

Review of: "Building a digital republic to reduce health disparities and improve population health in the United States"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Many thanks to Dr. Alberto Bedogni for inviting me to review this work which I read with interest. My feedback was written when version 3 of the manuscript was available, though I have now also looked at v4. Dr Muenning and colleagues provide a comment on how a digital republic may improve population health, particularly for the USA. Addressing inequalities and health, as well as evaluating ways that improvements can be made remains an important and urgent topic, perhaps even more so now after the negative shocks from the COVID-19 pandemic which have likely exacerbated risks.

My main critical point is that, at times, the language within this comment is overly broad/non-specific and optimistic about the promise of changes a 'digital republic' could bring. Below, I point to some specific instances where further critical evaluation and precision are warranted, though I would recommend an overall read-through and revision that tries to provide some quantifiable estimates about the potential scale of impact or further elaborates on some claims.

Relatedly, I wish there was more balance and understanding what the wide adoption of digital services, such as auto-enrollment can and cannot do. The authors are correct that there would be many positive benefits for health, which I chiefly believe would come from removing some of the barriers for easier to access services (e.g. receiving a stimulus check). At the same time, there should be wider recognition that auto-enrollment would not change the underlying nature of the services provided. Ensuring more people can access services is essential, yet, at the same time, if a service is not sufficient to address core needs and provide full protection, or other significant barriers for its access remain (e.g. still having to pay a co-pay one cannot afford, or not being able to travel to a provider that accepts the coverage one has), there should be a wider call to re-imagine social policies. Improving access and ensuring the right securities are provided are two complementary goals. Angus Deaton (2022) has already written poignantly about the failures of developmental economic agendas that target the 'worst off' and shift the distributions of poverty but ultimately fall short of truly envisioning a way to poverty eradication.

Abstract

Overall, I believe the abstract could be revised in order to better reflect the strengths of the piece.

I am missing the specificity and structure about the key points in the paper - it may be worthwhile to look at the section headings in this commentary and summarize some of them in a sentence in the abstract (e.g. by saying you consider

ways to improve privacy, reduce fraud, you evaluate different standards, success and failures, make recommendations on how digital service can improve population health; that beyond health you consider other implications such as for political involvement). This might better contextualize your contents.

Income, schooling, and healthcare are key ingredients for optimizing human's ecological niche for survival.

Strictly speaking from the perspective of ecology, an ecological niche describes the fit or match between a given species and their environment (such as for instance by accounting for food, competition, other available resources). While an argument could potentially be made that human behavior involves the creation of complex social and behavioral patterns that involve exchange and provision of different goods/resources, I ultimately do not think this is the core of the authors' aim here and am not sure the cross-disciplinary reference jump is needed. Consequently, this particular sentence reads a little imprecise to me.

More broadly, I think the abstract should contextualize the key problem here. In my view, the main issue is not anything that relates to an 'optimizing' framework (and likely should go on beyond mere 'survival') – so, rather the fact that individuals lack access to different forms of securities.

But most government programs that are designed to provide a hand up in these domains are difficult to access.

Minor, but specificity could be improved (even from the first sentence) that this is in regards specifically to the USA. Many countries have fewer barriers to access (e.g. universal healthcare).

Introduction

Only well-off Americans are adroit at navigating the complex bureaucracies of banks, taxes, and licensure requirements required for day-to-day survival in a complex society.

This seems a very strong and broad claim to me. Many poor people successfully navigate complex bureaucracies and in some cases, high percentages of those eligible for benefits enroll and receive them (e.g. for SNAP, in 2019 82% of people who qualified to receive SNAP benefits received them, <https://www.cbpp.org/research/food-assistance/the-supplemental-nutrition-assistance-program-snap>). I think what the authors may intend here, rather, is that complex institutional bureaucracies impose a differential burden (e.g. on time, resources), felt more heavily by people who are poor or otherwise more vulnerable.

For a social policy to improve health, though, it must also improve economic well-being.

I think this claim warrants further substantiation. In the review by Courtin et al. that the comment cites, some of the interventions are, for instance, early life or education interventions (linked to positive health outcomes). That education is positively linked to higher income and financial security is not controversial but it does not necessarily mean that the

causal mechanism is that improvements in economic wellbeing are needed/ the driver. It may very well be that education alone improves health (e.g. through higher compliance with medical advice, conscientiousness, etc).

It is possible that the authors are considering a narrower subset of social policies (in which case a more precise definition could be appropriate) but there are many examples of social policies (in the sense of a government's action to improve society) that do not change one's economic position but do convey positive health benefits on the whole, such as laws to wear seatbelts in cars, road safety laws, improvements in sanitation and working conditions, etc.

Automating payments

Benefits that are ostensibly automatic do not reach all their intended recipients because the government simply lacks data on the most disadvantaged Americans.

This is perhaps one of the key advantages of a more digital country-level service to me, and one that is strong enough that it may be highlighted more, and perhaps even earlier. Removing barriers to access benefits that should de facto be automatic (i.e. come with little other barriers) is probably a very direct way to improve lives, such as receiving a Covid-19 stimulus check.

It would be interesting to see more nuance and discussion around this (not necessarily in this section, as this may be more a discussion/imitation point): where do you anticipate that a digital health republic would bring about the most benefits and where the least? It seems to me that automated enrollment would really help for services where there are little conditions or eligibility is more straightforward to ascertain and the provision of the service of benefit is through a rather direct mechanism. In contrast, some barriers go beyond the difficulties capturing eligible individuals and enrolling them – for instance, some states impose drug testing such as through screening questionnaires (and more rarely through actual drug testing) for TANF that are linked with potential barriers in terms of time, travel, emotional burden, etc; similarly auto-enrollment in Medicaid is likely to be tremendously important but further barriers to accessing healthcare would still remain.

What is a digital republic?

A key area for improvement here is an attempt to directly provide a full definition of what a digital republic is or is not. What really is the goal in order for a country to be a digital republic? What factors need to be present? What should be included or provided or implemented?

As a reader, this section provides useful summaries and examples (for Estonia and automated services in other countries) but ultimately, it does not leave me with an impression of what a digital republic is. This needs some more explicit interpretation or evaluation. Here, I appreciate the sub-section on international success and failures; still I think insofar as a definition is concerned, the point can be pushed further. I imagine merely copying Estonia's model does not make one country 'a digital republic' or similarly that having automated loan systems would not be enough.

Minor – the sentence “Were everyone able to participate in formal services ...” is currently not phrased in a way that’s specific to the digital aims, and is probably a bit over-generalized (not everyone needs to receive social benefits, e.g. high income earners; perhaps you mean something like ‘the social benefits they require’?)

Improving privacy, reducing fraud

I appreciate the specificity of the example regarding the information available to service providers when buying a drink but this example feels a little non-specific to the overall topic of this comment. I wonder if the authors might improve the overall cohesion by selecting an example that more directly builds towards the central arguments of their comment. Maintaining privacy and ensuring dignity for recipients of social benefits is particularly important – for instance, previous research has suggested some recipients experience negative social stigma and some hesitate before applying for benefits due to concerns about how they will be perceived.

One example here might be something like Pell Grants, where service providers are able to see only the relevant information (e.g. undergraduate student status, citizenship/residency status, previous high school level diploma) but not irrelevant information (e.g. high school grades). Many such examples could be made for different forms of social benefits or protection.

How a digital republic might benefit population health

The effort required to achieve a digital republic in the US would be immense, but so too would be the health and economic benefits that might arise from such an effort.

Without some substantiation, this claim is too general and might feel overstated to a skeptical reader. I feel similarly about the re-statement of this in the conclusion.

In the first instance, here, I would nuance the language to indicate likelihood rather than certainty.

Traditionally, this is where cost-benefit estimates or other estimates of impact may be warranted. Carrying out such a calculation on your own might be beyond the aims of a commentary, but perhaps, as a minimum, you can point to the need for understanding the cost-benefits trade offs as a future goal (e.g. in your future work section).

I suspect estimating the cost of such a wide-scale program would be difficult, but perhaps there might be relevant work already from Estonia. On the benefits side, my immediate thoughts are that some auto-enrollment experiments such as from Wisconsin’s Medicaid auto-enrollment or the UK auto-pension enrollment literature might be helpful for at least some context. More broadly, some of the systems-level nudging literature changing defaults might provide estimates as well.

But being able to pay the bills produces health effects that extend beyond overcoming material hardship.

Perhaps this is a matter of simply revising the sentence to nuance the language a little bit, but it seems to me that here, there might be an assumption that social securities will allow people to meet their basic needs (“pay the bills”). Certainly as stated previously, social benefits will reduce the degree and likelihood of hardships, but the evidence that needs are fully met may be more limited (e.g. for SNAP, in 99% of US counties the maximum benefit per meal is not sufficient to

cover low-income meal costs, see for a comment: <https://www.urban.org/features/does-snap-cover-cost-meal-your-county>)

This is a broader point of context for me for the entire piece: while digital provisions of social securities will likely increase enrollment, the ultimate type, kind, degree of provision is not changed. In this view, a digital republic can increase the number of people who receive protection, and thus help the poor, but further restructuring of social benefits is ultimately warranted to really provide meaningful security and eradicate poverty.

An analog life increases stress

The informal writing style in this section stood out in comparison to the other sections. This would be appropriate for a general readership, though at the same time there is a lot of specificity that could be added here. It seems to me that in practice the authors are talking about stress-adaptation, i.e. allostasis, as well as the burdens of allostatic load. I think there is a broader decision to be made about what the overall style of writing should be throughout the piece.

A digital republic potentially revs down the human engine by removing the daily stress associate with navigating modern complex societies...

Here, and overall in the 'analog life' subsection, there seems to be a tentative suggestion that there is something particular about the realities of modern life that is linked to increased stress. This very well may be the case. For completeness, I think it's worth pointing out that there are opposing views in the literature as well: specifically, that key stressors have not changed over time, that there are not more stressors now, but rather that nowadays social networks and means for (social and other) support are fewer or worse, which makes stressful events sometimes feel even more stressful. (I'm thinking here about some work following Robin Dunbar's theories of friendship networks as well as Karen Smith's on how perceived social support influences stress perception.)

Finally, I recommend a read-through for spell-check, stylistic revisions and clarity, e.g.

- Multiple sentences beginning with 'But...'
- Improvements in transitions between some sections
- Improvements in specificity (terms, broad claims and also transitions between sentences, e.g. "Another way is by reducing psychological stress." -another way to do what?)

I wish the authors best of luck with their work.