and investment.<sup>2,3</sup> Are these authors proposing a bold standard, or an impossible one for all but the rare case? Or is this a brilliant, innovative, and achievable synthesis of many research methods and traditions that is not only feasible, but worthwhile—even imperative—to pursue?

The potential value of this model is too compelling to dismiss. Theoretically, the human beings leading

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the research in this model and those affected by it are engaged in answering their most meaningful questions, solving their most vexing problems, and doing it with a rigor that makes the outcomes believable, widely applicable, and rapidly accomplished. Rather than repeat the new thinking, new infrastructure, and the relevant caveats that these authors articulate well, I will address why this model would be worth pursuing and what actions could be taken to move it forward into use.

The value of research is often judged by how often published papers are cited or by the external research funding acquired. Only occasionally is it judged by meaningful human impact, which is challenging to directly observe or measure.<sup>4,5</sup> Yet all research, even “pure” research done for the sake of knowledge generation, is ultimately imbued with value by the impact it may have or does have on lives. For example, the identification of a chromosomal translocation in 1972 led, 20 years later, to the development of imatinib, a powerfully effective treatment for a previously fatal form of leukemia.<sup>6,7</sup> There have been thousands of such basic science discoveries that have been translated into clinical practice, but this one is meaningful to me, my family, and thousands of others because it has dramatically extended the lives of our loved ones.

My point is that knowledge is most valuable when it affects human lives directly. The 5R model has one driving purpose: to affect lives in ways that are judged to be most meaningful by the persons doing the work as well as by those who may benefit from it. And, in my view, 5R combines the best, most practical, most engaging, and most appropriately rigorous methods, habits, and processes related to care delivery research that have been developed over the past several decades. The 5R model synthesizes these elements in a manner that I would expect to systematically accelerate the generation and use of findings of the most meaningful kind.

There are many ways in which this model could be moved forward to operational feasibility. Foundations could finance proof-of-concept initiatives. Medical schools could create endowed professorships, endowed chairs, research fellowships, and trans-disciplinary research programs to develop this concept and conduct research within this model. Funding agencies could continue their gradual but notable shift from disease-oriented, mechanistic research agendas to those that embrace prevention, patient centeredness, practice-based research, population-based research, health care services delivery research, and community-engaged research from which the 5R model has been derived. More specifically, clinical translational science research could integrate this model into community engagement domains.<sup>8</sup> Finally, the Family Medicine for America’s Health initiative should seriously consider

this model as an organizing framework for the future of care delivery research in the discipline.<sup>9</sup>

The authors have provided concrete examples of how past and current research fits 1 or more criteria of the 5R model.<sup>1</sup> It is telling that only 1 example meets all 5 of the criteria—the expectations of this model have been met in only 1 case identified by the authors. However, there are multiple other examples meeting 1 or more criteria that provide proof of concept for individual elements of the model. Conceptually, there is no reason that all of these elements could not be incorporated into specific projects and teaching programs, keeping in mind the many resource, training, and infrastructure needs that would be required. And research following several of the principles of the 5R model is emerging. A research team in my department recently identified patients with elevated blood pressures consistent with hypertension, but undiagnosed as hypertensive and therefore untreated. We developed a quality improvement intervention and embedded a workflow into our clinical operations to eliminate undiagnosed hypertension among active primary care patients.<sup>10,11</sup> This process has a number of benefits, but the real value comes from knowing that we are saving lives by systematically addressing one of the most potent risk factors for several leading causes of death and disability.

The 5R model has several appealing strengths. First, it is explicitly nonlinear and reflects the iterative and complex nature of systems-level research. In this way, it is unlike the T1-T4 model of the NIH’s clinical and translation research initiative, which implies a stepwise progression cumulating in a single point of “translation” that rarely occurs in reality. Second, despite its apparent ambitiousness, the 5R model is actually more constrained than the clinical translational model in that it focuses mainly on expediting throughput of valued care delivery research. In translational medicine we can sit through many fascinating presentations by basic research scientists in a futile attempt to relate their work to current health disparities in our communities of interest or as an application in clinical practice.<sup>12</sup> The timeline from basic discovery to clinical application or policy impact is generally decades long. By focusing primarily on care delivery, 5R seems more doable within a single research initiative, team, organization, and location. Finally, there is a wide variety of intellectual domains and types of scholarship, methods and disciplines that can be embedded within this 5R framework. This fits well with the multi-method and trans-disciplinary approaches that characterize the best scholarship in family medicine, primary care, prevention, public health, community health, and health services research traditions.

For over 4 generations, family medicine has been a leader in proposing and implementing several bold new

concepts in response to evolving health care needs. The creation of the specialty of family medicine itself was one such socially responsive initiative, as Americans in the 1960s expressed the need for continued access to personal doctors.<sup>13</sup> Engaging community-based practicing physicians in research and the establishment of practice-based research networks were also pioneering innovations.<sup>14,15</sup> The patient-centered medical home is a more recent bold idea from family medicine and pediatrics that is gradually becoming embedded in our health care system.<sup>16</sup> For reasons that are analogous to these historical shifts, and no less achievable, the 5R model strikes me as a logical next step in the evolution of the care delivery research paradigm.

The Institute for Health Improvement articulates our most pressing needs as the "Triple Aim" of improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care.<sup>17</sup> The 5R model creates a clear vision for research that would likely hit the targets of the Triple Aim more consistently and more quickly than our current, more fragmented approach. If so, the investments needed to adopt this model and actualize it could pay off in the most meaningful way possible; through the direct application of the most valuable knowledge that directly preserves human life and relieves human suffering.

**To read or post commentaries in response to this article, see it online at <http://www.annfammed.org/content/12/5/399>.**

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## CORRECTION

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Jenissen CA, Harland K, Wetjen K, Peck J, Hoogerwerf P, Denning G. A school-based study of adolescent all-terrain vehicle exposure, safety behaviors, and crash experience. *Ann Fam Med*. 2014;12(4):310-316.

In the Limitations section of this paper, the following sentence incorrectly included the word "rates" due to an editing error: "In fact, the states with the top 10 pediatric ATV fatality rates include California, Texas, Pennsylvania, Florida, and New York." The sentence should read, "In fact, the top 10 states in number of pediatric ATV fatalities include California, Texas, Pennsylvania, Florida, and New York."

We apologize for the error.