Webinar Summary — 9 June 2026

When the Warning Doesn't Reach: Who Falls Through the Cracks?

Structural exclusion in early warning systems — disability, chronic illness, gender, and belief

About this session

The first of *four webinars* in Reaching the Last Mile, a series sharing findings from **15 community-level studies across 14 countries** supported through the *GDPC Research Grants Program* and funded with UK International Development from the UK government. The series carries one argument: coverage doesn't guarantee protection. Expanding an early warning system's geographic reach is not the same as reaching the people inside that area — and a warning that is received is not the same as one that is understood, trusted, and acted upon.

Session 1 explored structural exclusion — **the ways early warning systems leave people behind not only by accident of geography, but through how warnings are designed and delivered**. Three researchers presented evidence on groups routinely missed by formal systems: persons with disabilities, people living with chronic illness, and women from traditionally marginalized groups. Across very different hazards and contexts, **their findings revealed common patterns**, surfacing both the barriers that keep warnings from reaching these groups and potential solutions that can make early warning more effective for them.

▸ **Watch the full session:** *Webinar 01 recording*

Opening: coverage is not protection

Vladislav Kavaleuski · Global Disaster Preparedness Center

Opening the webinar, the host set out the gap the research addresses. Early warning coverage has expanded significantly in recent years, but reaching a place is not the same as reaching the people in it, and a warning issued does not automatically lead to protective action. *GDPC's cross-study meta-synthesis report* organises the evidence around the four pillars of early warning systems and three priorities for making warnings more effective:

- **Inclusion** means co-designing systems with at-risk communities. This gives local and community-based organisations a vital role in the early warning value chain — they sit closest to communities and act as trusted intermediaries.
- **Accessibility** means removing barriers and using redundant channels — not relying on technological tools alone, but also leveraging the trusted social networks embedded within communities, which proved most effective at delivering warnings to marginalized groups.
- **Actionability** means warnings must carry clear protective guidance, people must have the resources and support to act, and lead times must be long enough to respond.

▸ **Read the full report:** *GDPC cross-study meta-synthesis*

1. Disability-inclusive early warning and early action for volcanic hazards

Pradytia Putri Pertiwi · Universitas Gadjah Mada, Indonesia

The problem

Globally, a 2023 UNDRR survey of more than 6,000 persons with disabilities found that only 11% had access to disaster risk and early warning information in an accessible format; the remaining 89% reported partial, insufficient, or unknown access. Even when a warning arrives, structural barriers remain: 17% of respondents would still face significant difficulty evacuating, and 6% could not evacuate independently at all. Access to information and the capacity to act on it are two different problems — and both are tied to the wider structural conditions of disability.

The study

The research engaged 182 persons with disabilities across two villages near a volcano in Yogyakarta, Indonesia, using a participatory mixed-methods design: photo-elicitation surveys, focus group discussions, social network analysis, and GIS mapping. Nine members of local organisations of persons with disabilities (OPDs) acted as co-researchers, and five government officials were interviewed.

Key findings

- Sirens reach almost no one. Only one siren was installed across the two villages, and **just 12% of participants fell within its audible range.**
- Trust is an important early warning infrastructure. Most people learned of danger through social networks — sub-village heads, religious leaders, families acting as trusted messengers, alongside mosque announcements, the bamboo slit-drum (kentongan), and WhatsApp and Facebook groups. **These informal channels filled the gaps left by the formal system.**
- Reaching people is not the same as enabling action. Even when warnings were received, **acting on them depended on whether or not stigma persists, access to resources, social support, and psychological confidence**. One participant recalled evacuating eight people with disabilities on a modified three-wheeled motorbike in the 2010 eruption because responders had left them behind.
- People named what would enable them to act: accessible transport, evacuation routes, and shelters; caregiver and volunteer support; and the **confidence that comes from knowledge and from knowing they will be safe and cared for**.
- **Organisations of Persons with Disabilities (OPDs) change outcomes.** In one village, an OPD mapped disability households and shared the data with local government so responders could locate and reach people quickly; OPDs also co-designed visual and tactile message formats and led inclusive evacuation drills, increasing the legitimacy, trust, and reach of warnings.

Recommendations

1. Include disability into early warning and anticipatory-action guidelines and planning more systematically, rather than retrofitting accessibility afterward.
2. Recognise the coexistence of modern and indigenous communication systems — integrate sirens with mosques, bamboo drums, and other trusted local means.
3. Allocate budget for accessible message formats, co-designed with persons with disabilities themselves.

4. Promote participatory governance in which persons with disabilities hold leadership roles in early warning planning.

▸ **Pertiwi — Disability-Inclusive Volcanic Hazards Early Warning:** *View the slides* | *Read the full paper*

2. Not reached, not ready: early warning and chronic illness

Tara Ballav Adhikari · Aarhus University, Denmark (research conducted in Nepal)

The problem

Non-communicable diseases (NCDs) — cardiovascular disease, diabetes, COPD, asthma and other chronic conditions — account for more than 71% of deaths in Nepal, a country highly exposed to floods and landslides. For people living with NCDs, a generic flood warning is not enough. They may need extra lead time and condition-specific guidance to collect medicines and prescriptions, arrange transport or caregiver support, and reach safety before roads, homes, and health services are cut off. For these groups, an early warning failure can become a continuity-of-care failure.

The study

A qualitative study in two flood-prone municipalities of far-western Nepal (October 2024) gathered evidence from 96 participants through focus group discussions, in-depth interviews, and key informant interviews, including people living with NCDs, health workers, local responders, and government and NGO actors.

Five ways people living with NCDs are functionally excluded

- Timing — **warnings often arrive after the rain has already started, leaving no time to prepare medicines** or move before roads are blocked.
- Vague content — messages warn of rainfall or flooding but **say nothing about what someone with a chronic condition should actually do**.
- Language, literacy, and channels — **alerts are sent mainly as Nepali-language SMS, excluding speakers of local dialects**, people with low literacy, and those unfamiliar with phones.
- Exclusion from design — people living with NCDs are **rarely involved in designing, testing, or delivering warnings**, which weakens relevance, trust, and willingness to act.
- Weak care linkage and credibility — **warnings not followed by visible support, or that repeatedly mismatch what happen**s, erode trust until people stop paying attention.

Three shifts the evidence calls for

1. From geographic coverage to people-centred reach — ask whether people could actually receive, understand, and trust the warning, not only whether the area was covered.
2. From generic alerts to health-specific action advice — include reminders about medicines, prescriptions, mobility and caregiver support, and emergency contacts.
3. From warning dissemination to continuity-of-care support — link warnings to medicine stocks, health posts, mobile outreach, referral, and follow-up.

This formative study lay out a basis for Resilience NCD, a project with Nepal, Danish, and Canadian Red Cross and Aarhus University that adapts the WHO PEN package for disaster settings — building continuity of care

across all phases of a disaster. The Government of Nepal is validating it for integration into Ministry of Health programmes.

▸ **Adhikari — Not Reached, Not Ready:** *View the slides* | *Read the full paper*

3. "Disasters cannot happen here. Lord Jagannath will save us."

Chinmayee Mishra · Utkal University, India

The problem

This study moved the focus from technology and reach to why warnings that do arrive may still fail to produce action. In Odisha — India's "disaster capital," with roughly 260 cyclone landfalls in a century and ten of the deadliest in two decades — social inequality, cultural norms, and deeply held religious belief shape how people interpret risk and decide whether to act. The research examined women's experiences during Cyclone Fani, a Category 3 storm that made landfall on Puri on 3 May 2019.

The study

An exploratory mixed-methods study in Puri district, conducted in two phases (post-Fani 2019 and 2024), drew on 348 respondents: a household survey of 211 women plus 173 stakeholders, including ASHA and Anganwadi frontline health workers, Apada Mitra disaster-management volunteers, Odisha disaster-management staff, NGOs, and elected village representatives.

Key findings

- High reach, low preparedness. **Around 90% of women received warnings and knew a cyclone was coming, yet most took no adequate preparatory action** — a clear gap between reach and response.
- A risk-comprehension gap. Only 40% correctly identified Puri as the expected landfall location, and 93.6% had no information about the storm's likely severity or impact. **People heard the warning but did not believe it was serious enough to act on.**
- Faith-based fatalism. Many women believed faith in Lord Jagannath would spare Puri — a belief reinforced by the comparatively limited local impact of the 1999 Super Cyclone. **Disaster management stakeholders rated this the single strongest barrier to encouraging action**.
- Normalization bias and the "cry-wolf" effect. Over 90% had prior cyclone experience, which bred a false sense of security; **repeated warnings perceived as false alarms** (and Fani's unusual May timing) further depressed trust.
- Who falls through the cracks. **Dalit women in marginalised settlements where public-address announcements and vehicles do not reach**; elderly, pregnant, and disabled women facing mobility and communication barriers; and Telugu-speaking migrant fisherfolk excluded by Odia-only messaging.
- Digital divide and place attachment. Women largely used basic keypad phones; **text alerts were ineffective given low literacy**. Many also chose to stay to protect homes and assets.

Recommendations

1. Design behaviourally informed and culturally sensitive warnings that engage with belief and risk perception, not just hazard data.
2. Strengthen stakeholder capacity and recruit frontline workers from the community itself.

3. Use multilingual messages so migrants and linguistic minorities are reached.
4. Target the most vulnerable — Dalit women, women with disabilities, and migrant women — and build feedback loops from grassroots volunteers.
5. Involve women from marginalised communities in designing warning materials as a matter of procedural justice, and use CSR funding to improve last-mile infrastructure.

▸ **Mishra — Women's Experiences and Barriers to EWS in Odisha:** *View the slides* / *Read the full paper*

Cross-cutting takeaways

- **Coverage ≠ action.** In every study, people inside the "covered" area still could not, or did not, act — because of inaccessible formats, vague content, late timing, weak trust, or belief.
- **Trust and social networks are infrastructure.** Sirens and SMS underperformed; trusted messengers — OPDs, faith and community leaders, ASHA/Anganwadi and Apada Mitra volunteers, families — carried warnings the last mile.
- **Co-design is the common prescription.** All three presenters called for involving at-risk groups in designing, testing, and delivering warnings, not merely receiving them.
- **Warnings must connect to support.** A message is only useful when paired with the means to act — accessible transport and shelters, continuity of care, and clear protective guidance.
- **Redundant, multilingual, multi-channel delivery is essential.** No single channel reaches everyone; SMS must be combined with radio, loudspeakers, direct calls, and trusted local voices in the right languages.

One low-cost change agencies could make tomorrow

Asked what disaster management or alerting authorities could change to make the EWS more inclusive, the presenters agreed the **highest-value, lowest-cost step is to engage existing local structures directly**:

- **Pertiwi:** Find and partner with the organisations of persons with disabilities already in your area; ask them directly how, where, and in what format warnings should reach their members, and bring them into planning.
- **Mishra:** Strengthen the decentralised village network — ASHA and Anganwadi workers, Apada Mitra volunteers, elected representatives, and community members acting together. One small change at village level produces visible change at district and state level.