

Embracing Innovation in Government

GLOBAL TRENDS 2020



OPSI Observatory of
Public Sector Innovation



Focusing on the Overlooked

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OPSI Observatory of Public Sector Innovation

OPSI serves as a global forum for public sector innovation, helping governments to understand, test and embed new ways of doing things through the application of fresh insights, knowledge, tools and connections.

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MBRCGI works to stimulate and enrich the culture of innovation within government through the development of an integrated innovation framework. The goal is for innovation to become one of the key pillars of the UAE government with the aim of developing government operations and enhancing competitiveness to make the UAE one of the most innovative governments around the world.

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Introduction

The OECD Observatory of Public Sector Innovation (OPSI) and the United Arab Emirates (UAE) Mohammed Bin Rashid Centre for Government Innovation (MBRCGI) have spent the last year conducting research and analysis to understand how governments and their partners are innovating to cope with rapid change, increasing complexity and uncertainty, accelerating technological transformation, and ever-increasing demands from citizens, residents and businesses. As part of the MENA-OECD Governance Programme,¹ we have conducted extensive research and held a global Call for Innovations crowdsourcing exercise to surface key innovation efforts² and met with innovation teams from around the world to hear their stories (Figure 1). Many of the cases identified through this work are included in OPSI's public Case Study Platform.³

Figure 1: Crowdsourcing and research to surface trends and cases



Through this work, OPSI and the MBRCGI have found that governments are taking exciting and innovative actions to transform their operations and improve the lives of their people. Throughout 2020, OPSI and the MBRCGI are issuing a series of five report on 2020 trends in public sector innovation,⁴ which will culminate in the launch of the final report at OPSI's two-day virtual event Government After Shock: An unconventional event for unconventional times on 17-18 November 2020.⁵ The trends surfaced for 2020 build upon and demonstrate the evolution of the remarkable efforts detailed in our previous Global Trends series of report.⁶



The first report for 2020, published in July, detailed key themes for innovative responses to the COVID-19 crisis, which continues to unfold and present countless and cascading challenges for government and society.⁷ In September, the second report in the series found that governments grappling with COVID-19 are simultaneously taking working to bring about a *seamless government*, innovating to eliminate points of friction with those they serve, re-imagining the ways that the public sector can collaborate across government and with other sectors, and actively shaping tomorrow's possibilities through action today.⁸ The third report in this series finds that governments are leveraging innovation to broaden their scope with a focus on seg-

1 <https://oe.cd/mena-gov>.

2 <https://oe.cd/innovation2020>.

3 <https://oe.cd/innovations>.

4 Each report is published with an accompanying digital story at <https://trends.oecd-opsi.org>.

5 See <https://gov-after-shock.oecd-opsi.org>. All innovators are invited to participate.

6 The reports for 2017-19 are available at <https://oe.cd/innovationtrends>.

7 See <https://oe.cd/c19-innovation> for the report and <https://oe.cd/covidtracker> for OPSI's COVID-19 Innovative Response Tracker.

8 <https://oe.cd/seamless-gov>.

ments of society often overlooked. Leading innovative efforts in this area cut across key multi-disciplinary agendas such as the Sustainable Development Goals (SDGs), which emphasise the importance of leaving no one behind and represent a collective responsibility and a shared vision for achieving collective objectives by 2030.⁹ The observed innovative efforts match three key themes:



01 : New opportunities for the often neglected

Developing new approaches and creating new beginnings for those who do not fit recognised personas of citizens and residents.



02 : Bridging the rural divide

Recognising the plight and potential of rural communities, which often face major structural challenges, and activating them as agents for innovation.



03 : Accessible and equitable design for public services

Innovating to counteract challenges and poorer outcomes for those with disabilities by designing services that work for *all*.

⁹ See www.oecd.org/gov/pcsd for additional resources regarding Policy Coherence for Sustainable Development (PCSD), including a PCSD Toolkit and a dedicated Portal on Governance and Policy Coherence for the SDGs.

Each of these themes is discussed in this report accompanied by real-world examples and case studies.

Migrant Workers Support Network

CANADA

A platform for migrant workers, employers, government and civil society that collaboratively develops and implements solutions to better protect and support migrant workers.

Barefoot College International

INDIA

A non-governmental organisation working with government to train rural women how to generate electricity from solar power and electrify their villages, resulting in new possibilities and a new way of life for their communities.

Video Chat and Sign Language for Inclusive Services

GEORGIA

A re-imagined emergency services hotline developed in consultations with hearing-impaired residents that leverages video-calling solutions and skilled sign-language interpreters to provide equitable services to a disadvantage population.

OPSI and the MBRCGI celebrate these efforts and hope that they inspire others to take action and replicate successes. Innovations such as those discussed are critical, especially as governments move at breakneck speeds to respond to COVID-19. While progress has been rapid, governments must consider the ways in which both the crisis and their response might reinforce pre-existing challenges and inequities.

As a result of this work, OPSI and the MBRCGI have identified three key recommendations to help guide governments in focusing on the overlooked.

1. Consider root causes and contributing factors in order to develop systems approaches.
2. Involve potentially impacted populations from the design stage through to implementation and iteration.
3. Ensure ethical design in programmes focusing on vulnerable populations.

KEY THEME 01

New opportunities for the often neglected



Governments have made significant progress in building up their innovation agendas and implementing creative policies and services. However, some groups of people often fall through the cracks of even the most well-intentioned initiatives, either because they do not fit common personas and profiles of citizens and residents, or because they have been intentionally side-lined, for example through incarceration. Recent findings show that governments are developing innovative solutions to create new beginnings for these groups of people. In some aspects, these solutions represent an evolution on efforts covered in the 2018 Global Trends report,¹⁰ which focused on “inclusiveness and vulnerable populations” with specific emphases on gender inequality, ageing populations and migration surges. Governments are developing specific and targeted solutions for migrants, homelessness and those in the criminal justice system, in particular. Recent findings also show an increasing degree of sophistication among these innovative approaches. The ongoing COVID-19 crisis has disproportionately affected such vulnerable groups, but also has served as a catalyst for the creation of opportunities, illuminating the greater risks to which they are exposed amid calls for government action.

While the Call for Innovations and the research conducted for this report identified a heightened focus on these areas, it is important to note that innovative efforts seeking to address challenges for other vulnerable or disadvantaged groups continue:

- » In focusing on **gender equality**, we observed the creation of gender equality heat maps in Australia,¹¹ the end of “period poverty” in Scotland through the provision of free menstrual products,¹² data-driven efforts to close the pay gap in the United States,¹³ the development of a tailored mobile app for emergency services for women in Colombia,¹⁴ the promotion of STEM learning for women through gamification in India and UN-led efforts to improve access to justice for women during COVID-19,¹⁵ among others. In addition, promoting gender equality exists as an undercurrent in a number of examples throughout this report, such as the “Barefoot College International” case study.
- » In focusing on **ageing populations**, we observed new ways of leveraging the sharing economy to support elderly citizens in New Taipei,¹⁶ community “salons” to fight loneliness in Japan,¹⁷ the use of technology to combat loneliness among the elderly in Korea, and the creation of “Solidarity Citizen Spots”¹⁸ for government services in homes for the elderly in Portugal,¹⁹ among others.²⁰
- » In **supporting youth**, we observed the innovative “It’s My Turn (to Speak)” engagement card game in Portugal, which has delivered over 400 kits to date;²¹ the Advance Peace programme to stem youth violence in the United States through financial incentives;²² and the United Kingdom’s MH:2K programme to support mental health among youth through innovative engagement methods, with independent evaluations suggesting significant impacts on decision makers, researchers and young people.²³

Although this theme discusses and encourages innovative approaches to helping those in particular need, because the groups discussed in this section can be among the most vulnerable, governments must consider implications related to ethics and privacy with regard to innovative interventions. Overall, the examples discussed are positive, but the same sub-themes could be applied in ways that are more questionable. For instance, in the United States, the Wall Street Journal reported that the government has “bought access to a commercial database that maps the movements of millions of cell phones in America and is using it for immigration and border enforcement” (Tau and Hackman, 2020). These types of applications raise thorny ethical and human rights questions that should be considered in even milder applications.²⁴

10 <https://oe.cd/innovation2018>.

11 www.vic.gov.au/gender-equality-case-studies.

12 https://apolitical.co/solution_article/scotland-end-period-poverty.

13 www.bostonglobe.com/business/2019/04/15/armed-with-data-these-boston-researchers-take-gender-wage-gap/N50b3l8FXkORDG13X2bdPP/story.html.

14 www.barranquilla.gov.co/equidad-y-genero/mi-amiga-una-aplicacion-movil-que-salvara-vidas.

15 www.unwomen.org/en/digital-library/publications/2020/05/justice-for-women-amidst-covid-19.

16 <https://govinsider.asia/smart-gov/new-taipei-sharing-economy-for-elderly-eric-chu>.

17 https://apolitical.co/solution_article/japan-is-fighting-back-against-loneliness-among-the-elderly.

18 www.apin.gov.pt/2020/03/14/promover-a-integracao-e-inclusao-no-atendimento-ao-cidadao.

19 This is an extension of the broader Citizen Spots programme (<https://oe.cd/citizen-spots>).

20 <https://oe.cd/ict-care>.

21 <https://oe.cd/my-turn-to-speak>.

22 www.washingtonpost.com/investigations/in-sacramento-trying-to-stop-a-killing-before-it-happens.

23 <https://oe.cd/mh2k>.

24 See <https://edri.org/the-human-rights-impacts-of-migration-control-technologies> and www.researchgate.net/publication/337780154_Technology_on_the_margins_AI_and_global_migration_management_from_a_human_rights_perspective for interesting discussions and research on the human rights impacts of migration control technologies.



Spain's "Sustainability and Social Responsibility Strategic Plan" provides an example of how governments can approach these issues. Developed by the Agency for Data Protection, the plan incorporates specific provisions to protect the private and ethical treatment of disadvantaged groups, and includes a number of citizen-oriented initiatives to address challenges for vulnerable groups, such as a code of ethics and web resources to help protect the privacy of victims of gender-based violence.²⁵ Similarly, the "Mind the Five" guidelines can help governments think through processes and implications of innovative applications (Box 1). In addition, the OPSI's *Hello, World: Artificial Intelligence and its Use in the Public Sector* provides in-depth analysis and guidance related to AI and automated decisions-making.²⁶

Box 1: Mind the Five: privacy guidelines for humanitarian work with vulnerable populations

1. **Exercise prudence.** Limit the collection of personal information; include only information that is necessary.
2. **Protect and secure information from and about migrants.** Pay attention to mitigating risks from both technological and human factors.
3. **Provide training.** Ensure that volunteers and staff are aware and trained regarding privacy and security-related protocols. Empower migrants to be more privacy aware.
4. **Share-alike.** Work with collaborators and partners to improve privacy and security practices, based on ongoing evaluation and refinement.
5. **Practice non-discrimination.** Provide humanitarian services to everybody, including those who prefer not to share their personal information.

Source: www.researchgate.net/publication/337213692_Mind_the_Five_Guidelines_for_Data_Privacy_and_Security_in_Humanitarian_Work_With_Undocumented_Migrants_and_Other_Vulnerable_Populations.

Supportive solutions for migrants and refugees

The Sustainable Development Goals (SDGs) include 34 indicators relevant to migration,²⁷ signalling its importance on the global agenda and international commitment to improving outcomes in this area. Migration rates, although temporarily slowed due to COVID-19, have been increasing steadily in OECD countries (OECD, 2020a), with asylum request backlogs building over this period (OECD, 2020b). Managing migration flows and integration is one of the most sensitive and complex policy issues facing governments. Policy decisions in this area are often magnets for controversy, and migration issues rank high among people's concerns. Conversely, migrants face significant challenges and are "used as a scapegoat for unrelated problems or fears" (OECD, 2020a). A common public perception is that migration is uncontrolled and costly, and that immigrants take jobs from native workers or claim social benefits. OECD work has found little evidence to support these views. Migration, if well managed, can bring economic and social benefits to destination and origin countries. Many governments are increasingly recognising the value that migrants can bring and are creating innovative programmes to help provide them with support and opportunities in their new communities.²⁸

Many migrants move to new countries in pursuit of better lives and economic opportunities, and to contribute in new ways. In many respects, things are going well. Migrants' employment prospects have been trending positively, with unemployment rates below 9% on average (OECD, 2020a). However, migrants' skills are often not fully utilised in the labour markets of destination countries, and close to 8 million migrants with tertiary education in OECD countries are working in low and medium-skilled jobs (OECD, 2015a). This, in part, can be caused by a lack of services that help migrants establish themselves in their new environment, although some governments have developed innovative programmes to help migrants build prosperous lives in their new homes. One such example is Canada's Migrant Worker Support Network (see case study).

While some move to new countries seeking better opportunities, vast numbers are forced from their homes due to conflict,

²⁵ www.aepd.es/es.

²⁶ <https://oe.cd/helloworld>.

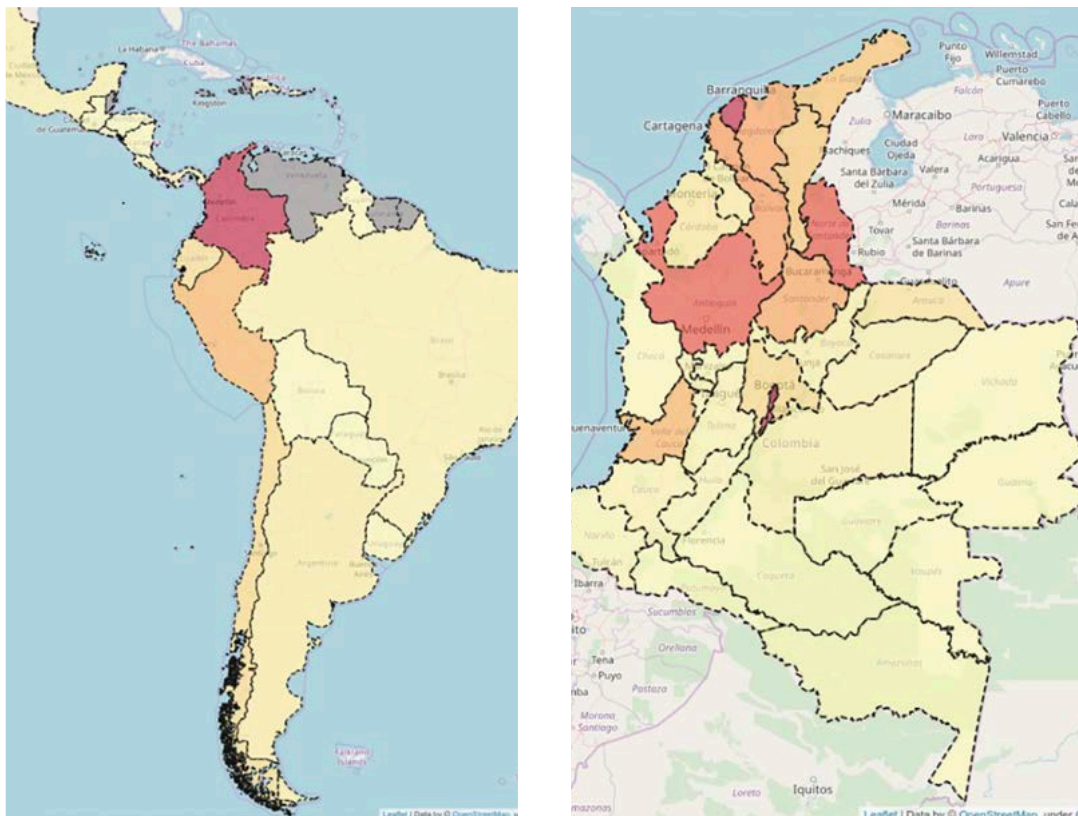
²⁷ www.un.org/en/development/desa/population/migration/events/coordination/16/documents/presentations/6b%20-%20Chen%20SDG%20indicators.pdf.

²⁸ Many, but not all, of the innovation examples uncovered through OPSI and MBRCGI's research involve innovative applications of technology. Further information can be found in *Crossing the Digital Divide: Applying technology to the global refugee crisis*, recently published by the RAND Corporation, which provides relevant research, findings and recommendations specific to migration issues. See www.rand.org/pubs/research_reports/RR4322.html.

disaster or other factors. As of 2018, 70 million people were forcibly displaced (OECD, 2017). In response, governments and their partners have devised innovative solutions to help alleviate pressure and pain for current and future refugees, asylum seekers, and other displaced individuals and families.

The first step in delivering these solutions is to gain an understanding of migration patterns and the people themselves. Such information enables government and civil society organisations to deliver tailored and timely services to those who need it, and to obtain insights into how future emergencies could unfold with a view to proactive planning. Innovative data practices play an important role in acquiring up-to-date information on migration situations, which can unfold rapidly.²⁹ For example, in 2017, when Hurricane Maria struck Puerto Rico, killing 3 000 people and forcing over 400 000 off the island, Data analytics company Teralytics used anonymised mobile phone data to map migration flows to identify how many people left, where they went and whether they subsequently returned (Leger, 2019). Swiss NGO Medair took a more hands-on approach, conducting conversations to identify, geo-tag and map thousands of unofficial Syrian refugee settlements in Lebanon (Sewell, 2019). Likewise, ongoing crises in Venezuela have contributed to massive out-migration. However, a lack of understanding of the numbers and characteristics of refugees, and where they head, has limited response efforts (Palotti et al., 2020). Researchers have devised novel ways of using Facebook's advertising platform to count and map the diaspora of refugees from Venezuela, providing details at both the national and community level (Figure 2).

Figure 2: Mapping Venezuelan refugees using Facebook, national and community levels



Source: Palotti et al. (2020).

29 For additional research and case studies on data analytics approaches, see Guide to Mobile Data Analytics in Refugee Scenarios at <https://link.springer.com/book/10.1007/978-3-030-12554-7>, and Human Migration: the big data perspective at <https://link.springer.com/article/10.1007/s41060-020-00213-5>.

Once governments understand migration flows, they can better prepare for the integration process. Very recently, refugee inflows have decreased, and as a result, policy attention has shifted to integration efforts, such as through community placement, language skills, courses on civic values and norms, and employment (OECD, 2020a). Initiatives such as Portugal's Refugee Welcome Kit³⁰ can help ease the transition for refugees, and the country even offers a free "Telephone Translation Service"³¹ for those unable to speak the local language. As with tracking flows, innovative data analytics practices have also played a helpful role. The Swiss government has held pilot projects on using artificial intelligence (AI) algorithms to determine the optimal community for an individual's integration, taking into consideration employment prospects, by factoring in a number of variables (e.g. age, country of origin, languages spoken) (The Local, 2018). In the United States, an algorithm named Annie MOORE (Matching for Outcome Optimization and Refugee Empowerment)³² has been deployed to identify communities most likely to maximise refugees' odds of being employed, resulting in outcomes at least 30% better than manual placement.³³

A leading theme observed for innovative initiatives that promote integration is support for employment opportunities. A powerful example is the European Qualifications Passport for Refugees (Box 2).

Box 2: European Qualifications Passport for Refugees

Thousands of refugees lack the ability to prove they have earned degrees and other qualifications, leaving them disadvantaged and their skills underutilised in their new home countries. The European Qualifications Passport for Refugees is an innovative assessment process and resulting document that demonstrates proof of these qualifications, helping refugees to access education and employment. The passport allows them to prove credentials from one country inside or outside of Europe, which are then accepted by other European states. The programme involves expert credential evaluators with experience in foreign qualifications and education systems that work closely with refugees to understand and document their experience and qualifications. Based on this information, they are able to create qualifications passports, which can eliminate unnecessary and repeated further assessments in European countries. As refugees may move from one country to another, a portable document that is accepted across Europe is vital.

An initial pilot in Greece had 92 applicants of which 73 had successful outcomes. A second pilot involving additional countries is operating throughout 2020. By the end of 2019, 438 passports had been issued, helping refugees to obtain a new start in life. Many of these refugees have gone on to be accepted into new university programmes or to find new employment opportunities that align with their qualifications.



Source: <https://oe.cd/quals-passport>, www.coe.int/eqpr.

30 The Kit includes a welcome guide, a common expressions booklet, a basic dictionary, online resources for learning and speaking Portuguese, a welcoming video, and online info about Portuguese music, culture, history and society. See www.acm.gov.pt/kitrefugiados.

31 www.acm.gov.pt/pt/-/servico-de-traducao-telefonica.

32 See <https://oe.cd/annie> and www.refugees.ai.

33 See the 2019 trends report (<https://trends2019.oecd-opsi.org>) for a relevant case study on Finding Places in Hamburg, Germany. The initiative used immersive technology to use residents' personal experiences and local knowledge to help solve the city's housing crisis for a growing number of refugees.

While national and even international government efforts are critical, it is important to recognise that migrants live in communities (and largely, urban cities) (Policy Forum, 2019),³⁴ and that the most impactful innovations often occur at the community level. Here are a few examples:

- » Barcelona’s “anti-rumours programme” constructs counter-narratives to myths about migrants. About 3 000 anti-rumour agents have been trained to bust anti-migrant myths, and more than 400 NGOs have been trained and subsidised to develop anti-rumour initiatives to improve communication about migration (OECD, 2018).
- » Schweinfurt, Germany’s SoulTalk programme, provides refugees with counselling and psychoeducation support from trained fellow refugees in order to improve their mental health (Bathke, 2019).

The COVID-19 crisis has made supporting migrants all the more urgent.³⁵ Its consequences are affecting the forcibly displaced disproportionately and may be aggravated by pre-existing structural weaknesses (OECD, 2020c). Previous crises suggest that challenges associated with the COVID-19 pandemic may have long-lasting negative effects on migrants unless appropriate support measures are put in place (OECD, 2020b). A focus on innovating to address these issues was noticeably absent in COVID-19 responses (OECD, 2020d).³⁶ However, the need for innovative interventions is clear. In recent months, governments have developed innovative programmes aimed at these populations, with some examples listed below.

- » Portugal has extended protections and services normally reserved for citizens and permanent residents (e.g. bank accounts, welfare benefits, health care) to migrants and refugees (Reuters, 2020).
- » The State of California in the United States launched a public-private partnership to co-create the California Immigrant Resilience Fund (CIRF),³⁷ which provides cash assistance to undocumented Californians affected by the COVID-19 pandemic, who may not qualify for government social programmes (Hello Europe, 2020). To date, it has distributed USD 75 million to 150 000 families.
- » New York City (US) announced a partnership with Open Society Foundations to establish the New York City COVID-19 Immigrant Emergency Relief programme, to ensure all New Yorkers, regardless of immigration status, are included in citywide COVID-19 response and relief efforts. Several localities across the world have created funds to help low-income families impacted economically by COVID-19 to pay rent or cover other expenses. Funds created by Austin, Texas and Washington, DC in the United States specifically prioritise undocumented families (OECD, 2020d).
- » In Jordan the government has collaborated with UNICEF and ILearn to launch the “My Education in Your Hands” campaign, which seeks to achieve equal access to e-learning for disadvantaged families and refugees, including access to electronic devices such as laptops, tablets and smartphones (Oklah, 2020).

In other cases, additional restrictions have made lives more difficult for migrants. Looking ahead, OPSI and the MBRCGI are witnessing faint signs that COVID-19 may function as an activator of positive change, with the United Nations declaring that “the COVID-19 crisis is an opportunity to reimagine human mobility”.³⁸ However, significant additional effort will be needed in this area to make this declaration a reality.

34 See www.nesta.org.uk/blog/home-away-home-innovations-support-refugee-inclusion-cities for additional discussion of community-focused initiatives.

35 For data-oriented stories and perspectives from groups often absent from the COVID-19 dialogue, including refugees and other migrants, see the multilingual “COVID-19 from the Margins” blog (<https://data-activism.net/blog-covid-19-from-the-margins>).

36 As discussed in the first trends report for 2020 <https://trends.oecd-opsi.org>.

37 www.immigrantfundca.org.

38 www.un.org/en/coronavirus/covid-19-crisis-opportunity-reimagine-human-mobility.

Improving conditions for the homeless

As with migration, the SDGs include a number of indicators related to homelessness, which governments have committed to improving (UN-Habitat, 2018). Homelessness is a complex subject with many facets, including structural factors, systemic failures and individual circumstances. The OECD (2020e) estimates that at least 1% of individuals in OECD countries are homeless. However, it is difficult to measure and compare situations across states, especially as there is no common definition of homelessness. While difficult to fully grasp in terms of scope of the challenge, its damaging consequences are clear. Homelessness drastically affects individual health outcomes, with homeless individuals dying an average of 30 years earlier than the general population, with higher rates of disease, mental illness and substance abuse. The issue also confronts governments with significant challenges, such as high costs for emergency health treatments and shelter provision (OECD, 2020e). OECD work has found that homelessness is the most extreme form of social exclusion and that solutions need to be tailored to the varied needs of homeless individuals and groups (see Box 3 for best practices).

Box 3: Best practices to help tackle homelessness

- » **Collect** homelessness data on a regular basis, integrate diverse data sources and expand the methodological toolbox to obtain a better understanding of the challenges and needs of different homeless populations.
- » **Invest** in homeless prevention, including affordable housing.
- » **Tailor** support to the diverse needs of the homeless population.
- » **Develop** broad-based support for homelessness strategies.
- » **Provide** legal assistance and funding for those at risk of homelessness, in order to reduce evictions and help low-income people participate in safety net programmes.
- » **Facilitate** co-operation among government authorities, as well as with non-governmental actors, to develop and implement tailored local strategies.
- » **Monitor** the effects of interventions to identify the most effective housing and social support and facilitate cross-country learning.

Source: www.oecd.org/social/soc/homelessness-policy-brief-2020.pdf, www.oecd.org/gov/Equal-Access-Justice-Roundtable-back-ground-note.pdf.

Traditional approaches such as health care and temporary accommodation remain the dominant form of support, and they can be successful. However, the Call for Innovations and OECD research have found that many governments are using innovative approaches to address these and other homelessness issues, and applying best practices in new ways. For instance, in the United States, the University of Illinois Hospital & Health Sciences System has built Better Health through Housing.³⁹ This programme transitions chronically homeless patients from the Emergency Room into permanent supportive housing by cultivating a network of supportive housing providers representing thousands of apartments dispersed throughout Chicago. Healthcare utilisation and costs dropped 45% on average for those who benefited from the programme. In Los Angeles, which has the worst homelessness rate in the United States, compounded by a high number of prison inmates with mental illnesses, the city is innovating to end the vicious cycle between homelessness and incarceration. A new Diversion and Re-entry housing court diverts some homeless individuals with mental illness from prison and into health treatment centres to address underlying issues (Westervelt, 2020).

As with migrants, an important first step is to identify homeless populations and their needs in order to better tailor services. The United Kingdom's Alan Turing Institute⁴⁰ and homelessness charity StreetLink have developed machine learning algorithms to analyse and prioritise reports of homeless individuals, and consider the urgency of response needs, in order to make decisions about sending teams to provide assistance (Darrah, 2019). The algorithm increased the rate of found homeless

39 See <https://oe.cd/better-health-housing> and <https://hospital.uillinois.edu/about-ui-health/community-commitment/better-health-through-housing>.

40 The Alan Turing Institute is the United Kingdom's national institute for data science and artificial intelligence (www.turing.ac.uk). See OPSI's report *Hello, World: Artificial Intelligence and its Use in the Public Sector* an in-depth case study on its Public Policy Programme (<https://oe.cd/helloworld>).

persons by 18% compared with traditional methods and reduced the time needed.⁴¹ In Colombia, the City of Bogotá's "Blue Angels" programme employs 700 people who patrol the streets 24 hour a day to identify homeless individuals and help them obtain recovery assistance in care centres, which provide food, housing, counselling and support workshops. The city's recently launched Blue Angels App, which allows citizens to report urgent conditions for the homeless and send GPS information, has helped over 700 people, and is also used as a case response and management platform for Blue Angels and care workers.⁴²

Communities have also developed new ways to obtain and provide financial assistance to keep up with changing times. As economies become more cashless, a number of governments have provided the means to allow people to donate money through contactless card payments. For example, TAP London,⁴³ a partnership with the Mayor of London, has installed 100 contactless giving points across the city, enabling Londoners to give a GBP 3 donation to support local homelessness charities (see Figure 3). The initiative has already resulted in combined donations totalling over EUR 50 000 (equivalent) to homeless charities. Similar efforts are now underway in Bath and Bristol, UK (Hutt, 2020a). Such initiatives have strong potential for growth and diffusion, as contactless interactions have been emphasised throughout the COVID-19 pandemic.

Figure 3: Mayor of London Sadiq Khan taps contactless giving point



Source: <https://oe.cd/tap>

Governments and their partners have also developed new ways of relaying critical information to those without permanent residences. Across Stockholm, Sweden, digital billboards and kiosks usually used for advertising automatically display maps and details about nearby homeless shelters on cold winter nights (Stinson, 2019). In Los Angeles, local non-profit People Assisting the Homeless (PATH) has launched the application Lease Up,⁴⁴ which provides a mapped and searchable directory of available housing options, similar to a real estate website, that case workers can use to find homes quickly (Peters, 2018).

Services are not only being designed for the homeless, but also with them. In the United Kingdom, the Birmingham City Council has designed and built "USE-IT!" (Unlocking Social & Economic Innovation Together)⁴⁵ as a whole neighbourhood approach, including individuals who have experienced homelessness, to addressing urban poverty. It innovates by building bridges between the "micro" and "macro" – places, people, the public sector, the private sector and civic society partners – within a community to co-produce solutions (see Figure 4). Its programme "strands" include community research, skills matching, economic development and exploring uses for community assets (e.g. underutilised buildings, vacant lots). External evaluators have forecast that the initiative will contribute over EUR 27 000 to the local economy through economic improvements. In Austin, Texas, the

41 See <https://github.com/alan-turing-institute/DSSG19-HomelessLink-PUBLIC> for related documentation and the open source code.

42 Details on the Blue Angels App were submitted as part of the Call for Innovations.

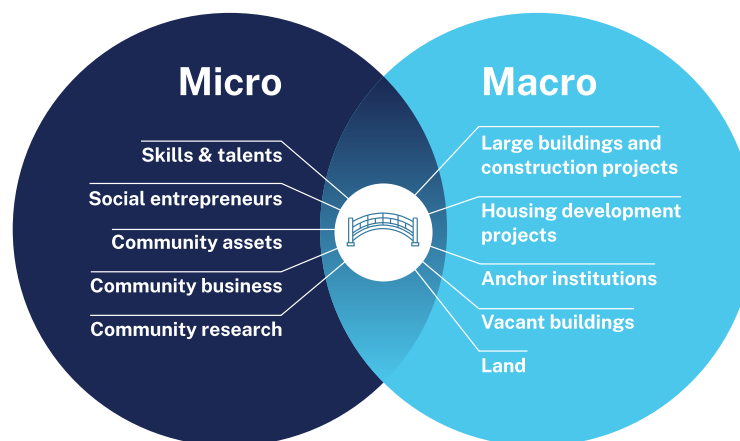
43 See <https://oe.cd/tap> and www.taplondon.org.

44 <https://leaseuplosangeles.org>.

45 See <https://oe.cd/use-it> and <https://useitua.co.uk>.

Austin Homelessness Advisory Council (AHAC),⁴⁶ a group of 15 individuals with lived experience with homelessness, meets every two weeks to provide input on issues impacting homeless individuals, which influence local government decisions. OPSI and the MBRCGI have found that these types of programmes, which involve intended beneficiaries, are the most likely to have significant and positive impact.

Figure 4: USE-IT! bridges between micro and macro assets



Source: <https://oe.cd/use-it>.

While many cities have established dedicated initiatives targeting homelessness, a few have built missions around eradicating homelessness entirely. Mission-oriented innovation is one of four primary facets to public sector innovation, and involves setting a clear outcome and overarching objective for achieving a specific mission, often with backing from the most senior leaders in government.⁴⁷ The City of Rockford, Illinois in the United States exemplifies this approach and has become the first city in the country to achieve “functional zero” homelessness. The city achieved this goal by identifying homeless individuals and working with them one-on-one (often through texting and Facebook Messenger) to create tailored solutions using co-ordinated government services. It ensured public accountability by publishing reports and outcomes data on a regular basis. The work was undertaken as part of the Built for Zero collaborative, which features 80 other communities.⁴⁸ Adelaide, Australia has launched the country’s first mission of achieving functional zero homelessness (Draudins, 2020a, 2020b), collaboratively developing an action plan to achieve this goal by the end of 2020 through targeted and tailored activities.⁴⁹ Such efforts often leverage innovative systems approaches to effect holistic change.⁵⁰

In order to achieve zero homelessness, communities must identify ways to prevent homeless in the first place. For the most part, the innovative projects identified for this report focused largely on working with people who have already entered the cycle of homelessness. Very few focused on up-front prevention, such as helping to prevent evictions, which are a leading cause of homelessness (JGP, 2019). Tenants often lack information about their legal rights and have no legal representation. In this respect, OECD (2015b) work and other studies (Abel, 2012) have shown that legal aid funding can save public funds by reducing evictions and alleviating homelessness. Many communities have put in place temporary eviction moratoriums during the COVID-19 pandemic, but research points to the likelihood of an “eviction cliff”, with the potential for a massive wave of evictions once these moratoriums end. Additional action in this area is therefore needed. One interesting model is the Justice By Design

46 See www.austintexas.gov/department/resources-those-experiencing-homelessness. Homelessness efforts in Austin have also involved the city’s Office of Design & Delivery, which has grown to include over 25 experts in service design, interaction design, content strategy, web development and agile product management (see <https://oe.cd/austin-design> and <http://odd.austintexas.io>).

47 See <https://oe.cd/innovationfacets> for more information on mission-oriented innovation as well as the other three facets of innovation: enhancement-oriented innovation, adaptive innovation and anticipatory innovation.

48 www.joinbuiltforzero.org.

49 <https://dunstan.org.au/adelaide-commits-to-functional-zero-homelessness-by-2020>.

50 See <https://oe.cd/opsi-sys-approaches>.

+ Eviction lab, a cross-sector partnership project spearheaded by the National League of Cities⁵¹ in the United States.⁵² The lab applies years of research on evictions to the development of innovative solutions with a view to preventing evictions, including through programmes to provide targeted legal information as well as legal aid to those who need it.

Finally, as discussed earlier in relation to migrants, the COVID-19 crisis has served to underscore the needs for innovative services to assist the homeless, who are disproportionately impacted by the crisis and have no or limited means of isolating and protecting themselves from infection (OECD, 2020d). Australian publication *The Mandarin*⁵³ has covered many aspects of homelessness in relation to COVID-19, including how the pandemic has exacerbated linked unemployment and homelessness challenges,⁵⁴ the difficulties of self-isolation⁵⁵ and how the crisis could be a catalyst for ending homelessness once and for all.⁵⁶ Governments at both the national and sub-national levels have developed creative solutions to address this issue. For instance, cities around the world have worked with hotel chains to provide immediate accommodation and moratoriums on evictions in the near term (Flatau et al., 2020; Hutt, 2020b). Slovakia even developed a “quarantine town” to provide housing and support to the homeless for the duration of the crisis (OECD, 2020d). Ireland has been a leader in devising these types of short-term solutions for the most vulnerable.⁵⁷ However, most of these solutions are temporary, which will not be enough, as the pandemic has increased the rate of homelessness in many countries due to factors such as an increase in unemployment. While short-term efforts have had some success, and some organisations and governments appear to be actively seeking long-term solutions and innovative ways to address systemic homelessness challenges,⁵⁸ these have not yet borne fruit. The Framework for an Equitable COVID-19 Homelessness Response,⁵⁹ produced by a coalition of organisations working in this area, can help government think through short-term and long-term needs and actions. The OECD’s recommendations for building better communities during the current crisis can also help provide guidance in this regard (Box 4).

Box 4: Selected recommendations for building inclusive communities

- » Provide efficient social and community services (e.g. health care and home care) for disadvantaged groups, for example through the design and implementation of ambitious social innovation strategies and the repurposing of empty buildings.
- » Ensure that those at risk of being left behind are targeted with customised employment and activation programmes which are adaptable, relevant, flexible and responsive to the new needs of the local labour market after the crisis.
- » Take measures to adjust housing quantity, quality and affordability to the variety of housing needs, with a view to promoting social cohesion and integration with sustainable transport modes.

Source: www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff.



⁵¹ www.nlc.org.

⁵² In partnership with the Stanford Legal Design Lab and the Law and Policy Lab. See <https://law.stanford.edu/education/only-at-sls/law-policy-lab/practi-cums-2019-2020/justice-by-design-eviction-debt-collection-806y> for details.

⁵³ www.themandarin.com.au.

⁵⁴ www.themandarin.com.au/136555-charity-calls-on-governments-to-invest-in-500000-new-social-and-affordable-homes-by-2030.

⁵⁵ www.themandarin.com.au/128739-this-is-how-cities-are-helping-homeless-people-self-isolate.

⁵⁶ www.themandarin.com.au/136185-the-briefing-will-covid-19-eliminate-rough-sleeping-homelessness.

⁵⁷ www.lse.ac.uk/united-states/Assets/Documents/Harm-Reduction-in-the-time-of-COVID19.pdf.

⁵⁸ www.uia-initiative.eu/en/news/engaging-cities-reject-housing-exclusion-fact-life. www.funderstogether.org/covid_19_response_and_recovery_recommendations_for_philanthropy. <https://probonoaustralia.com.au/news/2020/04/we-cant-go-back-to-the-way-things-were-covid-19-shifts-homelessness-response>.

⁵⁹ <https://endhomelessness.org/wp-content/uploads/2020/04/COVID-Framework-4.29.2020-1.pdf>.

New approaches to rehabilitation

Finally, focusing on the overlooked requires rethinking rehabilitation practices for those in the criminal justice system.⁶⁰ The 2019 trends report⁶¹ began exploring this issue with its case study on Clear My Record,⁶² which can help keep people out of prison and has assisted tens of thousands of people. Relevant OECD work from 2016 also found that a number of countries have established “problem-solving” courts, which used the authority attached to courts to focus on the problems faced by defendants and structural issues within the justice system (e.g. jail and prison overcrowding). The initiative diverted some offenders away from prisons and helped both offenders and victims obtain holistic support from community groups and service providers (OECD, 2016). The underlying principles for this “problem-solving” approach remain valid and could support innovative reform efforts to achieve better outcomes for offenders, victims and, through cost savings, the public sector (Box 5).

Box 5: Problem-solving principles

- » **Establish creative partnerships** across agencies, service providers and community organisations.
- » **Use a team approach** where all parties unite behind the goal of rehabilitation.
- » **Encourage judicial interaction** where judges take an active role in fostering dialogue and interacting with the defendant.
- » **Implement judicial monitoring** where judges remain involved even post-adjudication, and defendants provide ongoing status updates with the problem-solving team.
- » **Promote informed decision making** that takes into account the underlying causes of criminal activity by educating judges on these issues.
- » **Tailor approaches** to the specific needs of each case.
- » **Ensure accountability** through regular check-ups and hold offenders accountable for non-compliance with treatment programmes.
- » **Focus on results** through measuring and assessing the effects of case processing on victims, offenders and communities.

Source: www.oecd-ilibrary.org/governance/northern-ireland-united-kingdom-implementing-joined-up-governance-for-a-common-purpose_9789264260016-en.

Recent OECD research from 2020 shows that governments are also innovating new approaches to rehabilitation to achieve better outcomes for those in prison. This process can prove challenging as these individuals are already caught in a cycle which can be difficult to break. Across the world, there are over 10 million individuals in prison (about 3.5 million in OECD countries), with high rates of recidivism in many countries resulting in cycles of reimprisonment.⁶³ Signals of reform are somewhat weaker in this area than in others discussed here, but unfolding current events relating to policing and access to justice hint at major criminal justice changes in the coming years.

Technology has been the key driver in new approaches to rehabilitation, with efforts being made to foster close connections between those in prison and their loved ones. Research shows that prisoners who maintain these ties experience lower rates of re-offending (Friedmann, 2014). One example of such an approach is in Fiji, where a partnership involving the government, an NGO and international organisations (EU, UNDP) has placed videoconferencing equipment in prisons that now connect prisoners with families around the world as a way to supplement in-person visits (UNDP Pacific Office, 2020). Singapore has developed a sophisticated programme for prison reform, which seeks to achieve this and other goals (see Box 6). Such efforts are of particular importance during the COVID-19 pandemic, which imposes distancing measures and raises critical questions about mass incarceration and the associated public health consequences (Stillman, 2020).

⁶⁰ In addition to the discussion in this report, see www.oecd.org/gov/access-to-justice.htm for publications and other resources from the OECD Public Governance Directorate (GOV) Access to Justice team.

⁶¹ <https://trends2019.oecd-opsi.org>.

⁶² Created by Code for America, in collaboration with the California District Attorney offices, Clear My Record is a programme that applies an open-source algorithm to clear individuals' criminal records for activities that were once illegal but are now permitted, helping them to better access jobs and housing.

⁶³ See www.prisonstudies.org/world-prison-brief-data.



Box 6: Singapore's use of tech for rehabilitation

The Singapore Prison Service (SPS) is working to use technology to automate processes, increase efficiency and shift the focus away from rules enforcement to rehabilitation in order to promote successful re-integration after release. The SPS has launched the “Prisons Without Guards” programme, which includes several tech-enabled initiatives including the use of video analytics to detect abnormal activities in cells, cashless payments using wristbands and self-service kiosks where prisoners can submit administrative requests.

An additional initiative is the Digitalisation of Inmate Rehabilitation & Corrections Tool (DIRECT) programme, where individuals in prison can, under supervision, access digital tablets that allow them to virtually communicate with loved ones. Prisons Service officials have reported significant increases in family contact for participants and records show an 88% increase in the number of pieces of family correspondence, which research shows can result in better outcomes and reduced recidivism. In addition, the reduction in physical mail reduces the potential for smuggling in of banned items. Besides personal contact, the initiative helps prisoners participate in educational programmes and pursue diplomas to further strengthen their chances for future success.

Source: <https://oe.cd/quals-passport>, www.coe.int/eqpr.

An additional area of emphasis is education programmes, which have been shown to reduce recidivism by 43% (Davis et al., 2013). In the US state of Illinois, a new 2020 law mandates civics education to ensure individuals understand their rights and how government works in order to help them successfully reintegrate into society (Coleman, 2019). Classes are taught by peer educators who are also incarcerated and have been specially trained by an NGO. Similar classes are held in Florida and Texas. In the United Kingdom, the University of Cambridge's innovative Learning Together⁶⁴ programme brings together prisoners and other members of society for educational courses on criminology led by professors. The programme can benefit both traditional students and inmates through an exchange of perspectives and knowledge. In Ireland, the new Public Service Innovation Fund⁶⁵ also focuses on this area. One of the first funded projects was a collaboration between an Irish university and a prison which aimed to promote better reintegration in society through education. The country has developed an innovative course curriculum, with classes on topics such as money management and crime awareness to help individuals better adapt after going home.⁶⁶ Finally, the European Commission has encouraged teachers work in new prison education programmes through its Electronic Platform for Adult Learning in Europe.⁶⁷

64 www.cctl.cam.ac.uk/tlif/learning-together. See <https://theconversation.com/im-an-ex-prisoner-and-education-behind-bars-saved-my-life-129048> for a testimonial on this programme from a former prisoner.

65 <https://oe.cd/ie-inno-fund>.

66 https://coebank.org/media/documents/Doing_More_with_Less_Prisoner_Rehabilitation_in_Ireland.pdf.

67 <https://epale.ec.europa.eu/en/blog/why-fe-teachers-should-consider-working-prisons>.

A person wearing a red jacket and a blue cap is bent over, working in a field of green plants. The background is a dense field of similar green foliage.

Migrant Worker Support Network

Canada

Canada has an obligation to protect and inform migrant workers of their rights while in Canada and to help employers comply with the conditions of the Temporary Foreign Worker Program. To this end, the country launched the Migrant Worker Support Network,⁶⁸ a collaborative and migrant worker-informed platform for migrant workers, employers, government offices and civil society organisations that aims to develop and implement solutions to better protect and support migrant workers in Canada. The Network benefits members by providing an open, horizontal forum for them to share their unique perspectives, issues and solutions at the forefront of policy making and community-based action.

The problem

In contrast to the rest of Canada's workforce, temporary foreign workers often face a number of obstacles: lack of access to accurate information or community and social supports, language barriers and geographical isolation. These challenges are exacerbated by migrant workers' fear of reprisal in situations where they exercise their rights. Several studies and reports –including an Auditor General's report–raised major concerns about the protection of these workers.⁶⁹ They included issues related to migrant workers being mistreated and abused, which highlighted the need for better enforcement, stronger understanding of the rules among employers, and improved education and empowerment of migrant workers to help them understand and exercise their rights.

An innovative solution

In order to address these issues, the Government of Canada launched the Migrant Worker Support Network (MWSN) in late 2018 “to establish, on a pilot basis, a network of support organisations for temporary foreign workers dealing with potential abuse by their employers”. The primary goals of the Network⁷⁰ are to:

- » Provide consistent and accurate information to migrant workers and employers on employee rights and protections
- » Strengthen the relationships between government and community organisations, employers, employees, and other organisations and individuals that work in the area of migrant worker protection
- » Build migrant workers' trust in a wide variety of organisations
- » Promote collaboration and information exchange in the area of migrant worker protection
- » Identify information and service gaps for supporting migrant workers
- » Provide collaborative advice and guidance to Network partners on relevant issues.

The first MWSN was launched in the province of British Columbia. It provides an inclusive platform for migrant workers, employers, government representatives and civil society organisations to develop solutions that address key challenges. Likewise, its members seek to better support employers in complying with worker programme rules. Network members collaborate in working groups that meet regularly to develop policy, funding and community action recommendations based on the lived experiences faced by migrant workers in exercising their rights. Some early topics focused on education, access to services, and preventing and responding to mistreatment and emergencies. Members hold quarterly “plenary” meetings where they discuss new initiatives, share best practices and vote to implement working group recommendations. Each meeting begins with migrant workers voicing their experiences and discussing how the MWSN can better empower this group. Language interpretation is provided and meetings are organised at times convenient for workers.

⁶⁹ <https://migrantworkerhub.ca/about/migrant-support-network>.

⁷⁰ Ibid.

A number of non-profit organisations are in the process of implementing government-funded projects to provide information and resources to migrant workers about their rights. Some work with community organisations to help implement community-based activities which address issues that emerged through the Network.



The design of the Network was informed by an extensive six-month development phase led by the Government of Canada in consultation with key stakeholders who play a role in migrant worker protections. They included migrant workers, civil society organisations, Canadian and foreign government agencies, academics and legal professionals, labour organisations and employers, among others. During this phase, these stakeholders collaborated to identify gaps and barriers in migrant worker protections and employer education, and to construct the Network's governance model.

While still in its early stages, the Network helps to include the voices of migrant workers and other relevant stakeholders in policy-making discussions. The Network's unique funding model encourages non-profit organisations to forge partnerships and enhance the knowledge and capacity of smaller organisations in order to meet the needs of migrant workers and employers. This in turn builds trust and capacity among all members, and particularly between migrant worker and employer communities. In turn, the Network works to prevent mistreatment through employer education and helps workers experiencing wrongdoing in the workplace to exercise their rights through a network of support organisations.

Based on the success of the initial pilot, the Government of Canada has extended the pilot and increased the level of funding (Government of Canada, 2020). New pilots are being launched for home child care providers and home support workers, in part, aimed at assisting workers during the COVID-19 pandemic. Funding has been allocated specifically to educate migrant workers on how to protect themselves from the virus (Government of Canada, 2020).⁷¹

Efforts such as the Network are crucial to achieving SDG targets on migration, including target 8.8: "Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment", under SDG 8 (decent work and economic growth).

⁷¹ <https://migrantworkerhub.ca/about/migrant-support-network>.

Novelty

The Network incorporates multi-sectoral collaboration and bottom-up decision making into its activities to improve policies, programmes and activities that impact the lives of migrant workers. Migrant workers and their representatives inform Network members about how services and resources can better respond to their unique needs and empower them to exercise their rights. Network members then draw on their expertise and sectoral perspectives to share ideas and develop solutions that address the problems in ways that leverage the skills and resources of each member. This process builds consensus and solutions that are more holistic, client-centred and needs-based, and differs from the traditional top-down consultation process where service users are consulted after a policy idea is proposed.

Results and impact

The MWSN provides a platform for migrant workers' voices and incorporates their experiences into the development of policies and initiatives so that they can better support and protect them. It also gives government actors and non-governmental stakeholders the ability to leverage each other's resources and expertise to streamline processes, reduce duplication of efforts, and build trust across sectoral lines in order to respond comprehensively to the needs of migrant workers and employers.

Expected results include:

- » Reports of employer wrongdoing from migrant workers (and their representatives) will increase due to better awareness of key rights and how to exercise them. This will lead to increased trust in government authorities.
- » Government policies, programmes and services that impact migrant workers and their employers will be better tailored to address their lived realities and needs.
- » Civil society organisations will become more knowledgeable and better equipped financially to provide resources and services to assist migrant workers with social, employment and legal needs.

Challenges and lessons learned

A key challenge was building consensus between Network members who hold adversarial or conflicting perspectives, particularly migrant workers and employers. This challenge was addressed by building opportunities into Network meetings for both parties to discuss their concerns as well as their complementary goals in order to identify solutions that address both sets of needs. Creating spaces where members with opposing views have to collaborate to solve problems has helped MWSN foster trust and build consensus.

MWSN staff also found that the language barrier was a challenge. Interpretation support was not provided for meetings in the early stages, due to a lack of impartiality. As a result, migrant worker participants had to rely on interpretation provided by other Network members, which resulted in difficulties and raised the issue of biased or incorrect information. This problem was addressed by hiring interpreters for all future meetings to provide impartial interpretation to migrant workers in their preferred language.

MSWN staff noted that a key condition for success has been strong leadership and guidance from both a central co-ordination standpoint, as well as in each stakeholder group. The diversity of views and perspectives presented in meetings makes a strong leader and facilitator a prerequisite to direct Network activities, motivate actors, and mediate sometimes tense and confrontational discussions. Adequate human and financial resources are also needed to host, co-ordinate and facilitate meetings as well as to finance projects recommended by the Network.

Network staff also highlighted the importance of including stakeholders in the design phase, as this encourages buy-in and support, and results in a better, more informed product. Finally, the MSWN requires the commitment and motivation of each member to empower migrant workers to learn about and exercise their rights while in Canada. This is the central principle upon which the Migrant Worker Support Network was founded.

Replicability

The bottom-up, multi-stakeholder approach can be replicated by other countries, organisations and networks interested in developing solutions to address a particular issue through a client-centred approach. Network staff advise future users to consider regional variations and scope before replicating this innovation. For instance, a national Network may face challenges in recommending a broad solution to issues that may have significant regional or local variations.

KEY THEME 02

Bridging the urban-rural divide



Inequalities remain a concern for countries around the world, with a growing divide between urban cities and rural communities (OECD, 2019a).⁷² While 45% of the world's population lives in rural areas,⁷³ urbanisation trends have starved rural communities of resources and attention in public policy. These areas face major structural challenges and their residents often report feeling left behind. OECD work has found that embracing innovation is key to mobilising growth potential and promoting well-being for rural dwellers, and that “generating hope and opportunity for rural communities ... is important to the future growth and cohesion of OECD countries” (OECD, 2019a).⁷⁴ Innovative governments are recognising both the plight and potential of their rural communities, and are taking action to develop tailored solutions and to activate rural communities as agents for innovation.

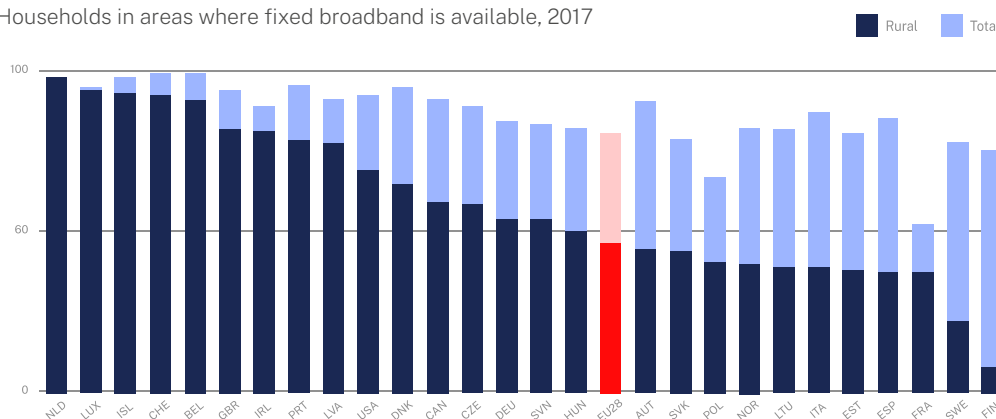
Specialised solutions for rural challenges

Rural areas face unique challenges. Lower population density and longer distances between communities can make infrastructure and service provision costly and more difficult. However, low density is not necessarily an impediment to well-being and productivity, but it does require creative approaches in order to ensure equity with urban areas.

A key trend observed by OPSI and the MRRCGI involves the use of innovative techniques to provide equal access to resources and services that urban dwellers may take for granted. Examples of targeted actions include Portugal's Mobile Citizen Spots –minivans that provide government services in remote areas.⁷⁵ In many cases, broader efforts to level the playing field are needed. Fast and reliable Internet connections have become a necessary part of life; however, in 2017, the OECD (2019b) found that only 59% of rural households had access to fast and stable Internet connections among OECD countries, largely because the private sector lacks incentives to service these areas (Figure 5). Rates are even lower among developing countries (GOV.UK, 2018).

Although the digital divide is closing, more must be done to ensure rural communities are able to participate in the modern economy and society. In Spain, the government-funded Red.es “Connected Schools Programme” is coupling the rolling out of ultra-fast broadband to over 15 000 education centres with the introduction of innovative teaching methods and training for students in digital skills.⁷⁶ In the United States, over 100 co-operatives originally created to provide electricity and telephone services to rural areas during the Great Depression have been creatively repurposed to build rural fibre optic networks, often with government funds and backing, to connect tens of thousands of people (Rivero, 2020). Similarly, but at a smaller scale, the United Kingdom's Broadband for the Rural North (B4RN, pronounced “barn”) is a community enterprise that has built a sophisticated Internet network providing some of the fastest connections in the country (Allmann, 2020). While the latter initiatives are not government led, the public sector can play a strong role in funding and supporting community mobilisation, as the UK has done through its 2019 guidance on delivering community-led broadband infrastructure,⁷⁷ which featured B4RN as a case study.

Figure 5: Households in areas where fixed broadband is available, 2017



Source: www.oecd.org/publications/measuring-the-digital-transformation-9789264311992-en.htm.

72 The OECD conducts extensive work related to rural, regional and urban development through its Centre for Entrepreneurship, SMEs, Regions and Cities (CFE). While this report focuses on innovative approaches to bridging the rural divide, broader work can be found on the CFE's website at www.oecd.org/cfe and at www.oecd.org/regional. The CFE's 2019 Rural 3.0 People-Centred Rural Policy is particularly relevant to this section, and provides a new vision for rural development (<https://oe.cd/rural3-0>).

73 <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>.

74 See www.oecd.org/fr/regional/11th-rural-development-conference.htm.

75 <https://oe.cd/citizen-spots>.

76 www.red.es/redes/en/quienes-somos/redes.

77 www.gov.uk/government/publications/community-led-broadband-schemes/guidance.

Of course, Internet connectivity initiatives are worthless without electricity.⁷⁸ In some parts of the world, electricity as a commodity is out of reach for many inhabitants of rural communities. In sub-Saharan Africa, for instance, only 22% of rural areas have electricity, largely because of lack of investment in grid infrastructure. Innovative off-grid and “mini-grids” options driven by renewable energies can help (see the Barefoot College International case study), but governments generally lack data on key planning elements such as village location, size and demand that guide decisions and resource allocation. Researchers have devised new methods for gathering such information using mobile phone data, as many residents have mobile phones which they travel to charge (Martínez Ceseña et al., 2019). Such data can provide granular information on village locations and population characteristics, which can be used to weigh options and create electrification strategies, as was the case in Senegal. In the same region, the innovative Power to the People initiative is combining satellite imagery to gather the necessary data to expand access to electricity.⁷⁹ Between March and August 2020, over 6 000 volunteers reviewed 75 000 satellite photos to identify homes. This dataset will be used to build a machine learning algorithm able to automatically identify rural homes in satellite imagery.

While not explicitly targeting access to electricity, innovative approaches are underway in India to understand the characteristics of rural communities. The government is using automated drones equipped with high-resolution cameras to map rural households (Nambiar, 2020) and then employing new EU-funded techniques to determine poverty levels in rural areas using satellite imagery.

In addition to levelling up utility services, governments and their partners have made significant investments in innovation to improve rural public health. A number of recent projects focus on distributing vaccines, the impact of which is highly significant. While about 20% of children globally do not receive basic vaccines, particularly in rural areas,⁸⁰ technology is facilitating distribution in a variety of ways (see Box 7).

Box 7: Innovative rural vaccine programmes

mVacciNation (Africa)

mVacciNation is a smartphone app aimed at reducing the number of children dying from vaccine-preventable diseases in remote areas. The app records every child vaccinated by health workers, monitors temperatures and tracks stock levels. It also sends caregivers SMS reminders of upcoming vaccination appointments, thereby improving attendance rates. mVacciNation is the result of a partnership between national and local governments, international organisations and the private sector (Vodafone). Over 400 000 immunisations have been given as a result.

Drone vaccine delivery (Vanuatu)

Vaccines is a country consisting of 83 islands, which makes vaccines difficult to distribute. With support from UNICEF, the Government of Australia, and the Global Fund to Fight AIDS, Tuberculosis and Malaria, Vanuatu has initiated a drone programme to deliver vaccines to rural communities that are often accessible only by small boats.



Source: <https://amrefuk.org/uk/en/what-we-do/projects/reducing-morbidity-and-mortality-caused-by-vaccinepreventable-diseases/>, www.nytimes.com/2018/12/17/health/vanuatu-vaccines-drones.html, www.nytimes.com/2018/12/17/health/vanuatu-vaccines-drones.html (image).

78 www.zooniverse.org/projects/alcialeonard/power-to-the-people/about/research.

79 www.zooniverse.org/projects/alcialeonard/power-to-the-people.

80 <https://globalhealthprogress.org/collaboration/mvaccination-partnership>.

Also supporting public health, in the United States, the States of Pennsylvania and Texas have launched new initiatives for building distance telemedicine networks to aid rural healthcare providers. The Texas programme, Sexual Assault Nurse Examiner (SANE) helps rural providers treat victims and conduct forensic exams, eliminating the need for rural residents to travel hours to urban areas (Wicklund, 2019). In China, the state is leveraging 5G to provide new opportunities to rural communities through telemedicine, drone transportation of medical supplies and blood, and disaster relief (GovInsider, 2019). Australia has launched efforts focused on mental health for rural residents. Its Rural Health Connect⁸¹ service conducted “by rural Australians, for rural Australians” enables residents to make psychologist appointments via videoconferencing.

Many efforts have also focused on creating linkages both among rural communities and with their urban counterparts. OECD (n.d.) work shows that such connections can enhance the production of public goods, achieve economies of scale in public service provision and develop new economic opportunities. Australia, for example, has promoted regional connections by providing EUR 12 million (equivalent) in grants to help transform Victoria’s rural councils by centralising and standardising services and information systems (Jenkins, 2019). In the United States, the local government network Engaging Local Government Leaders (ELGL)⁸² partnered with start-up UrbanLeap⁸³ to bring together small cities and rural communities for the “Small Places, Big Ideas Innovation Cohort” programme in order to find common challenges and jointly test solutions (GovTech, 2019). The collaboration also involves a virtual Innovation Cohort programme,⁸⁴ which helps communities access expertise and partner with mentors from other cities for mutual support and knowledge exchange (ELGL, 2020).

Because rural communities are generally small and autonomous, they can also serve as testbeds for innovation. The concept of “smart cities”⁸⁵ has proliferated over the last 20 years or so, but growing efforts around innovative “smart villages” show how rural areas may be a natural fit for early experimentation, allowing rural communities to close the gap with bigger players.⁸⁶ Efforts often focus on innovating to achieve Internet connectivity, environmental sustainability (e.g. renewable energy), and the health, education, empowerment and inclusion of villagers (Patnaik, Sen and Mahmoud, 2020). Many of these efforts take place in the “global south”. For instance, West Java, Indonesia has an ambitious “digital village” programme that uses technology to transform services, including the use of satellites to assist fishermen and digital transactions for farmers (Lin, 2018). The programme also assists rural businesses in conducting e-commerce and helps residents to purchase lower-priced groceries online (with physical options available), removing middlemen that otherwise reduce farmers’ profits and push up prices for consumers. Other components include mobile telehealth clinics, circular economy apps and advice for young residents starting businesses (Poon, 2019). While this example is fairly comprehensive, other efforts are more targeted, including Japan’s plans to use automated buses for public transportation in rural areas.⁸⁷

The COVID-19 crisis has proven especially difficult for rural communities (OECD, 2020f), due to a lack of resources to handle outbreaks and their repercussions (Joseph, 2020). Such communities also have a higher proportion of population at high risk of severe illness, a less diversified economy, higher shares of workers in “essential” jobs and a larger digital divide (OECD, 2020f). The pandemic has underlined the need for specialised solutions for rural communities, and has prompted some innovative short-term responses. For instance, in Spain, an initiative called “Hackaton Rural” brought together various stakeholders online, who shared their ideas to address the economic consequences of COVID-19 in rural regions (OECD, 2020f).⁸⁸ The crisis has also drawn attention to ways in which rural solutions may be applied more broadly. For instance, the rural distribution of vaccines, as discussed earlier, will be critical upon the development of a COVID-19 vaccine. Telehealth and other distance practices (e.g. digital courts)⁸⁹ pioneered for rural areas have become ubiquitous for all communities in 2020. Rural challenges are function as a microcosm of global challenges, and COVID-19 has served as a prompt for adaptive solutions. While governments have been innovating to close the urban-rural divide, the current crisis has served as a catalyst for new reflections and ideas to address rural challenges, with a new respect for innovative ideas and efforts emerging from these communities.

81 www.ruralhealthconnect.com.au.

82 <https://elgl.org>.

83 www.urbanleap.io.

84 <https://elgl.org/innovation-cohort>.

85 See www.oecd.org/cfe/cities/smart-cities.htm for the OECD Programme on Smart Cities and Inclusive Growth.

86 The 2020 book *Smart Village Technology: Concepts and Developments* provides an interesting and thorough overview of Smart Village concepts and initiatives. See <https://link.springer.com/book/10.1007/978-3-030-37794-6>.

87 See https://apolitical.co/en/solution_article/forget-autonomous-cars-rural-japan-is-betting-on-self-driving-buses.

88 <http://ruralhacking.com>.

89 <https://oe.cd/my-courts>.

Leveraging the power of human capital in rural communities

While governments are devising specialised rural solutions, some of the most innovative efforts come from investing in residents of these communities, who have direct knowledge of their needs and those of their neighbours. India's Barefoot College International, for example, trains rural women to install and maintain solar panels to electrify their villages (see Figure 6 and case study). The college and local applications in countries like Malawi provide a clear and compelling example of how residents can be activated to transform their communities.

Figure 6: Barefoot College International trainees



Source: Barefoot College International.

Innovative educational and training programmes such as this are a key enabler in creating new opportunities for rural residents. For instance, the Thailand 4.0 vision calls for the modernisation of every sector in the country, including specific training activities developed through partnerships with government, companies and universities in order to enhance digital literacy across rural regions (Dassault Systèmes, 2018) –which can work hand-in-hand with efforts to enhance Internet access. Sub-national governments in the United States have developed new apprenticeships in areas such as cybersecurity to help “train the workforce of the future” (Wogan, 2018) and to address skilled labour shortages in rural communities. These types of efforts –geared to the skills of the future and aimed specifically at actualising new realities in rural areas –are utilising new approaches and are picking up steam.

Many such efforts focus on drawing insights and collective intelligence from these communities. In Indonesia, which struggles with quality education provision in rural areas, “democracy cafés” allow community members to convene and discuss the main challenges. The dialogues are also broadcast openly on the radio to ensure all interested parties are informed (Rohaidi, 2019). The outcomes and analysis of government educational data surfaced a severe shortage of teachers and gaps in specific subject areas and years. These insights and findings prompted local governments to build new incentives programmes to encourage the relocation of teachers to rural areas, in an effort to ensure equitable education for rural children. Over 100 teachers were redistributed to rural schools, and the programme has since been expanded to other areas of the country (Rohaidi, 2019).

Barefoot College International India

Providing electricity to the rural poor in developing countries is one of the most difficult challenges articulated in the Sustainable Development Goals. In some of these countries with particularly high rural populations, under 10% of the population have reliable access to energy.^{90,91} Expanding the national electricity grid to cover these hard-to-reach communities is expensive and difficult, especially when there are other urgent priorities. To help fill this gap, an NGO from India, Barefoot College International, has offered a new solution—teaching local populations the skills they need to generate their own electricity from solar power.

Through the Solar Mamas programme, Barefoot College International works with the Indian government to bring older women to the college in India, or to one of their new training centres around the world, to teach them to become solar engineers. The women are also taught valuable life skills that they can then bring back to their community. Solar energy can provide night-time lighting, power for schools, and energy for clean cooking and water pumping. This innovative approach allows rural communities to create their own energy, and allows national governments to leapfrog the traditional solution of expanding the electricity grid to expensive and remote locations.⁹²

90 www.iea.org/reports/sdg7-data-and-projections/access-to-electricity.

91 <http://data.worldbank.org/data-catalog/world-development-indicators>.

92 Unless otherwise indicated, the information for this case study was taken from an interview and correspondence with Sue Stevenson, Director of Strategic Partnerships and International Development, Barefoot College International, in September 2020.



The problem

Nearly 1 billion people lack access to electricity.⁹³ Target 7.1.1 of the SDGs specifically targets this issue, aiming to provide every single human on the planet with access to affordable, reliable, sustainable and modern energy for all by 2030.

Developing countries struggle with access to electricity, particularly Africa: the continent is home to 600 million of those without access to electricity. Some countries are unable to connect more than 10% of their citizens to the energy grid.⁹⁴ In almost every case, the level of access for urban communities is higher than that of rural communities. The International Energy Agency (IEA) has shown that access to electricity in urban areas is almost 75%, whereas only 25% of households in rural areas have equivalent provision (IEA, 2019).

Such unequal access to electricity is a function of geography and development. Investment in infrastructure is insufficient to expand national electrical grids to defuse and remote populations, where provision will benefit only a handful of families. Finding affordable off-grid solutions and business models is, thus, key for rural areas to generate their own electricity (IEA, 2019). In some cases, civil society organisations are stepping up to provide fresh and innovative ideas that governments can help scale up to solve the energy access problem at just a fraction of the cost of expanding the energy grid.

An innovative solution

Barefoot College International is a civil society organisation originating in India that offers training to older women from rural communities in developing countries. Women, often including those with limited literacy, are selected for a five-month, holistic education programme, with a focus on solar engineering skills, taught at one of Barefoot College International's centres. The "Solar Mamas" programme teaches women to construct, install and maintain solar home lighting systems. These basic engineering skills help them bring indoor lighting into their own homes, and leverage solar energy to benefit schools and educational training, as well as clean cooking and water usage practices. The College and centres also offer specific training in different forms of livelihood suitable for local contexts (e.g. sewing or beekeeping) (see Figure 7). The organisation also runs an "Enriche" programme which teaches the women broader life skills related to finance, digital learning, and personal development around their aspirations and competencies. They are also taught about women's health and micro-enterprise skills, including how to sustain local markets, and given training in passing on how to transmit these skills to their local community.

⁹³ <http://data.worldbank.org/data-catalog/world-development-indicators>.

⁹⁴ <http://data.worldbank.org/data-catalog/world-development-indicators>.

Figure 7: Solar Mamas are taught livelihoods such as beekeeping and honey production to complement their engineering training



Source: Barefoot College International.

The programme's potential also stems from its emphasis on incorporating women into the workforce. By teaching them about livelihood development and specific skills such as sewing and tailoring, growing coffee or beekeeping, it enables the women to take up new jobs or improve their skills at existing ones. One employee of Barefoot College noted the potential arising from this approach, especially in rural developing communities where traditional social roles often exclude women from employment. Research has shown that increasing the employment prospects of women and levelling the playing field with men could add 26% to the global GDP (McKinsey & Company, 2015).

Figure 8: Solar Mamas holding solar lamps built by themselves



Source: www.vsointernational.org/our-work/resilient-livelihoods/employment-and-entrepreneurship/empowering-women-and-powering-communities/

meet-the-solar-mamas.

In Malawi, women were selected by Barefoot College's partner NGO in the country, Voluntary Service Overseas (VSO), to travel to India for Solar Mamas training. After the training, VSO provided the technical equipment needed for the women to undertake the electrification process, enabling the Solar Mamas to build and install home lighting systems in 100 homes. Home lighting can transform the lives of a family by allowing children to do homework in the evening or enabling adults to work or train themselves after children have gone to sleep.

Figure 9: Children can now study at night



Source: <https://theguardian.com/global-development/gallery/2019/feb/11/barefoot-engineers-malawi-solar-power-in-pictures>.

The Solar Mamas in Malawi have also electrified their children's schools, facilitating the acceleration of learning with computers and allowing the children to learn skills to which they would never have otherwise had access. The Solar Mamas receive salaries of around EUR 12 a month, paid for by neighbours in exchange for maintaining their home lighting systems. This income has also allowed them to invest money into other businesses or education.

Barefoot College International's model is now a proven success, evidenced by the opening of regional centres worldwide over the last two years. The key challenge for future development is to obtain systemic buy-in from governments at all levels. Currently, the College works with Indian Technical and Economic Cooperation (ITEC) as part of the Indian Ministry of External Affairs, and thus initiates contact with new partner countries through official governmental channels, which helps generate buy-in. However, partner governments typically do not fully endorse or scale up the centres or programmes until the results are clear. Accordingly, the next stage for Barefoot College International is to attract proactive investment and support from partner countries to help them scale up the model.

Novelty

The Solar Mamas programme represents a unique solution to the problem of lack of access to electricity in rural areas. Rather than sending experts to learn from leading worldwide experts in new technologies, the Barefoot College International model shows that electricity can be provided in a cheap fashion by upskilling key members of the local community, requiring far fewer resources than expanding an electricity grid.

Results and impact

Barefoot College has trained over 2 500 women from 93 countries around the world to become solar engineers. These Solar Mamas have now electrified over 125 000 households worldwide. The impact of these women and the programme is increasingly recognised by governments, including the President of Zanzibar, Ali Mohamed Shein, who acknowledged that while the government had been able to connect many rural villages to the national grid, some “are not connected to the electricity, but instead use the solar power fixed by the women engineers”. In Zanzibar, over 950 households received solar power, resulting in the employment of 13 lead women engineers, all of whom were paid for by the Indian Government and trained by Barefoot College (Daily News, 2020). Recently, the Minister for Women in Fiji explained in Parliament that the project was an increasing priority for the government, which wished to empower women in rural communities (Kumar, 2020).

At the individual level, the training has resulted in significant personal returns for the Solar Mamas. Beyond their increased personal confidence and experience from travelling and living abroad, their aptitude with solar technology has produced additional enhancements in their lives. For example, Elinati Pattison, one Solar Mama, can now tailor after sunset, which has doubled the income of her business and given her greater flexibility with regard to family responsibilities. Another Solar Mama, Lines Nguluwe, has set up a mobile phone charging business and uses her energy surplus to prepare “mandazis”, a local type of doughnut.

In their communities, the Solar Mamas’ interventions have had cascading systemic effects. Electrified schools and the ability to do schoolwork at night means that more children can be educated. Health outcomes are improving, in particular among women, with cleaner burning cookers and easier collection of fresh water from electric pumps. Solar Mamas, with their technical skills as well as business acumen, are often being invited to participate in senior meetings to plan the development of their communities. Such pioneering new roles for women in rural developing communities, the ability to perform tasks at night, or access potentially global markets through the Internet on electronic devices, is transforming the economic potential of these communities. The effects will be felt in years to come as educational outcomes increase, women are empowered and economic productivity rises in a virtuous cycle to help drive rural communities towards prosperity.

Figure 10: Elinati Pattison, now able to work at night thanks to her solar lighting



Source: www.vsointernational.org/our-work/resilient-livelihoods/employment-and-entrepreneurship/empowering-women-and-powering-communities/meet-the-solar-mamas.

Challenges and lessons learned

One of the initial challenges for Barefoot College International was selecting the right people for the programme. Younger women and men were found to be less suitable candidates because they were more interested in obtaining a certificate and skills and then leaving their community. Older women, however, were more likely to stay and therefore provide long-term support and sustainability for their communities. Barefoot College International also realised that they needed to recruit the right older women. Initial problems stemmed from local community politics, due to the recruitment of the family members or wives of community leaders. This problem was resolved in conjunction with local in-country partners, who worked to recruit the right women – those most interested and passionate about learning the necessary skills. Broadly speaking, sometimes communities were the wrong fit. For example, in Cambodia, one community was less interested in learning skills to develop itself sustainably over the long term, and more interested in short-term handouts. This experience highlighted the importance of selecting communities with matching objectives.

A challenge for the participating women has been the provision of appropriate technical resources to carry out the electrification programme. There were occasions when the women returned home from training but had to wait months and, on rare occasions, potentially years before the materials arrived. The main factor was funding – with numerous funding sources involved, including philanthropy, other civil society organisations, countries and international organisations, one failed payment can result in a bottleneck leaving the Solar Mamas without the necessary technology to use their skills. The solution to this issue is more sustained funding from a more diverse set of sources.

Replicability

Barefoot College International itself continues to train women to become Solar Mamas, and is scaling up its worldwide operations through the expansion of existing training centres worldwide. Two more are due to open in 2021, and the institute is in talks with governments in the developing world to open new centres. These new centres will be necessary to increase the number of women they can train, reduce the distance the women have to travel, and ensure that each centre can specialise and adapt to more local contexts.

The overall concepts that underpin the initiative are also replicable. Some governments have established their own solar engineering programmes after witnessing the success of the Solar Mamas programme. In Madagascar, for example, the World Wildlife Foundation (WWF) identified and sent eight women to the programme, who then returned and provided power for over 200 homes. After realising the programme's potential, the Government of Madagascar created a new training centre for female solar engineers, which opened in 2019. The goal of the Madagascan government is to train 744 women by 2030 and solar electrify 630 000 homes.

The general concepts, but applied to areas besides solar energy, have also proven to be replicable. For instance, in 2020, the training centre in Zanzibar was closed due to COVID-19. This centre specifically taught sewing as part of livelihood training. However, the government requested that the centre be reopened to help produce facemasks and personal protective equipment (PPE) for doctors and citizens alike. Over 200 000 masks have been distributed.

Figure 11: In Zanzibar, a Barefoot College International Campus Co-ordinator hands out masks made by the local centre for protection during Covid-19



Source: Barefoot College International.

KEY THEME 03

Accessible and equitable service design



“All of us, whether we have a disability or not, share a responsibility to consider the effects of what we do and whether we need to reconsider our hiring policies, or the accessibility of our buildings, or the openness of our websites and technologies, or inclusion in meetings, policies and strategies.”

–High Commissioner of the UN Human Rights Office, 2007⁹⁵

Governments are bound by both legal and moral commitments to ensure that all of their people enjoy the right to a fair and dignified life. In addition to groups who fall through cracks in the policy-making process, as discussed elsewhere, this refers to large swathes of the population unable to use the same services or perform the same daily activities as the rest of the population due to physical or mental disabilities. In fact, almost every government has pledged to protect the rights and dignity of these individuals by signing the Convention on the Rights of Persons with Disabilities, stating that they will “undertake or promote research and development of universally designed goods, services, equipment and facilities, which should require the minimum possible adaptation and the least cost to meet the specific needs of a person with disabilities”.⁹⁶

This commitment is apparent in the Sustainable Development Goals (SDGs) set out in 2015. A flagship UN Report (UN DESA, 2018) describes how the achievement of many SDG targets will result in improvement in the lives of disabled people. For example, steps towards ending poverty (SDG 1) are vital because the proportion of people living with disabilities is higher than the average poverty rate, and in some countries double the rate of those without disabilities. Similarly, ensuring healthy lives and promoting well-being (SDG 3), is vital, because disabled people are more than three times as likely to be unable to access health care.⁹⁷ Policy interventions are needed worldwide, not just to boost investments but also to design the right services to ensure access for these communities.

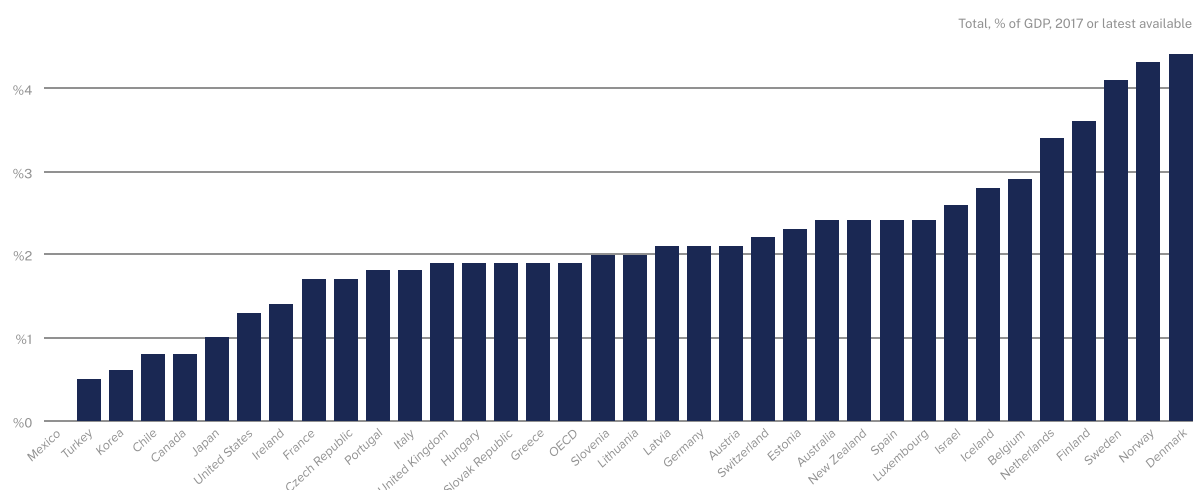
It is vital that countries take action now. A significant proportion –15% of the world’s population –suffer from some form of disability, with over 100 million people experiencing serious functioning difficulties (WHO and World Bank, 2011). The governments of OECD countries have recognised this need for provision, with significant levels of funding allocated to “Public Spending on Incapacity”, typically between 1% and 4.4% of GDP, worth billions of euros.⁹⁸ Unfortunately, many inclusion trends are reversing. For example, since 1990, the labour market activity rate for people with disabilities has decreased by 50% in the United States. Clearly, this is an area where governments need to take the lead by fulfilling their obligations to provide inclusive services for all.

95 www.ohchr.org/EN/Issues/Disability/Pages/SpeechesHC.aspx.

96 www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf.

97 These are just two examples of how the fulfilment of the SDGs is vital for the improvement of the lives of people with disabilities around the world. To read the full UN Flagship Report on how to promote the realisation of the SDGs for people with disabilities, see: www.un.org/development/desa/disabilities/publication-disability-sdgs.html.

98 www.oecd-ilibrary.org/social-issues-migration-health/public-spending-on-incapacity/indicator/english_f35b71ed-en.

Figure 12: Public spending on incapacity, 2017

Source: <https://data.oecd.org/socialexp/public-spending-on-incapacity.htm>.

However, the size of the challenge also points towards potential dividends for society if services can be better adapted. Designing government services and facilitating a society that allows people to maximise their own potential will enable communities to benefit from the fuller lives lived by those with disabilities.

Governments have recognised this issue and are creating specific frameworks and commitments to design better policy solutions. As countries have different legal obligations and cultural norms, most have created their own materials to serve this purpose. For example, in 2019 Canada launched a Strategy for More Accessible and Inclusive Public Services entitled “Nothing Without Us” (Government of Canada, 2019). The strategy builds on objectives in five areas: recruitment, accessibility in built environments, use of communications technology, equipping public servants with the needed design skills and building an accessible public service.⁹⁹ France has also made a similar commitment, launching an inter-ministerial policy in 2018 with similar objectives in the areas of accessibility of public services and public departments, but with the added tenet of improving accessibility of elections and election campaign materials.¹⁰⁰

At the international level, the United Nations has created a whole toolkit to help understand the specific contextual challenges of disability in Africa.¹⁰¹ Meanwhile, the European Commission operates an Access City Award for innovative projects,¹⁰² which recognises cities that make concrete progress towards accessibility for all citizens as part of the EU’s commitment to a barrier-free Europe for people with disabilities. Winners are awarded money prizes, and publicity for these awards helps to disseminate good practices in urban spaces across the region. One innovative example comes from Italy, where a new fund, “After us”,¹⁰³ was created to support disabled people, with priority given to those lacking social support networks. Innovative solutions proposed through this fund include tax deductions for donations, and the ability to purchase property to accommodate people with disabilities, including co-housing solutions for between five and ten people designed with the accessibility of residents in mind.

99 <https://bit.ly/2EddFBY>.

100 www.gouvernement.fr/en/disability-a-priority-for-the-five-year-term.

101 www.un.org/esa/socdev/documents/disability/Toolkit/Accessibility.pdf.

102 <https://ec.europa.eu/social/main.jsp?catId=1141>.

103 <https://oecd-opsi.org/innovations/after-us>.

Citizen-oriented purpose

In order for governments to create fairer and more equitable services it is essential that they use methodologies that design policy around the actual needs of the recipients. This is the *modus operandi* of the Lab at the US Office of Personnel Management, a design laboratory that collaborates with public sector organisations to assist them in designing people-centred solutions.¹⁰⁴ Another example of this approach comes from Nova Scotia, Canada, where the Disability Support Program (DSP) designed the Enhanced In-Home Disability Supports Project (EIHDS)¹⁰⁵ to allow Nova Scotians living with disabilities to acquire greater control over the lives and the decisions that affect them. After running a pilot and listening to the feedback of disabled people and the families that care for them, the team developed four enhanced in-home support projects to address gaps:

1. **Intensive Family Support Planning.** This methodology is used to design the most suitable plans involving care co-ordinators, service providers and the family itself.
2. **Outreach Supports.** This service brings in diverse professional outreach teams to increase capacity and expertise to support children with disabilities and their families in their homes.
3. **Disability Needs Funding.** This project provides access to additional services for the child and the family in secondary areas related to the child's needs.
4. **Agency Delivered Respite.** This programme funds outside contractors to help co-ordinate and provide skilled respite services that best meet the needs of the families, both inside and outside the home.

Key to this innovation is the way it embeds a holistic understanding of the user experience of the service. That knowledge is generated through listening to all stakeholders during Intensive Family Support Planning and then embedded in the remaining three tenets of the programme. This helps ensure that EIHDS can provide tailored support for each disabled person's unique needs and meet the needs of their family and caretakers, for example through family counselling. This approach not only allows disabled individuals to obtain more control over their lives, but also enables their families to live fuller lives. The programme recognises that designing equitable services is not just a question of tailoring services for those facing unique challenges including disabilities, but also an opportunity to bring about wider social equity for the families and communities of these people.

Box 8: Design principles for accessibility in public policy

While there is no internationally shared toolkit for designing accessible public policy, the United Kingdom's Service Manual for making digital services accessible provides a useful national case study, with key commitments for government officials to think about. The manual, which could serve as the basis for broader design principles, provides four main guidelines:

1. Meet a legal minimum level of accessibility according to codified guidelines.
2. Use the most commonly used assistive technologies.
3. Include people with disabilities in the user research and design stages.
4. Publish a statement to accompany any service clearly defining the extent of its accessibility.

Source: www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction.

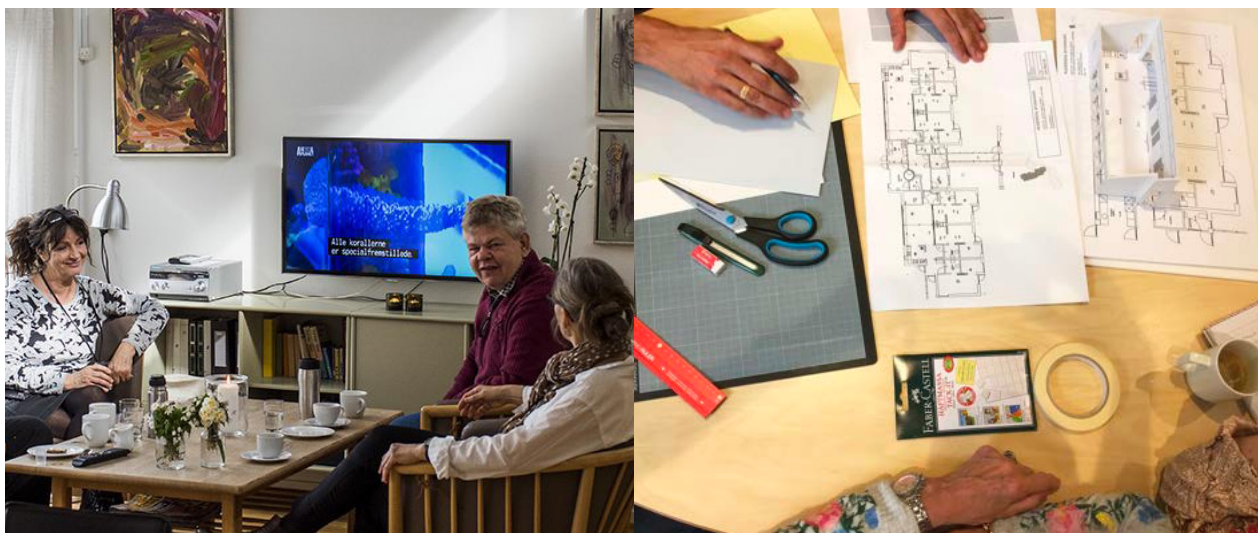
¹⁰⁴ <https://lab.opm.gov>.

¹⁰⁵ <https://oecd-opsi.org/innovations/in-home-disability-supports>.

Similar design principles were used to reform the Gefion Daycare and Residential Services,¹⁰⁶ in Rudersdal, Denmark, for adults who have autism spectrum disorder. The re-design focused on the creation of an ongoing evaluation process to continually assess the physical, mental and emotional needs of citizens using the services. Gefion was built in 1999 according to contemporary interior design principles. However, the demands on the residences subsequently increased resulting in an abnormally high level of staff turnover and complaints from the relatives of residents. After other social and pedagogical methods failed to ameliorate the situation, Gefion adopted a more innovative approach founded on the principle of “citizen-oriented purpose” (Det borgerrettede formål) to re-design the physical space. Through workshops, study trips and dialogue with residents and their relatives, employees and project managers, Gefion realised that the décor of the rooms did not work for citizens with severe autism. Physical spaces needed to be adapted to the specific sensory challenges of the clients, minimising disturbances and creating specific “unambiguous” spaces using sound-absorbing materials to create a calming physical space for residents.

The evaluation-based process led Gefion to re-examine what it means to “normally” experience spaces. Using a concept that designers term “social bricks”, they redesigned the spaces, materials and purposes of the residences around the needs of the people using the space. The new designs have had a remarkable calming effect on the residents, putting them at a notably greater ease.

Figure 13: The Gefion Residences redesigned with user experience at the heart



Source: www.rudersdal.dk/indhold/botilbud-gefiction and www.coi.dk/nyheder/2020/februar/genindretning-af-botilbud-det-er-abso-lut-en-stor-gevinst-for-borgernes-trivsel.

New technologies, new opportunities

Many public spaces and services may also benefit from re-design from the perspective of those who cannot use them in the “normal” manner. In many cases, solutions for identified problems can be found in new technologies. This can represent an opportunity if these technologies used and designed appropriately, but can also pose a risk if this is not the case, especially given that the dividends of digitisation are often unevenly distributed. Certain new digital services may require users to be more technologically literate than before, leaving those without such skills (often those already disadvantaged including the disabled) unable to access these services.¹⁰⁷ However, new technologies, if applied on the basis of user-centred, thoughtful, accessible design principles, can ameliorate the accessibility and equity of public services and spaces for those already facing barriers in the lives.

¹⁰⁶ <https://oecd-opsi.org/innovations/Gefion-residences>.

¹⁰⁷ For example, see a detailed analysis of central government websites in Pakistan in Baksh, M. and A. Mehmood (2012), Web Accessibility for Disabled: A Case Study of Government Websites in Pakistan, <https://ieeexplore.ieee.org/abstract/document/6424347>.

Box 9: The Technology Accessibility Playbook

Government services are usually legally required to be accessible by the entire population. Accordingly, many governments have published accessibility guidance for digital services and technology. For example, the UK Government's Service Manual includes a section entitled "Making Your Service Accessible", which gives practical advice and legal information for policy makers relevant for the UK context. In the United States, the government's Technology Accessibility Playbook includes key "plays" with associated lessons that allow policy makers to adapt policies to make services accessible. These plays include:

- » Establish a technology accessibility programme manager.
- » Assess the maturity of your technology accessibility programme.
- » Establish a technology accessibility policy, roadmap and programme team.
- » Collaborate with the accessibility community.
- » Integrate accessibility needs into market requirements research, requirements, acquisition and development.
- » Conduct ICT standards testing.
- » Track and resolve accessibility issues.
- » Educate the workforce.

Source: www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction and <https://section508.gov/508-training/courses/playbook>.

Fortunately, governments are increasingly aware of the need to marry new technology with a citizen-centred design approach. For example, the country of Georgia has redesigned its emergency services to be more accessible for people with disabilities, including the deaf, by incorporating video chat and hiring sign language interpreters (see Case Study). In another example, Singapore's Land Transport Authority (LTA) is trialling a new innovation to address the problems some people with disabilities face when using public transport spaces. A new smartphone app will enable citizens to pass through hands-free fare gates in train stations. The gates identify the user via Bluetooth or radio frequency identification (RFID) technology, and deduct the appropriate fare. The ambition is to scale up this innovation to 400 gates and on over 6 000 buses, allowing those with limited use of their hands to utilise these spaces (Clark, 2020).

Cities in particular are stepping up the use of technology and good design to help create accessible cities for citizens and residents. For example, Viborg, Denmark committed to making its cultural heritage accessible to all during the 2018 European Year of Cultural of Heritage. The city launched an app called "Spot Viborg",¹⁰⁸ based mostly on GPS technology, which guides users around "accessible itineraries", including cultural landmarks such as churches, monuments and sacred places, as well as parking facilities and disabled toilets. As a result of these accessibility improvements in Viborg, new cultural events such as street markets and concerts are becoming increasingly accessible for disabled people. Breda, Netherlands, has attempted to "UN Proof" its city, by adhering to the principles of the UN Convention on the Rights of Persons with Disabilities (European Commission, 2019). Through the adoption of a participatory methodology to policy making, they are using modern and innovative design technologies to make the city more accessible. For example, they have worked with businesses across the cities to ensure doors use motion sensor cameras to open automatically for people in wheelchairs, and are creating more accessible digital communications. They also realised that wheelchair users were struggling to use the beautiful cobbled streets of the towns. The clever solution was to flip the cobbled stones upside down and slice them widthways, resulting in a smoother street for wheelchair users that retains its original look (Yates, 2019). Breda won the EU Access City Award for its efforts.

¹⁰⁸ <https://oplevelser.viborg.dk/Kultur/SpotViborg>.

Image X: Breda, Netherlands, flipped and bisected their cobbled streets to make them easier for wheelchair users



Source: Yates (2019).

While the need for more equitable services has never been clearer, governments are increasingly developing and implementing a variety of tools and methods to make services fairer and more usable for all of their citizens—whether in terms of policy-design methodologies that follow a “citizen-oriented purpose” principle, centring policy design around the specific needs of those the policy is meant to serve, or using new technologies to enable those with particular disabilities to use the public services and spaces many of us take for granted.



Video Chat and Sign Language for Inclusive Services

Georgia

KEY THEME 03: Case Study

When the safety, health or property of members of the public are in danger, emergency services are there to help. However, in many cases, not every citizen or resident can access the same services equally. Disabled individuals, including people who are deaf or hard of hearing, are unable to use regular telephone-based emergency services because of their inability to hold an audio-based conversation. To ensure that this fundamental service is accessible to all, Georgia launched the project “112 Emergency Services Can See You”. Consultations with individuals facing these challenges led to the conclusion that a video-calling solution with skilled interpreters could solve the issue. The Georgian 112 emergency services, with support from UNDP Georgia and the government’s ServiceLab, integrated video-chat into its procedures and employed full-time sign language interpreters to ensure a dedicated service that can respond with precision and speed.¹⁰⁹

¹⁰⁹ Unless otherwise indicated, source information for this case study was provided through an interview and correspondence with Sesili Verd zadze, Head of the ServiceLab, Public Service Development Agency, Georgia, in September 2020.

The problem

Emergency services represent a vital lifeline for citizens. In Georgia, the emergency service number, 112, is the most dialled number nationwide, receiving over 8 million calls per year (Chambers and Rohaidi, 2018). There are no alternatives in the event of medical emergency, fire or burglary, therefore, it is vital that all citizens and residents are able to access this service. This is not the case, however, as many people who are deaf or hard of hearing face challenges with holding an audio-based conversation over the phone.

For years, the union representing people with hearing difficulties had been pushing for the adoption of an emergency services system based on a remote control with three buttons—one each for fire, police and ambulance services. However, the cost of these devices made the system prohibitive; furthermore, the 112 emergency services were concerned that they might be pressed accidentally and fail to provide the exact location (Chambers and Rohaidi, 2018). This solution also failed to account for communication issues when the emergency service reached the person in need.

An innovative solution

To solve this problem, the Government of Georgia's ServiceLab, which forms part of the Public Services Development Agency, in conjunction with the United Nations Development Programme (UNDP), worked to identify a solution through a process that foregrounded users and employees of the Emergency Services. A three-day workshop entitled "Loud and Clear: Rethinking Service Design in Georgia" (Service Lab, n.d.) was organised with the participation of emergency services employees, as well as members of the deaf and hard-of-hearing community. The resulting partnership and collaboration produced the idea of a video-chat-based service.

Figure 14: Presentation by the participants of the first ServiceLab and UNDP workshop



Source: <http://servicelab.sda.gov.ge/en/reforms/co-designing-112-emergency-services-for-people-with-disabilities>.

The workshop discussions revealed that the hard-of-hearing were already using video-calling platforms to communicate with each other. A video-calling platform, such as Skype, thus seemed an obvious solution and one that would be much cheaper than complicated or custom interventions (such as the proposed device with three buttons). The only substantive costs would come from employing and training a small number of interpreters as 112 operators to receive calls.

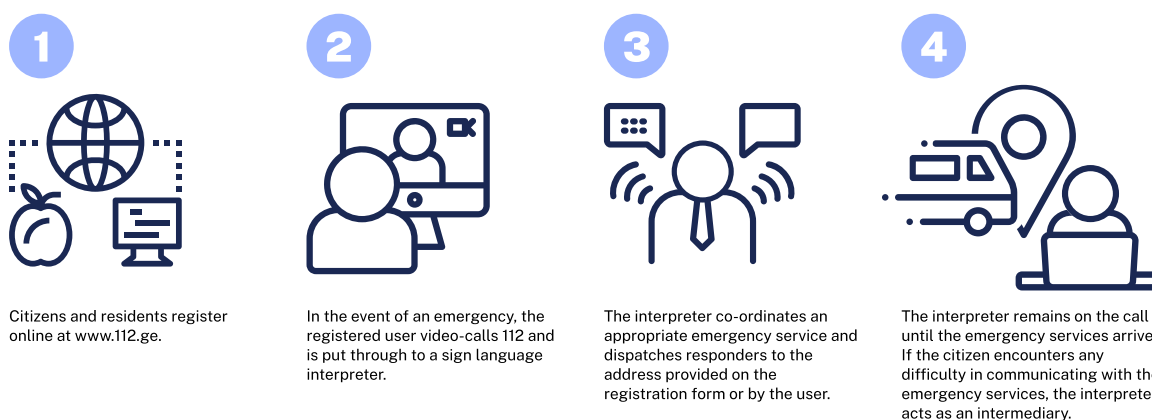
Figure 15: The 112 emergency service video call solution being trialled during a workshop



Source: <http://servicelab.sda.gov.ge/en/reforms/co-designing-112-emergency-services-for-people-with-disabilities>.

The first workshop which identified the video-calling solution was followed by a second to trial the registration process for users of the new service. The second consultation with the deaf and hard-of-hearing community ensured that the developed solution reflected the community's requests and demonstrated that the government was listening to them and taking into account their feedback. The second workshop also highlighted a problem with the online registration process. In spoken Georgian, there are two ways of asking questions—a blunt, direct way, and a more polite, formal way; however Georgian sign language uses only the former. Inadvertently, the registration form had used the wrong mode of dialogue, resulting in confusion among users. The language of the registration process was changed to suit the deaf and hard-of-hearing community during the workshop.

Figure 16: How to use the 112 video-calling services



In addition to recruiting sign language speakers, the Georgian government also offered sign language training to existing employees of their 112 emergency services. Evaluation of the interpreters during the design process ensured a high-quality final service. Georgia's 112 emergency services now have eight dedicated sign language interpreters who work in pairs to handle video calls.

Novelty

This extremely innovative solution was recognised as such by the European Emergency Number Association (EENA), and won the international award for innovation (Agenda.GE, 2016). It represented the first time that video-calling had been used for emergency services in this way.

Results and impact

The service has almost 100% uptake among members of the union for deaf people, indicating that the vast majority of those with a hearing disability have registered to use this service. Offering services with citizens and residents with disabilities in mind has also had a wider impact in the Georgian public sector, provoking other agencies to develop targeted and equitable services. For example, the Public Services Development Agency hired two sign language interpreters to provide interpretation for Georgians seeking to obtain personal ID cards and passports.

Challenges and lessons learned

The key challenge that needed to be overcome during programme development was scepticism from the deaf and hard-of-hearing community. They had pushed for a different solution which had been rebuffed by the 112 emergency services, and had participated in previous meetings and proposed the remote device, which was not accepted. UNDP Georgia and ServiceLab were committed to bringing groups to the table and used a participatory methodology to ensure both sets of perspectives were heard. Following the invitation to a second round of workshops, ServiceLab noticed that the deaf and hard-of-hearing community showed greater faith in the process and believed that their perspectives were being taken seriously.

In terms of lessons learned, ServiceLab staff came to understand that different communities have different needs, but also different capabilities. While the deaf community in Georgia may experience difficulties with making audio phone calls, they had access to almost full smart phone penetration and a universal ability to use video-calling before much of the rest of the population. This allowed for opportunities to create services catering to this community. The participatory approach was central to this discovery and process, as it allowed the users to explain their capabilities and to ensure that the solutions they found together matched their needs.

Replicability

The solution of using video-calling to help those from the deaf and hard-of-hearing community to fully access emergency services can be replicated by any emergency service around the world seeking to build equitable services for all their citizens and residents. All that is required is the dedicated infrastructure, which can be established by adapting the emergency hotline, online infrastructure, and creating a video-calling centre with appropriately trained or recruited staff.

In Georgia, video-calling has now been rolled out to other services across the government. Replication has been assisted by the Public Services Development Agency, the parent organisation of ServiceLab. Originally employing two dedicated interpreters to help deaf and hard-of-hearing people apply for identification documents, such as passports, ID cards and birth certificates, they expanded the service to enable citizens to contact the same hotline from any government services building (e.g. Georgian Public Service Halls which offer 400 services under one roof and are used by 15 000 citizens each day). There are now 10 operators providing interpretation services for any person who needs them, demonstrating the malleable nature of this service.



Recommendations

Governments continue to come up with creative and impactful solutions to focus on the overlooked and take care of vulnerable and otherwise disadvantaged people. This is not only a positive and welcome development, but also the fulfilment of a commitment made by governments when they became signatories to Agenda 2030 and the Sustainable Development Goals (SDGs). However, a tremendous amount of work remains to be done to realise the relevant goals and targets that aim to improve the lives of the groups discussed in this report, as well as others in need of equitable policies and services. To help achieve this, governments should:

1. **Consider root causes and contributing factors in order to develop systems approaches.** Many of the examples uncovered through this work sought to identify and focus on individuals who were experiencing significant challenges and to provide interventions targeted at addressing their immediate needs. In general, this is a positive and admirable approach. However, fewer approaches sought to also understand the broader contexts, causes and effects related to these experiences, including potentially investing in actions that can help prevent negative challenges and vicious cycles from taking root, and can help identify solutions that are more holistic. Relying solely on innovations that focus on immediate pressing needs may shift consequences from one part of the system to another, or address symptoms while ignoring causes. Additional emphasis on understanding and influencing broader factors while also responding to urgent needs can help governments achieve greater impact. OPSI's work on systems approaches can assist here.¹¹⁰

110 <https://oe.cd/opsi-sys-approaches>.



2. Involve potentially impacted populations at all stages from design through to implementation and iteration.

OPSI and the MBRCGI have found that programmes that involve intended beneficiaries and other potentially impacted stakeholders are most likely to have a significant and positive impact. Working with such individuals and stakeholders is an important part of considering broader contexts, and helps to illuminate considerations, expectations, limitations and possible solutions that may be critical to the success and potential of an innovative product or service. Resources to assist in this regard include Code for America's Digital Outreach Playbook¹¹¹ for working with vulnerable populations, and the resources available on OPSI's Toolkit Navigator.¹¹²

3. Ensure ethical design in programmes focusing on vulnerable populations.

As emphasised earlier in this report, caution and ethical considerations must be applied when engaging with disadvantaged groups. This should not, however, serve as a disincentive to working and collaborating with these groups and taking a user-centred approach. Resources exist that can assist with this process, such as ethical frameworks for research involving vulnerable populations¹¹³ and relevant research in the area.¹¹⁴

111 Available at <https://oecd-opsi.org/toolkits/digital-outreach-playbook>.

112 <https://oe.cd/toolkit>.

113 www.fordham.edu/download/downloads/id/12131/ethical_frameworks_for_research_involving_vulnerable_populations.pdf.

114 See Codesigning health and other public services with vulnerable and disadvantaged populations: Insights from an international collaboration (<https://onlinelibrary.wiley.com/doi/full/10.1111/hex.12864>).



Conclusion

Recent times have produced mixed results in terms of public sector innovation and transformation. The demands on governments to become more agile, modern and effective have never been greater, especially in light of the COVID-19 crisis, which has served as a major catalyst for change and innovation.¹¹⁵ While public sector actions have been swift and often times effective, governments have even greater ambitions for transformation looking forward. While these efforts are intended to improve the lives of every citizen, every resident and every person, the end result does not always fulfil these criteria. Rapid and complex technological and societal shifts are improving the lives of many, but leaving others behind, while government efforts to keep up benefit many, but can also exacerbate existing challenges. Governments and their partners therefore need to ensure that all of their people are recognised, considered, heard and cared for.

This report demonstrates that governments and their partners understand that such obstacles to a healthy and prosperous life are unacceptable. The COVID-19 crisis has also served as a call for tailored and targeted actions that focus on and address the specific needs of populations that are too often overlooked. Although this report found recent efforts concentrated on certain groups (e.g. migrants, individuals experiencing homelessness, rural dwellers, those with disabilities), many other innovative

¹¹⁵ See The COVID-19: A cruel catalyst for government transformation? (<https://oecd-opsi.org/covid-catalyst>), a report by the OECD Open and Innovative Government (OIG), of which OPSI is a part.



efforts focus on other relevant areas, such as gender inequality, racial discrimination and mistreatment of indigenous persons, among others.¹¹⁶ OPSI and the MBRCGI applaud these efforts. More can be done, however, especially in terms of addressing the underlying issues and root causes of these issues—and doing so hand-in-hand with those with lived experience of these challenges.

This report is the third in a series of five reports on 2020 global innovation trends. The world that existed at the start of our research is not the same as the one that exists today. The COVID-19 pandemic has shaken our understanding of the world and how things should work. The aftershocks will undoubtedly ripple through all domains—personal, economic, social and political. While no one can say how events will unfold, it is clear that 2020 will mark a fundamental shift, begging the question: what changes should come out of it? The crisis has re-emphasised the critical role of government and highlighted the necessity of responding quickly, effectively and equitably. This leaves governments in a unique position to answer these questions and determine what the world should look like in 2021 and beyond. They must ensure that their responses do not repeat or exacerbate the mistakes of the past—and that they are inclusive and equitable for all members of society.

¹¹⁶ See OPSI's Case Study Platform (<https://oecd-opsi.org/innovations>) for hundreds of case studies on public sector innovation efforts.

References

Abel, L.K. (2012), *Economic Benefits of Civil Legal Aid*, National Centre for Access to Justice, Cardoza Law School, New York, NY.

Agenda.GE (2016, 7 April), "Georgia's Emergency Service 112 wins global prize for innovative services", *Agenda.GE*, <https://agenda.ge/en/news/2016/832>.

Allmann, K. (2020, 7 July), "The remote British village that built one of the fastest internet networks in the UK", *The Mandarin*, www.themandarin.com.au/135848-the-remote-british-village-that-built-one-of-the-fastest-internet-networks-in-the-uk.

Bathke, B (2019, 4 January), "SoulTalk: Psychological peer help for refugees", *Info Migrants*, www.infomigrants.net/en/post/14291/soultalk-psychological-peer-help-for-refugees.

Chambers, J. and N. Rohaidi (2018, 30 July), "Exclusive: Georgia is using video chat and sign language for inclusive services", *GovInsider*, <https://govinsider.asia/innovation/exclusive-georgia-using-video-chat-sign-language-inclusive-services-emergency-service-112>.

Clark, S. (2020, 26 February), "Singapore to pilot hands-free transit ticketing", *NFCW*, www.nfcw.com/2020/02/26/365880/singapore-to-pilot-hands-free-transit-ticketing.

Coleman, E. (2013, 6 September), "A state will require civics education in prisons", *Route Fifty*, www.route-fifty.com/public-safety/2019/09/civics-prison/159694.

Daily News (2020, 9 August), "Engage 13 engineers – Shein", <https://dailynews.co.tz/news/2020-08-095f2f8f5d851df.aspx>.

Darrah, K. (2019, 23 September), "How machine learning is being used to tackle homelessness", *sifted*, <https://sifted.eu/articles/tackling-homelessness-machine-learning>.

Dassault Systèmes (2018, 20 June), "How can agencies collaborate on smart city projects?", *GovInsider*, <https://govinsider.asia/digital-gov/can-agencies-collaborate-smart-city-projects>.

Davis, L.M. et al. (2013), *Evaluating the Effectiveness of Correctional Education: A Meta-Analysis of Programs that Provide Education to Incarcerated Adults*, Rand Corporation, https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/RAND_Correctional-Education-Meta-Analysis.pdf.

Draudins, V. (2020a, 14 April), "You can't solve homelessness if you can't see it and understand how it's evolving. That's why Adelaide's achievement is such a big deal", *The Mandarin*, www.themandarin.com.au/130469-you-cant-solve-homelessness-if-you-cant-see-it-and-understand-how-its-evolving-thats-why-adelaides-achievement-is-such-a-big-deal.

Draudins, V. (2020b, 20 April), "Once you've ended homelessness for one group, nothing seems impossible. How 'functional zero' can end homelessness", *The Mandarin*, www.themandarin.com.au/131128-once-youve-ended-homelessness-for-one-group-nothing-seems-impossible-how-functional-zero-can-end-homelessness.

ELGL (2020, 19 February), "ELGL & UrbanLeap announce the 2020 Innovation Cohort Participants", Engaging Local Government Leaders, Portland, <https://elgl.org/elgl-urbanleap-announce-the-2020-innovation-cohort-participants>.

European Commission (2019), *Access City Award 2019: Examples of Best Practice in Making EU cities More Accessible*, Luxembourg, Publications Office of the European Union, <https://ec.europa.eu/social/BlobServlet?docId=21130&langId=en>.

Flatau, P. et al. (2020), *Homelessness and Covid-19: CSI Response*, Centre for Social Impact, Sydney, Australia, www.csi.edu.au/media/uploads/csi-covid_factsheet_homelessness_statement2.pdf.

Friedmann, A. (2014, 15 April), "Lowering recidivism through family communication", *Prison Legal News*, www.prisonlegalnews.org/news/2014/apr/15/lowering-recidivism-through-family-communication.

Government of Canada (2020), “Protecting temporary foreign workers and enhancing employer compliance with requirements under the Temporary Foreign Worker Program”, Employment and Social Development Canada, Ottawa, www.canada.ca/en/employment-social-development/news/2020/07/protecting-temporary-foreign-workers-and-enhancing-employer-compliance-with-requirements-under-the-temporary-foreign-worker-program.html.

Government of Canada (2019), *Accessibility Strategy for the Public Service of Canada*, Ottawa, www.canada.ca/en/government/publicservice/wellness-inclusion-diversity-public-service/diversity-inclusion-public-service/accessibility-public-service/accessibility-strategy-public-service-toc.html.

GovInsider (2019, 11 September), “How China is using 5G to close the digital divide”, <https://govinsider.asia/connected-gov/how-china-is-using-5g-to-close-the-digital-divide>.

GovTech (2019, 9 April), “New innovation project targets small and rural governments”, *GovTech Biz*, www.govtech.com/biz/New-Innovation-Project-Targets-Small-and-Rural-Governments.html.

GOV.UK (2018), *Future Telecoms Infrastructure Review*, Department for Digital, Culture, Media & Sport, UK Government, London, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/732496/Future_Telecoms_Infrastructure_Review.pdf.

Hello Europe (2020), *Major Challenges and Pathways for Solutions During and After COVID-19: a Conversation with Ashoka's Hellopreneurs*, Ashoka, Rosslyn, VA, https://static1.squarespace.com/static/5db01a61fb9da11b04b0cd1e/t/5eb28f16b3d3613fb-9c340b6/1588760349600/Article+Series_Public.pdf.

Hutt, R. (2020a, 25 February), “Contactless donation points raising thousands for homeless”, *The Mandarin*, www.themandarin.com.au/125966-contactless-donation-points-raising-thousands-for-homeless.

Hutt, R. (2020b, 24 March), “This is how cities are helping homeless people self-isolate”, World Economic Forum, www.weforum.org/agenda/2020/03/homeless-self-isolation-cities-coronavirus.

IEA (2019), *World Energy Outlook 2019*, International Energy Agency, Paris, www.iea.org/reports/world-energy-outlook-2019.

Jenkins, S. (2019, 2 July), “Rural Vic councils to receive \$20 million grant”, *The Mandarin*, www.themandarin.com.au/110939-rural-vic-councils-to-receive-20-million-grant.

JGP (2019), *Key Studies and Data about how Legal Aid Improves Housing Outcomes*, Washington, DC, Justice in Government Project, www.american.edu/spa/jpo/toolkit/upload/housing-7-30-19.pdf.

Joseph, A. (2020, 16 April), “Coronavirus pandemic threatens to take crushing toll on rural areas, data show”, *Stat News*, www.statnews.com/2020/04/16/rural-communities-coronavirus-toll.

Kumar, K. (2020, 30 July), “Barefoot College project is necessary: Vuniwaqa”, *FBC News*, www.fbcnews.com.fj/news/parliament/barefoot-college-project-is-necessary-vuniwaqa.

Leger, M. (2019, 11 February), “Map Monday: Tracking relocation and crowdsourced mapping during Hurricane Maria”, *Data-Smart City Solutions*, <https://datasmart.ash.harvard.edu/news/article/map-monday-tracking-relocation-and-crowd-sourced-mapping-during-hurricane-maria>.

Lin, C.J. (2018, 3 November), “West Java's vision for a smart province”, *GovInsider*, <https://govinsider.asia/smart-gov/west-javas-vision-for-a-smart-province>.

Martínez Ceseña et al. (2019, 13 March), “How data collected from mobile phones can help electricity planning”, *The Conversation*, <https://theconversation.com/how-data-collected-from-mobile-phones-can-help-electricity-planning-110803>.

McKinsey & Company (2015), *The Power of Parity: How Advancing Women's Equality Can Add \$12 trillion to Global Growth*, McKinsey Institute, New York, NY, www.mckinsey.com/~/media/McKinsey/Industries/Public%20and%20Social%20Sector/Our%20Insights/How%20advancing%20womens%20equality%20can%20add%2012%20trillion%20to%20global%20growth/MGI%20Power%20of%20parity_Full%20report_September%202015.pdf.

Nambiar, N. (2020, 24 April), "Pune: Centre to roll out drone survey", *The Times of India*, <https://timesofindia.indiatimes.com/city/pune/central-government-to-replicate-states-drone-survey-for-property-validation/articleshow/75335891.cms>.

OECD (n.d.), "Rural-urban linkages", www.oecd.org/fr/regional/rural-urban-linkages.htm.

OECD (2020a), *International Migration Outlook 2020*, OECD Publishing, Paris, www.oecd.org/migration/international-migration-outlook-1999124x.htm.

OECD (2020b, 10 June), "Managing international migration under COVID-19", OECD Policy Responses to Coronavirus (COVID-19), www.oecd.org/coronavirus/policy-responses/managing-international-migration-under-covid-19-6e914d57.

OECD (2020c, 15 June), "The impact of coronavirus (COVID-19) on forcibly displaced persons in developing countries", OECD Policy Responses to Coronavirus (COVID-19), www.oecd.org/coronavirus/policy-responses/the-impact-of-coronavirus-covid-19-on-forcibly-displaced-persons-in-developing-countries-88ad26de.

OECD (2020d, 23 July), "Cities policy responses", OECD Policy Responses to Coronavirus (COVID-19), www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff.

OECD (2020e), "Better data and policies to fight homelessness in the OECD", *Policy Brief on Affordable Housing*, OECD Publishing, Paris, <http://oe.cd/homelessness-2020>.

OECD (2020f, 16 June), "Policy implications of Coronavirus crisis for rural development", OECD Policy Responses to Coronavirus (COVID-19), www.oecd.org/coronavirus/policy-responses/policy-implications-of-coronavirus-crisis-for-rural-development-6b9d189a.

OECD (2019a), *Rural 3.0 People-Centred Rural – Policy Highlights*, OECD Publishing, Paris, www.oecd.org/rural/rural-development-conference/documents/Rural-3.0-Policy-Highlights.pdf.

OECD (2019b), *OECD Principles on Rural Policy*, OECD Publishing, Paris, www.oecd.org/rural/rural-development-conference/documents/Rural-principles.pdf.

OECD (2018), *Working Together for Local Integration of Migrants and Refugees in Barcelona*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264304062-en>.

OECD (2017), "OECD calls on countries to step up integration efforts for migrants and refugees", www.oecd.org/newsroom/oecd-calls-on-countries-to-step-up-integration-efforts-for-migrants-and-refugees.htm.

OECD (2016), *Northern Ireland (United Kingdom): Implementing Joined-up Governance for a Common Purpose*, OECD Public Governance Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264260016-en>.

OECD (2015a), *Connecting with Emigrants: A Global Profile of Diasporas 2015*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264239845-en>.

OECD (2015b), *Equal Access to Justice*, OECD Expert Roundtable Background notes, OECD Publishing, Paris, www.oecd.org/gov/Equal-Access-Justice-Roundtable-background-note.pdf.

Oklah, H. (2020, 16 July), "'I had to sell a gift my sons gave to me on Mother's Day': Syrian refugees and Coronavirus 'post-stability destabilization' in Jordan", *Southern Responses to Displacement*, <https://southernresponses.org/2020/07/16/i-had-to-sell-a-gift-my-sons-gave-to-me-on-mothers-day-syrian-refugees-and-coronavirus-post-stability-destabilization-in-jordan>.

- Palotti, J. et al. (2020, 21 February), "Monitoring of the Venezuelan exodus through Facebook's advertising platform", *Plos One*, Vol. 15/3: e0230455, <https://doi.org/10.1371/journal.pone.0230455>.
- Patnaik, S., S. Sen and M.S. Mahmoud, (2020), *Smart Village Technology: Concepts and Developments*, Springer, Cham, <https://doi.org/10.1007/978-3-030-37794-6>.
- Peters, A. (2018, 17 December), "This Zillow-like platform helps find apartments for homeless people", *Fast Company*, www.fastcompany.com/90277868/this-zillow-like-platform-helps-find-apartments-for-homeless-people.
- Policy Forum (2019), "Living with the city" (podcast), Asia and the Pacific Policy Society, www.policyforum.net/resource/living-with-the-city.
- Poon, Y.X. (2019, 13 November), "Inside West Java's vision to fight terrorism and corruption", *GovInsider*, <https://govinsider.asia/smart-gov/west-javas-vision-for-a-smart-province>.
- Reuters (2020, 28 March), "Portugal to treat migrants as residents during coronavirus crisis", www.reuters.com/article/us-health-coronavirus-portugal/portugal-to-treat-migrants-as-residents-during-coronavirus-crisis-idUSKBN21F0N7.
- Rivero, N. (2020, 5 August), "The co-ops that electrified Depression-era farms are now building rural internet", *Quartz*, <https://qz.com/1888605/co-ops-are-connecting-rural-america-to-high-speed-internet>.
- Rohaidi, N. (2019, 22 February), "How North Luwu's 'democracy cafés' fixed education inequality", *GovInsider*, <https://govinsider.asia/inclusive-gov/how-north-luwus-democracy-cafes-fixed-education-inequality>.
- Service Lab (n.d.), "Co-designing 112 Emergency Services for people with disabilities", *Service Lab*, <http://servicelab.sda.gov.ge/en/reforms/co-designing-112-emergency-services-for-people-with-disabilities>.
- Sewell, A. (2019, 20 January), "How aid groups map refugee camps that officially don't exist", *Wired*, www.wired.com/story/aid-groups-map-refugee-camps-officially-dont-exist.
- Stillman, S. (2020, 18 May), "Will the coronavirus make us rethink incarceration?", *New Yorker*, www.newyorker.com/magazine/2020/05/25/will-the-coronavirus-make-us-rethink-mass-incarceration.
- Stinson, L. (2019, 7 January), "Stockholm's digital billboards now help the homeless find shelter during freezing weather", *Curbed*, www.curbed.com/2019/1/7/18171041/stockholm-digital-billboards-homeless-shelters.
- Tau, B. and M. Hackman (2020, 7 February), "Federal agencies use cellphone location data for immigration enforcement", *The Wall Street Journal*, www.wsj.com/articles/federal-agencies-use-cellphone-location-data-for-immigration-enforcement-11581078600?mod=breakingnews.
- The Local (2018, 11 May), "Asylum seekers to be allocated to cantons using artificial intelligence", www.thelocal.ch/20180511/asylum-seekers-to-be-allocated-to-cantons-using-artificial-intelligence.
- UN DESA (2018), *Disability and Development Report: Realizing the Sustainable Development Goals by, for and with Persons with Disabilities*, United Nations, New York, NY, <https://social.un.org/publications/UN-Flagship-Report-Disability-Final.pdf>.
- UNDP Pacific Office (2020, 15 July), "Reunited virtually with families in prisons", United Nations Development Programme Pacific Office in Fiji, Suva, www.pacific.undp.org/content/pacific/en/home/presscenter/articles/2020/reunited-virtually-with-families-in-prisons.html#.XxD2st8Yn9Q.twitter.
- UN-Habitat (2018), "Homelessness and the SDGs" (presentation), United Nations Human Settlement Programme, Nairobi, www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2019/07/SALCEDO_Jesus_Presentation_2-1.pdf.

Westervelt, E. (2020, 25 February), "In Los Angeles, a program to get those with mental illness away From jails", *NPR*, www.npr.org/2020/02/25/809368257/in-los-angeles-a-program-to-get-those-with-mental-illness-away-from-jails?t=1598962300958.

WHO and World Bank (2011), *World Report on Disability*, World Health Organization and World Banks, Geneva and Washington, DC, www.who.int/disabilities/world_report/2011/report.pdf.

Wicklund, E. (2019, 16 September), "Texas launches telehealth program to help sexual assault victims", *mHealth Intelligence*, <https://mhealthintelligence.com/news/texas-launches-telehealth-program-to-help-sexual-assault-victims>.

Wogan, J.B. (2018, March), "Can apprenticeships train the workforce of the future? States hope so", *Governing*, www.governing.com/topics/mgmt/gov-work-study-student-debt-apprenticeships.html.

Yates, E. (2019, 28 May), "'People aren't disabled, their city is': inside Europe's most accessible city", *The Guardian*, www.theguardian.com/cities/2019/may/28/people-arent-disabled-their-city-is-inside-europes-most-accessible-city.

