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Cash Benchmarking for Integrated Healthcare and Human Services Interventions: Finding the Value Added

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Abstract

Health-related social needs, such as food insecurity, housing instability, and lack of transportation, are strongly associated with poor health outcomes, more healthcare utilization, and higher healthcare spending. Integrating human services that address health-related social needs into healthcare may address these issues. In this commentary, we propose an innovative methodological approach, borrowed from developmental economics, called ‘cash benchmarking’, which can help us determine when healthcare and human services integration is most useful. This is important because while these approaches offer potential benefits, they also come with potential downsides, including over-medicalization of social needs, de-emphasis of upstream societal causes of health-related social needs such as tax policy and labor conditions, and opportunity costs within the healthcare system as resources are shifted to delivering social care. Ultimately, cash benchmarking can help us navigate between the promise and the pitfalls of healthcare and human services integration.

Health-related social needs, such as food insecurity, housing instability, and lack of transportation, are strongly associated with poor health outcomes, more healthcare utilization, and higher healthcare spending.(1–11) With growing recognition that drivers of health and healthcare expenditures lie both within and outside the healthcare system, integrating human services that address health-related social needs into healthcare may be a key mechanism to improve health.(10,11) Although there are encouraging early results from such integration(12–15), it is critical to rigorously evaluate these programs. In particular, it is

important to use strong study designs that can validly estimate what would have happened in the absence of the program, avoiding designs like pre/post assessments that are subject to regression to the mean and other sources of bias.(16)

In this commentary, we propose ‘cash benchmarking’(17,18) as an appropriate study design for evaluations of interventions that integrate healthcare and human services. Further, we discuss important considerations for navigating the promise and the pitfalls of healthcare and human services integration.

Cash Benchmarking in Studies of Integrated Healthcare and Human Services Interventions

When control groups are used at all in healthcare and human services integration studies(3,13,15), the typical approach uses a ‘usual care’ design, comparing the new program to current practice (which may be no specific intervention). An alternative is ‘cash benchmarking’, which comes from the field of developmental economics. Cash benchmarking refers to a study in which one arm receives an intervention, and another receives the monetary value of the intervention as a cash transfer.(17) Treatment effects estimated by such a study show the benefit, if any, of the intervention, above and beyond the cash value of the resources provided. This is particularly relevant for integrated healthcare and human services interventions, as the health-related social needs these interventions seek to address are often rooted in financial strain. Thus seeing benefit for an intervention in a cash benchmarked study indicates that an intervention is not simply an improvement over usual care, but instead offers ‘value-added’ -- benefits that could not be achieved by a cash transfer.

It is important to distinguish cash benchmarking, where a cash transfer is used as a comparison condition to study an intervention of interest, from cash transfer interventions, where the effect of the cash transfer itself is the primary focus of the study. Cash transfers may, or may not, be effective interventions for specific health outcomes, as the example of Opportunities NYC-Family Rewards(19) shows. Nevertheless, the effectiveness of cash transfer interventions in specific situations is a discussion separate from the utility of cash benchmarking as a study design.

As an example of a cash benchmarking study, a recent trial sought to improve diet quality among patients at a community health center who were overweight or obese.(20,21) This study compared a subsidized membership to a community supported agriculture (CSA) program, which provides a weekly allotment of fresh produce, to receiving the cash value of this subsidy. The study found greater diet quality improvement in the CSA group, showing that there was value to the program above and beyond the cash value of the subsidy.

In developmental economics, cash benchmarked studies have recently come into use. Examples include a comparison of cash versus food aid from the World Food Program(22), and an evaluation of a sanitation and nutrition behavior change program in Rwanda.(23) An important lesson learned from these studies has been that cash benchmarking provides information that decision makers want to know, as it makes it easy to relate program costs to

changes in outcomes, especially in comparison to a low-overhead alternative. USAID has called for expanded use of cash benchmarking for these reasons.(17)

To illustrate the rationale for cash benchmarked designs in the context of healthcare and human services integration, imagine two interventions to address food insecurity. In the first, a clinic implements food insecurity screening for those with diet-sensitive medical conditions, such as diabetes. Those who screen positive meet with a counselor and receive information detailing local food pantries. The individuals generally have few other limitations (e.g., they are able to shop and cook for themselves) and have sufficient knowledge of recommended foods to follow an appropriate diet. In this case, imagine that the intervention improves diet quality, compared with usual care, by improving food access. But, imagine that comparing this intervention to an equivalent cash transfer reveals little difference in diet quality—participants obtain healthy food from food pantries in the intervention arm, and just purchase it themselves in the cash transfer arm.

For the second scenario, consider a medically tailored meal delivery program for poor and medically complex individuals.(24) In these individuals, functional limitations and the complexity of the diets they are advised to follow may mean that, even if recommended foods were affordable, adhering to the recommended diet would be difficult. Creating the tailored meals requires collaboration between treating clinicians and an organization that can reliably prepare and deliver specific meals. In this case, imagine that the participants in the meal program see greater improvements in diet quality, both compared with usual care and compared with a cash transfer.

If one were to use only usual care designs, without the use of a cash benchmark, then the above scenarios could be viewed as equivalent—in each case the intervention improved outcomes compared with usual care. However, in the first case, the benefit of the intervention comes from the cash value of the food provided, rather than any specific benefit of healthcare and human services integration. In the second, the close integration of healthcare and human services provides benefit that cannot be obtained by cash alone. Making this distinction would be impossible without the use of a cash benchmark. Nevertheless, distinguishing between these two situations is critical in the context of integrated healthcare and human services interventions because it focuses on whether there is value in the *integration* of the services.

Why is Cash Benchmarking So Important for Studies of Integrated Healthcare and Human Services Interventions?

As the examples above illustrate, when considering integrated healthcare and human service interventions, the value that integration adds is the critical element. But why is it important to demonstrate that integration adds value? Shouldn't benefit over usual care be sufficient? Demonstrating benefit over usual care may be sufficient if that were the only consideration. However, that is rarely the case—the benefit of an intervention needs to be weighed against potential drawbacks and unintended consequences, which we discuss below. Assessing the impact of these downsides is often complex, time-consuming, and costly. Therefore, having

the high bar of the cash benchmark design focuses our attention on interventions where the benefits are more likely to outweigh the drawbacks.

Healthcare and human services integration, as with anything, has potential downsides.⁽²⁵⁾ By nature of healthcare system integration, these interventions may ‘medicalize’ problems that, while associated with poor health, do not represent illness or disease in a traditional sense. Once medicalized, the presumption may be that these issues require healthcare services. This may de-emphasize potentially more effective ways to address health-related social needs that lie outside the healthcare system, such as human services organizations operating alone, public health approaches, or tax, employment, or labor policy changes that address the root causes of health-related social needs.⁽²⁵⁾ For example, if housing instability is seen as a problem primarily because it increases healthcare utilization⁽²⁶⁾, this may discourage strategies that lie outside of the healthcare sector, such as city planning initiatives to increase affordable housing. A second potential drawback is that healthcare systems may focus on human services interventions as a way to affect short-term healthcare costs. This could lead to narrowly focused efforts motivated by creating the greatest return on investment in the shortest period. For example, a program that only addresses housing for persons experiencing homelessness at the time of hospital discharge, in order to prevent a 30-day readmission, overlooks the effects of housing instability among those who have not been recently hospitalized, or even been in contact with the healthcare system.⁽²⁷⁾ Next, healthcare system expansion into human services could yield high opportunity costs as attention is diverted from their specialized medical skill-set. For example, an integrated healthcare and human services intervention could sap personnel resources and institutional bandwidth needed for cancer screening or immunization programs. Finally, healthcare systems may not have the expertise needed for human services interventions to reach their full effectiveness. Healthcare systems also commonly have cost structures that make them an expensive context in which to deliver an intervention. Therefore, owing to possibly less expert and more expensive implementation, healthcare system integrated interventions may be less cost-effective than similar interventions delivered outside the healthcare system.

Because of these potential downsides, it is important to determine whether a health-related social needs intervention should occur with healthcare system integration, or outside the healthcare system entirely. From a societal perspective, the key question is ‘how can scarce resources best be spent to improve population health?’ Cash benchmarking, by providing a common denominator with which to compare intervention success, helps answer this question in a way that a ‘usual care’ design cannot, propelling cross-sector comparative effectiveness work.

Additional Advantages of Cash Benchmarked Designs

Beyond the above advantages, cash benchmarked study designs have additional advantages. Individuals from racial/ethnic minority, low socioeconomic status, or other disadvantaged populations are underrepresented in research. Even if a ‘usual care’ study is ethically justifiable, eligible individuals may be unwilling to undergo the burden, and possible risks, of participating when there is a substantial chance they will receive no benefit from participating. By offering something of value to both groups, cash benchmarking may help

overcome this important limitation. This is a particular concern for integrated health and human services interventions, as the burden of health-related social needs falls disproportionately on racial/ethnic minorities and those with lower socioeconomic status. (4,10) Cash benchmarking could ease recruitment of a more representative sample, enhancing the scientific value of the data gathered. Of course, this advantage needs to be weighed against the possibility of creating undue influence if trial conditions are such that they are difficult to turn down. We recommend both working with members of the study population to understand what would and would not be coercive when designing the study, and, of course, obtaining institutional review board approval. One further advantage of cash benchmarked designs is that they help ‘justify the paternalism’ of non-cash transfer interventions.(17) For example, imagine trying to decide between offering a low-interest loan and tax concessions to a supermarket chain in exchange for opening a grocery store in a ‘food desert’ (an area without healthy food retail options), and distributing a similar amount of money to food desert residents as a cash transfer. Offering the loan and tax incentives may be the better approach if there were concerns that diversion of resources would dilute the effect of the cash-transfer, i.e., if politicians were concerned the money would be spent on items other than food. However, there is a cost to this type of paternalism, and the cash benchmark design quantifies it. A cash benchmarked study may reveal that, in fact, increasing the resources of the individuals in the area enables them to travel to other areas to shop, or creates enough market demand within the neighborhood to attract a grocery store without special incentives. Given its advantages, funders may request the use of cash benchmarked designs in their calls for evaluations of programs that integrate healthcare and human services.

Limitations of a Cash Benchmark Design

There are, of course, limitations to cash benchmarked designs. In situations where cash transfers have an effect on the outcome, but the natural history of the condition studied is not known, having only a cash benchmark arm does not allow investigators to determine what would have happened under usual care. For example, imagine an intervention that seeks to reduce emergency department use. The intervention focuses on addressing transportation barriers, as these might keep people from attending primary care visits. Missing primary care visits, in turn, leads to exacerbation of chronic conditions, resulting in greater emergency department use. A cash benchmarked study might randomize participants to a clinic-based program to arrange rides to medical appointments, versus receiving the cash-value of the program. Such a study would permit comparing the ride program to cash. However, the benefit of the ride program over usual care might remain unknown, unless we already had evidence about the association between transportation barriers and emergency department use under usual care. For most health-related social needs, their associations with poor outcomes under usual care is well documented, so this situation may be uncommon. However, if determining a contrast between the intervention of interest and usual care is scientifically meaningful, then a usual care control (or having usual care be a third study arm) may be necessary. Alternatively, investigators may be able to supplement a cash benchmarked study with additional data, by simply observing the natural history in a trial eligible sample (who do not actually participate in the trial). This would likely be more

resource efficient, as interventional trials are typically more costly than observational studies. The trial data can be used to determine if the program is effective beyond the cash value of the intervention, and combining the trial and observational data can provide evidence that one (or both) arms of the study are effective compared with usual care.

Controversies and Open Questions in Cash Benchmarking Designs

As cash benchmarking designs are relatively new, there remain controversies and open questions surrounding their use. Though there is not space to discuss all of them, we wish to highlight two important considerations. First, understanding the true costs of intervention, in order to set the appropriate value of the cash benchmark, can be challenging. Determining the cost of portions of personnel time, administrative overhead, office space, etc. used for an intervention can be quite difficult in the healthcare setting, where all of these factors may have other uses outside of the study (e.g., for routine clinical care). Costing can be tricky in any context, and healthcare is notorious for having difficulty in determining what the true cost of a service is. Second, there may be trade-offs between the use of cash as a benchmark and cash transfers as an intervention in their own right. If cash benchmarks are interpreted strictly, then the amount of cash provided should equal the cash value of the intervention. However, this amount of cash may not be optimal--a higher or lower amount may be more cost-effective were the cash transfer to be considered an intervention in its own right. Thus when to interpret the use of cash as a benchmark, as opposed to another intervention of interest, remains an open question.

Conclusions

The science of addressing health-related social needs with integrated healthcare and human services programs has reached a critical stage. Effective interventions are badly needed, but the design of studies evaluating them should be carefully considered. To make truly informed decisions, policy makers need to be able to compare the costs and effects of interventions side-by-side. Given their low administrative overhead, cash benchmark designs readily facilitate this in order to make clear the value, if any, that these interventions add. We believe cash benchmark designs should see more widespread use, as practical tools to make research on health and human services integration more useful for policy makers.

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