

Favorite D&I papers from students in the Intro to D&I class - Fall 2021:

I think my favorite paper is:

Glasgow, R. E., & Riley, W. T. (2013). Pragmatic measures: what they are and why we need them. American journal of preventive medicine, 45(2), 237-243.

I think I like this paper because I learned that PHQ2/ Q4/ Q9 are pragmatic measures. And because I really liked Table 1 is a nice list that I need to print out for the pediatric DH QI group. Love these required criteria and the paper as a whole. I found it very practical loved the desirability criteria: Broadly applicable, Serve as a benchmark, Unlikely to cause harm, Psychometrically strong, Relates to Theory or Model. My key question is: how does one come up with a pragmatic measure that has stakeholder engagement? What is that process?

Tyler A, Glasgow RE. Implementing improvements: Opportunities to integrate quality improvement and implementation science Hospital Pediatrics April 2021

#1: I loved reading the Tyler article. In fact I really think it is my favorite D&I science article since it was written so well and put onto paper all these important concepts. I had been wondering about all the overlap between QI and IS and so this article was perfect in summarizing for me some of the key differences but also the significant overlap and ways to integrate these two disciplines together. I especially found Figure 2 to be very helpful to think through. I would love to integrate the two approaches together in the future to improve the uptake of evidence-based guidelines. If the two fields can have more integration, I really think it would open up a better way to do work that is inherently iterative.

#2: The Tyler paper is seminal! As a clinician this scratches me right where I itch. I'm choosing this as my favorite. I've heard much talk about the ethics / social responsibility / equity concerns re: the development of D&I as a science. I remember at one course someone thoughtfully asking about the ethics of liberally borrowing from other disciplines (psych, human factors engineering, marketing, QI..), re-packaging (and sometimes re-naming!) some of the thoughts/expertise, and then bundling it within a new discipline which is jargon-laden, time-intensive, and for which there are too few trainers for others to rapidly get up to speed. I appreciate this paper as an effective weaver / connector of disciplines, investigators, and concepts. I appreciated the umbrella term 'delivery science', I appreciated the very concise description of both sciences. As a person with a background in QI and (hopefully) a future in "IR" I found this paper to be practical, well-intentioned, and important. 'If you want to go fast, go alone. If you want to go far, go together'. I love the idea of unifying QI/IR. Key questions this generates: Who are our ideal improver/implementers and how much expertise in both do they need? (i.e. as it describes IR is somewhat slow/clunky, but so is the training! What is the 'minimum viable' training to generate an effective improver/implementer? QI is embedded research, IR often isn't, what are the pros and cons of the local improver trying to be a wider implementer?)

Dissemination and Implementation Research in Health: Translating Science to Practice by Ross Brownson, et. al.

I couldn't just pick one favorite D&I article – there are so many articles that have been very impactful and influential in the field. I want to mention a book instead – Dissemination and Implementation Research in Health: Translating Science to Practice by Ross Brownson, et. al. This book was very impactful as we began to learn about the science of implementation and guided our efforts in implementing multi-site projects aimed to improve care coordination in the VA. It has been part of the team discussions and grant proposals in our research group, and I am planning to keep learning from it.

Nilsen P, Ståhl C, Roback K, Cairney P. Never the twain shall meet? - a comparison of implementation science and policy implementation research. *Implementation Science* 2013, 8:63. <http://www.implementationscience.com/content/8/1/63> (Links to an external site.)

I came across the Nilsen et al article this semester while trying to better understand how I could apply the content from this course to a policy impact evaluation I had wanted to do (which ended up being the project I based my assignments on). I struggled a lot at the beginning of the course to differentiate between policy analysis research and D&I science, and this article helped a lot because of the thorough background it gives on the fields and the detailed explanations of where there is overlap (and where there is not). In addition to what I learned from it, I appreciated this article because it validated my reasons for wanting to pursue the D&I certificate in the first place - D&I research methods provide the necessary rigor to produce actionable, transferrable information about public policy impacts on health (or other) outcomes, where more traditional policy and stakeholder analysis methods may fail. Additionally, I liked this quote, which sums up, to me, one of the more critical distinctions between policy implementation research as compared to implementation research in healthcare settings (but also reinforces the importance of doing this work in the policy arena): "Different stakeholders, often with very different beliefs about how the world works and what constitutes good evidence, shape what is seen as socially valid knowledge or the practical meaning of 'evidence,' which may influence the implementation of policies and guidelines. Thus, the implementation and widespread use of certain treatments (such as cognitive behavioral therapy) or organizational concepts (such as Lean production) may take place through the lens of a belief system that differs markedly from the belief system used to generate the initial research."

Woodward, E. N., et al. (2019). "The health equity implementation framework: proposal and preliminary study of hepatitis C virus treatment." *Implementation Science*, 14(1): 26.

My favorite D&I article was the Woodward et al. article that described the "Health Equity Implementation" framework, I found that it went over so many important concepts as well described a new framework with the addition of a very detailed example. Since reading the article, I have found myself going to back to a lot of the work that I am currently involved in and thinking of how I can make sure health equity is always front-center.

-
1. **Woodward, E. N., et al. (2019). "The health equity implementation framework: proposal and preliminary study of hepatitis C virus treatment." *Implementation Science*, 14(1): 26.**
 2. **Shelton, R.C., Chambers D., Glasgow R. (2020). An Extension of RE-AIM to Enhance Sustainment: Addressing dynamic context and promoting health equity over time. *Frontiers Pub Health*, 8:134.**

Woodward et al article on health equity and Glasgow article on the role of health equity for sustainability (RE-AIM) are my favorite D&I articles so far. I have learned tangible ways I can apply D&I principles for health equity, and I think these papers challenge the way things have always been.

"What Can Implementation Science Do for You? Key Success Stories from the Field" by Amy Kilbourne, Russell Glasgow and David Chambers (published in *Journal of General Internal Medicine*, 2020)

Choosing a favorite article is difficult but one article I recently read and enjoyed was "What Can Implementation Science Do for You? Key Success Stories from the Field" by Amy Kilbourne, Russell Glasgow and David Chambers (published in *Journal of General Internal Medicine*, 2020). I think it is a really nice summary with concrete examples that can be used to demonstrate the value of implementation science in health. It would definitely serve as a good introduction article for students first learning about D&I. I especially like that the authors identify common elements of successful implementations and give examples. One question this article brought up for me is who would meet the definition of an "operational expert?" The paper states that researchers should rely on operational experts that have experience in selecting, applying, and adapting implementation strategies across different settings - does this just

mean implementation scientists? I also really like the idea of “guiding adaptations,” letting providers adapt things that are outside of the “core elements” of the intervention. This again brings up the importance of identifying what those core elements are (form and function). Overall I think this article is a very succinct summary of many of the interesting/useful concepts we’ve learned about in the course.

1. **Lobb, R. and Colditz, G.A. (2013): Implementation Science and Its Application to Population Health. Annu. Rev. Public Health 2013.34:235-251.**
2. **Lane-Fall, M. B., Curran, G. M., & Beidas, R. S. (2019). Scoping implementation science for the beginner: locating yourself on the “subway line” of translational research. BMC medical research methodology, 19(1), 133.**

I'm not sure that I'm well versed enough in this area to have a favorite D&I science article. What I decided to do was to go back to the readings we had weeks 1 and 2, specifically the Lobb and Lane-Fall articles and re-read them. When I first read these articles, it took me so long to go through them and truly understand this field of research. Now, particularly as I went back to the Lobb article, Figure 2 is really what stood out to me in pairing with this weeks readings and looking back on the class as a whole. This figure, which encapsulates all of these larger issues of team-based research, stakeholder engagement, inner and out contexts, etc., is all here! Perhaps we need to take this description of "the system", break down our teams into each part, and start putting those pieces together with the experts in place (rather than junior researchers like myself with limited experience in the majority of these areas!). I think we need to be more imaginative in the systems that we build and put in place to really meet these goals. They said in the Lobb article that exemplifies this - "Perhaps most relevant to successful implementation is the strategic climate of an organization that motivates and enables employees to embed EBIs in existing practices through policies, procedures, and reward systems." It sounds so obvious, but until we change the policies, procedures and reward systems (promotions criteria, RVU-based work, etc) then I think we will not achieve our full potential to make and implement meaningful change.

Gilmartin H, Lawrence E, Leonard C, McCreight M, Kelley L, Lippmann B, Coy A, Burke RE. Brainwriting Premortem: A Novel Focus Group Method to Engage Stakeholders and Identify Preimplementation Barriers. J Nurs Care Qual. 2019 Apr/Jun;34(2):94-100.

In terms of a favorite paper, I'd like to share a paper that Dr. Rabin shared with me after a discussion about my project yesterday—

Gilmartin H, Lawrence E, Leonard C, McCreight M, Kelley L, Lippmann B, Coy A, Burke RE. Brainwriting Premortem: A Novel Focus Group Method to Engage Stakeholders and Identify Preimplementation Barriers. J Nurs Care Qual. 2019 Apr/Jun;34(2):94-100.

Even after attempts for stakeholder engagement, there may be yet-to-be-articulated challenges that could lead to the failure of implementation. To identify potential barriers to success, a novel risk analysis brainstorming sessions known as “brainwriting premortem” can be used. This focus group method involves multiple brainstorming sessions of 6-12 people, whereby stakeholders are asked to envision that the implementation strategy has been applied and has failed, and are subsequently asked why the program has failed. As articulated in the article, “This approach allows people who have past experiences with similar projects or are worried about weaknesses to speak up to improve a project’s chance of success.” This prospective hindsight approach” can mitigate a range of cognitive biases including overconfidence, the planning fallacy, optimistic biases, and groupthink. I think this is a brilliant complementary strategy that I plan to incorporate into my own work. I feel like this will help “learn from the past” which is a really important thing to do to maximize success in the future.

1. Bauer MS, Damschroder L, Hagedorn H, Smith J, Kilbourne AM. An introduction to implementation science for the non-specialist. *BMC Psychology*. 2015;3(1):1-12. doi:10.1186/s40359-015-0089-9.
2. Curran GM. Implementation science made too simple: a teaching tool. *Implement Sci Commun*. 2020;1(1):1-3. doi:10.1186/s43058-020-00001-z.

My favorite D&I paper is probably too novice for all of you, and it's more a review than a "scientific" paper¹. But I still remember very clearly that paper as the first I ever read on D&I. I was looking for ways to answer my research "question", which I thought was pretty broad and ill-defined at the time (something along the lines of "how can I help bring the right test to the right patient, in a way that truly helps them?"). This paper basically made me realize that what I wanted to do was an actual area of research. My motivation at the time was the fact that exome sequencing was not available outside of research projects. And it still isn't (ugh). I knew about knowledge translation, but my understanding of it was that it was more aimed at translating basic scientific knowledge into clinical applications, not implement them (I know, I was confusing different concepts at the time!). Anyways, this paper does a great job of outlining what implementation science is and comparing it with clinical research. It also provides definitions and explains various concepts, talks about trial design (hybrid designs: what a great idea!!) and present 2 example studies that help break down how frameworks are useful. I still like this paper because it's super effective at convincing the reader how implementation science can enhance healthcare, in any specialty or context. I finished reading it thinking "wow, we HAVE to use these methods in clinical genetics, it would help us solve like 99% of the problems we are facing". Second best choice of paper to give to someone who knows nothing about D&I (after Curran's paper about "the thing"², of course!)

Snell-Rood C, Jaramillo ET, Hamilton AB, Raskin SE, Nicosia FM, Willging C. Advancing health equity through a theoretically critical implementation science. *Transl Behav Med*. 2021 Aug 13;11(8):1617-1625.

Most recent favorite article: After Meredith recommended it during the discussion panel last week, I read Snell-Rood et al.'s "Advancing health equity through a theoretically critical implementation science." I have background training in medical anthropology and this article really helped me integrate that training with all that we are learning in this course. Some of the concepts that resonated were the importance of attending to power dynamics and practicing reflexivity, identifying and challenging assumptions regarding the homogenous and static nature of "community," and recognizing the ways that international development projects can reify the inequities of colonialism. The ways that they propose bringing critical social science theories into implementation science are clear and actionable-- the concept of structural competency in particular is relevant to work I'm interested in related to integration of social care into primary care.

-
1. **The Moullin paper on "10 Recommendations for using implementation frameworks in research and practice"**
 2. **Holtrop, Rabin & Glasgow on "Qualitative approaches to use of the RE-AIM framework: rational and methods"**.

It's hard to pick a favorite D&I science article. I have so many that I have tagged as a "key paper". I'll limit it to two. The Moullin paper on "10 Recommendations for using implementation frameworks in research and practice" was really helpful in understanding the need for one or more frameworks and how one might apply the framework throughout a project. The specific examples applied to the EPIS framework were really helpful. Another favorite paper is by Holtrop, Rabin & Glasgow on "Qualitative approaches to use of the RE-AIM framework: rational and methods". I was already familiar with the RE-AIM framework, and how to quantitatively measure each outcome. Since I'm new to qualitative and mixed methods research, I've needed a lot of good examples to understand the types of interview questions one could ask to explore determinants or outcomes. This paper was so helpful for

understanding how qualitative approaches could complement quantitative data collected for each RE-AIM domain that I switched my framework from EPIS to PRISM/RE-AIM. It also drove home the point that we need to consider Reach from the very beginning.
