Making Sense of Technology Problems Framework

BENEFITS TECH ADVOCACY HUB

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How do public benefits technologies tend to fail? What harms can they cause? And what can advocates do about it?

Our goal is to help legal services providers and other advocates develop a clearer understanding of technology-related problems in public benefits systems. We have worked on many kinds of technology issues, as well as issues that look technical but are essentially political. We have learned how to analyze benefits tech structures, set advocacy goals to address failures, and – when possible – prevent the failures before they happen. This framework will introduce you to a couple of terms we've created to distinguish between types of technology problems, and then describe how to strategize for each type.

Benefits technology that does not work as it is supposed to or that relies on bad interpretations of policy can completely cut off people's access to already-limited supports. When people can't access benefits they are eligible for, they may go without food, housing, or medical care. The harms of bad benefits technology generally fall the heaviest on Black, Indigenous, and other people of color; disabled people; and elderly people. Inequities in access to social supports arise at every level: structural economic exclusion, specific policies within benefits programs (like many states' denial of food stamps to people with criminal records), standardized decision-making tools that do not accurately capture people's circumstances, and the need to have access to and familiarity with smartphones, computers, and the internet to apply for benefits.

Big-picture strategy questions

Goals and tactics are not the same thing. The tactics available may look similar across many problems – legal action, public comment, media campaigns, or community organizing. But as technology problems get more complicated, it can be easy to lose sight of what a "win" looks like for different problems. This guide will help you set realistic and achievable goals.

If you are faced with a technology problem, you may be thinking about the following strategic questions: Are we trying to get rid of this system or are we just trying to make it work correctly? What does "correctly" mean in practice? Are we trying to expand the system's criteria for granting access? Are we trying to simplify appeals processes and guarantee program coverage when harmful decisions happen? Or are we ignoring the technology altogether to directly address the underlying policy?

You should also consider different solution timelines: your immediate tactics might be developing a lawsuit or contacting a state agency. In the medium term, you may be able to advocate for laws creating accountability for technical systems, improvements to contracts and the proposal process, or (crucially) program funding increases. And finally, it's important that we organize around a long-term vision for better social supports and anti-poverty measures, where everyone's basic needs are easily met.

Types of Technology Problems

Once you've gotten some information about the technology, you can begin to figure out how the system is causing harm. We have found it useful to (loosely) sort technology issues into "**logistical issues**" and "**measurement issues**." **Logistical issues** occur when the technology simply is not working as it's supposed to. This could be a coding error, or a logical glitch in an algorithm, or a problem that arises when two systems don't share information correctly. **Measurement issues** are problems with how decisions about people are made. Deciding which questions in a functional assessment count toward an eligibility "score," and how much weight each question gets, would be about measurement. We sort technology issues along a spectrum between logistical and measurement issues because practically, tactics may differ when confronting a logistical problem (where everyone agrees on the need for a fix) versus a measurement issue (where underlying policy or philosophical disagreements may complicate your advocacy).

A system might have both logistical and measurement issues. They aren't neat boxes — understanding these types of issues only matters because we think it is useful for effective strategizing.

The defining features of each type of issue are:

> **Logistical issues:** the technology is not operating according to the unambiguous set of rules it is supposed to follow. The technology is simply "broken." Someone using the system can't do something they ought to be able to do according to the rules/policy, because the technology isn't working as expected. This can be due to inconsistency between written policy and technical design, or between technical design and implementation.
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> **Measurement issues:** the technology is correctly operating according to a set of rules, but those rules are just one of many possible interpretations of a policy. The technology has standardized decisions about eligibility or allocation, and certain people's needs aren't considered by this new set of rules. In other words, the system has a simplified model of the world that includes certain people's situations but not others, and can be biased. By definition, every standardized system does this to some extent.

Think of these issue types as lenses which you can use to discover how and where to focus your advocacy. In any system, both types of issues may be affecting outcomes. In other words, a policy could be standardized in a way that leaves out people (a measurement issue) and the code carrying it out could have errors (a logistical issue). For example, an allocation algorithm for Medicaid Long-Term Services and Supports may have typos in it, and may also be based on data that underestimates how much care people need. If you analyze the technology for both logistical and measurement issues, you can see that just fixing the typos won't fix the system for everyone, and that there are still measurement issues to address so that people get the hours of care they need.

It's also important to look out for situations where the technology is mostly just implementing a bad policy verbatim, and doesn't have logistical or measurement problems — for example, a system doing an asset limit check. Sometimes the harm mostly or completely comes from the policy, and the technology is not creating additional problems. In these cases, focusing too much on the technology will not be a long-term solution to the bad policy — and it may not even help anyone. A caveat is that some harmful policies can only be enforced on a large scale using technology. However, in this case, the

sustainable fix is getting rid of the technology and the harmful policy. New technology can bring new attention to an issue, and that attention may be harnessed to push for policy changes — but you will need to make sure that the reforms do not get stuck focusing on only the technology.

There are also many social and political issues that affect people's access to social supports programs — regardless of technology — which you should consider in your advocacy. Many programs have restrictive policies around immigration status, arrest or conviction records, or involvement with the child welfare (or "family policing") system. These policies are based on racist, xenophobic, and patriarchal ideas about who "deserves" social support. The false binary between deserving and undeserving pushes Black, Indigenous, and other people of color into the criminal legal system instead of social support programs, and undermines advocacy to create well-funded and truly supportive programs. Additionally, other policies force disabled and poor people to choose between being in restrictive programs or receiving support in the ways they prefer. For more resources on these issues, read our [Benefits Narrative] and go to our Political Education Annotated Bibliography.

Identifying and Fighting Logistical Issues

Logistical issues are present when the technology doesn't function according to its technical specifications, or the technical specifications don't match regulatory and legal requirements. Often, logistical issues prevent people from accessing programs they are eligible for, or break other administrative functions. In other words, someone ought to be receiving services or notices based on the rules, but they are not. The trademark of logistical issues is when a technical system does not carry out a well-defined administrative task as expected.

Examples of logistical issues include:

- Notices that are incorrect, vague, or poorly-timed,
- System capacity that's too small for real-world use,
- Documents and applications that get lost by the system,
- Unexpected errors that leave users without a clear path forward,
- User interface design that's just difficult to navigate,

- Data-matching errors, like confusing two people who have the same name,
- Design that's not accessible to vision-impaired users or users on mobile devices,
- And any other time when a user should be able to do something but can't.

Logistical issues happen because vendors and developers do not always correctly translate policy into code, and programmers can simply make typos or forget use cases in their designs. These issues are often not caught because states and the federal government lack comprehensive requirements for proactive testing, piloting, and public audits. When these issues surface, states claim they can't afford to fix issues because of technical complexity or budget issues with contractors — even though states are legally required to make these social supports programs available.

Usually, addressing logistical issues means forcing the state to correct the glitches in the technology, or to at least create a systemic workaround so no one has to suffer the consequences of the glitches. Better design, testing, and error handling, plus non-technical alternatives for receiving supports, can help prevent technical issues from causing harm. However, fixing a logistical issue doesn't necessarily affect what's laid out in the regulations.

One case study that highlights logistical issues is [Social Security Administration's SSI terminations]. In order to receive SSI, beneficiaries cannot have more than a certain amount of assets, and anyone whose assets go above the limit gets their assistance cut off. For years, people enrolled in SSI would mysteriously lose the financial assistance they were eligible for. The source of the problem was that the system would deposit benefits early when the first day of the month was on a weekend or federal holiday, but would not consider this when running asset checks. Because of this logistical flaw, people's own SSI benefits would be counted against them, and they were automatically terminated. The New York Legal Assistance Group eventually filed a class-action lawsuit against the Social Security Administration, and won a settlement forcing the administration to fix the error.

The SSA case shows a logistical issue because **the system was not correctly carrying out the well-defined administrative task**. One of the causes of the harm (incorrect asset checks and automated terminations) was a logic flaw in the system's design, and when fixed, would enable people to receive

their benefits. An important aspect, however, is that fixing the asset check mechanism doesn't fix the restrictive asset policy: The asset limit is still incredibly low, keeping people in poverty, and people are still terminated when the asset check disqualifies them. This illustrates how logistical issue fixes mainly help people who are eligible for supports according to the policy, not people who need support but don't quite qualify.

Another case study that shows major political issues in conjunction with logistical issues is the case of SNAP in Michigan. The state government decided to implement a matching program between a state database of people with outstanding felony warrants and the SNAP recipients database. Federal law prohibits people who are fleeing to avoid prosecution for a felony from accessing SNAP. Federal law also allows, but does not require, states to restrict access to SNAP for people with felony drug convictions. The system automatically terminated anyone whose name was in both databases, even people whose names were incorrectly placed in the felony database due to identity theft. It then sent out vague notices about the terminations that further confused people. Eventually, people who won appeals for SNAP were terminated again because their name remained in the felony database. This forced one woman, whose name was used on a bounced check in a city she had never visited, to travel to that city to turn herself in and spend the night in jail, in order to have her name cleared and her food assistance returned. This case shows logistical issues in the sense that the database made many errors in matching names and failed to give proper notices. But more importantly, the state enacted a racist policy and deprived needy people, many of whom were also disabled, of the limited food assistance they depend on. In this case, an equitable approach to addressing the harms would avoid focusing only on the accuracy of felony records and would involve pushing the state to stop using criminal records to restrict food assistance.

The strategy for logistical problems is usually to fix the malfunctioning parts of the system. We generally want these systems to function so that people can easily access their supports, and the state is accountable for operating their programs according to their own regulations. Advocates have had some success with class-action lawsuits claiming that the system violates certain state or federal laws like the Americans with Disabilities Act. The SSI class-action lawsuit settlement forced the administration to create more checks in the system to prevent the incorrect terminations. However, litigation can be

time and resource intensive. Settlements can take a long time, and contractors can be very slow to fix their systems. Some interesting tactics include officials going after vendors for project failures, or advocates trying to introduce legislation to hold vendors and the state accountable for malfunctioning public benefits technology. These tactics work towards the goal of fixing the system so that there is no gap between what the system is supposed to do and what it actually does.

Identifying and Fighting Measurement Issues

Measurement issues are about the technology's role in standardizing policy and about whether the technology can assess people's actual needs. Often, measurement issues prevent people from being eligible for the amount of supports they need, or any supports at all. Since measurement issues arise from the decisions that vendors and states make about how to assess and measure whether people need support and how much, measurement issues are an important place to look for inequities in who is getting access to benefits programs. There are countless examples of standardized tools that discriminate against people based on race, gender, sexuality, disability, and other excluded and marginalized attributes and identities: for example, in housing, hiring, and healthcare.

Examples of measurement issues in benefits technology include:

- Standardized assessments that don't take into account people's expressed needs or preferences,
- Data about one group of people that's used to make scoring systems for a meaningfully different group of people,
- Assessments that fail to account for intersections of conditions or certain conditions altogether,
- Assessments or input data that reflect and perpetuate racial disparities in care,
- Assessments that are less accurate for or beneficial to people of color,
- And any assessments that use misleading proxies (like cost) to determine outcomes.

How do you know when you're dealing with measurement issues? The trademark of a measurement issue is when *rules are created to standardize an inherently uncertain or subjective situation*. In other words, people's experiences are being put into boxes that hide the unavoidable discretion of the decision. Advocates and people receiving support cannot always see the rules created by the system, only their output (or sometimes the rules are public, but so complex that their meaning is difficult to understand).

In general, standardized measurement is difficult because people are not standardized. Any attempts at standardized measurement involve deciding to pay attention to certain things and not others. While there is no perfect measurement, standardized measurements can be more or less useful or harmful based on how they are designed and used. More significant measurement issues often happen because of budget limits and bad policy: assessments are often used to justify service cuts to certain groups when a program is not funded properly. In other words, states may turn to a standardized assessment to covertly make political choices about who gets care, while claiming that the system is objectively assigning resources based on need. The good-faith reason for these assessments is to limit the discretion of the people doing evaluations, which has historically been an issue. But even this is misguided: people are still not empowered to simply ask for and receive the support they know they need. It also turns any biases in the assessment into systemic problems.

Usually, addressing measurement problems means creating different avenues for people to have their needs addressed, or at least modifying assessments to align better with the population it is used on. But depending on how complex an assessment is, people in similar situations might not all benefit from tweaking an assessment — which is different from logistical fixes, which tend to help everyone with similar issues. Also, forcing people to be assessed ignores how many people would prefer to describe and receive the services they know they need.

A case study that highlights measurement issues well is the case of [Home and Community Based Services (HCBS) eligibility in Missouri]. Unlike in the SSA logistical case above, where eligibility is based mostly on asset limits, the regulations determining eligibility for HCBS are more subjective. In order to receive an HCBS waiver, people have to prove that they meet "nursing facility

level of care" (NF LOC) through an assessment. However, NF LOC is not just a plain number like an asset limit — it's a concept that can be defined in many different ways. The NF LOC assessment, according to regulations, should involve certain clinical categories of need, including "activities of daily living" and "cognition," and assign points based on the severity of condition in each category. But these conditions don't inherently have numerical values, so people have to make them up.

In late 2018, Missouri's Department of Health and Senior Services (DHSS) published a draft NF LOC determination algorithm, which used InterRAI survey answers in each of the clinical categories. However, there was a meaningful gap between people's needs, the regulatory language, and the NF LOC determination algorithm, because the algorithm did not account for the complexities of many people's conditions. For example, the algorithm asked about a person's mobility in the context of getting in and out of bed, but not about getting up and down stairs. According to one home care agency worker, this was a "huge omission." It meant that even though "mobility" was a category of concern in the regulations, there were different ways to measure severity of mobility issues, and certain people's issues weren't included.

It also was not clear how the state DHSS or its contractor Go Long Consulting decided which questions to include from the InterRAI survey, or how many points each should be worth. Advocates had trouble figuring out the impact of the algorithm from just seeing it on paper, and they had to do their own audit of the system to understand it. The audit showed major measurement issues: more than half of the people who were eligible for HCBS in 2018 would have been determined ineligible based on their new score, using the same InterRAI survey data. The audit also exposed how the people no longer eligible were also more likely to be people with mental health issues, or pulmonary issues like COPD (which, in the United States, tends to disproportionately impact people of color and people in poverty).

This is a measurement issue because **the algorithm was designed to measure people's need based on a limited number of standardized data points, and it determined levels of need inconsistent with people's own self-knowledge and the amount of care that had previously been determined as medically necessary**. Fixing a system like this is more difficult, because there will always be people whose conditions are not appropriately captured by a standardized assessment. Including more

questions and making some of them count for more points, as Missouri DHSS did, increased the percentage of people who would continue to be eligible. But the eligible population would still be substantially reduced overall, and it's unclear what the state is trying to accomplish besides cost savings.

A strategy for addressing measurement issues should begin with getting access to the system and seeing what kind of technology or statistics it's using. If possible, audits or testing, like in Missouri, can expose the impact of the system. There are also [Key Questions] to ask about the methods used to create the system, which can reveal major issues. With specific information about how the system works, you may see places to ask for adjustments that would help certain people. However, a systemic solution would focus on the lack of funding for services and on letting people simply request the services they know they need. Successful strategies for addressing measurement issues are still emerging, as advocates have found that trying to adjust the assessments and algorithms may only result in certain populations getting appropriate supports while others do not. In some cases, it might be more effective to just block the assessment tool from being used at all, as advocates in Idaho did for a version of their assessment. In Idaho, advocates showed how the assessment was derived from faulty data that didn't relate to the population that the assessment was being used on, and the judge agreed the assessment was arbitrary. It may also be helpful to create legislation that makes all eligibility rules transparent and eases the burden of making an appeal, so that people can maintain their benefits on an individual basis if the assessment doesn't work for them.

Take Action

We wrote this framework to illustrate the reasons why you might adopt different goals and strategies for different types of issues, even if many of the tactics are similar. Even though technical fixes may seem complex, states are generally accountable for correctly implementing their own social supports programs. On the other hand, measurement instruments are trying to turn a highly variable human experience into numbers, and it's been most effective to focus on their arbitrariness. We also want to orient towards proactive work to get better contracting processes for technical systems, more funding for programs, transparency around the goals and designs of any technical systems, the end of punitive barriers to benefits, and anything else in the service of people having their voices listened to and their needs met.

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