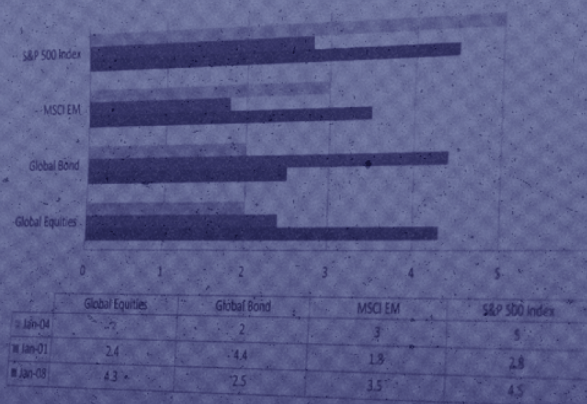


ROUND 2 · POST-EARTHQUAKE RECOVERY

Segmentation of Households Affected by the Earthquake: Prioritizing Humanitarian Aid

Equi Express - August 2026



1. Introduction

More than a month after the magnitude 7.2–7.5 earthquake that struck north-central Venezuela on June 24, 2026, Equilibrium carried out a second round of the EquiExpress Survey: 809 households across seven states (La Guaira, Distrito Capital, Miranda, Aragua, Carabobo, Yaracuy, and Falcón). Unlike the first round, which focused on the immediate emergency, the instrument for this second measurement was expanded to 15 sections and incorporated modules that only make sense past the first month: livelihood recovery, mental health, gender protection, legal security and documentation, and perceptions of the institutional response.

As in the first round, we applied a cluster analysis to segment surveyed households into distinct need profiles, rather than treating the affected population as a homogeneous block. The result is the same number of groups as in Round 1 — four — but with a more complete picture: we now know not only how damaged each profile's housing is, but also how urgent their need for chronic medication is, how safe they feel, and how satisfied they are with the authorities' response.

Central finding

The structure of the crisis did not change — but the nature of the need did

The analysis grouped households into the same number of profiles in both rounds — four — independently, based on different instruments and variables: a small group facing maximum severity, a large group with low-visibility vulnerability, an intermediate group in transition, and a resilient group. But by incorporating Round 2's new dimensions, Cluster 2 — the "hidden vulnerability" cluster — is now defined with hard evidence: 88% of its households need regular chronic medication, the highest share of the four groups, and 52% had not received any humanitarian aid by the time of data collection.

This report first presents a comparison between the two rounds, and then details each of Round 2's four profiles, with their distinguishing variables, geographic concentration, and the prioritization recommendations that follow from each one.

2. Methodology

The second round was carried out through computer-assisted telephone interviews (CATI) with 809 households directly affected by the earthquake, distributed across seven states. The instrument expanded the first round from nine to fifteen thematic sections, incorporating conditional modules (child nutrition, maternal health, elderly care) that are only activated for the households to which they apply.

Households surveyed	809
States covered	7 (La Guaira, Distrito Capital, Miranda, Aragua, Carabobo, Yaracuy, Falcón)
Instrument sections	15
Variables used in clustering	27
Distance method	Gower (mixed numeric/categorical variables)
Hierarchical linkage method	Complete linkage
Range of cluster counts explored (k)	2 to 9
Minimum cluster size rule	≥ 5% of the sample
Number of clusters chosen (k)	4
Silhouette score (with 4 clusters)	0.085

Why did the analysis yield four clusters?

The highest silhouette score corresponds to the two-group solution (0.227), but that partition separates households only by severe housing damage or its absence, without distinguishing health, income, or institutional-trust dimensions — too coarse a segmentation to prioritize assistance. Among solutions with three or more groups, all with at least 5% of the sample, the four-cluster solution (k=4, in technical notation) obtained the highest silhouette score (0.085) and produces the most actionable profiles, replicating the same methodological decision made in Round 1.

Comparability with Round 1

To make the comparison in the next section valid, we kept Round 1's methodological logic as closely as possible:

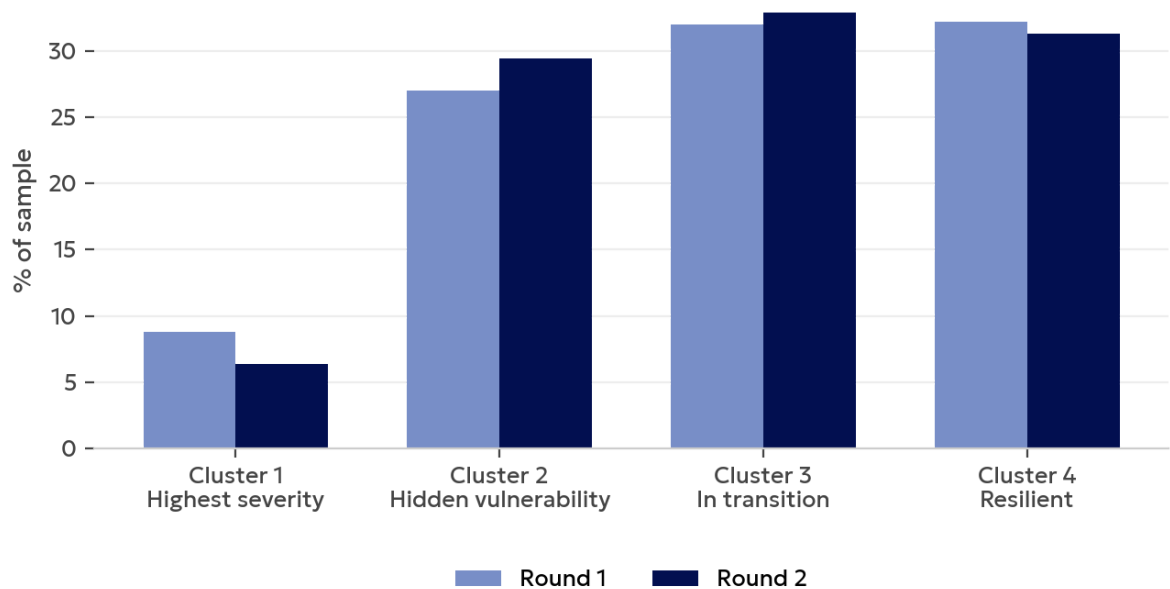
- **Variable continuity** — 19 of the 27 variables used in Round 2's clustering are the same questions from Round 1 (renumbered or with adjusted response formats); 8 are new and apply to all households (mental health, gender protection, institutional satisfaction, legal/documentation burden).
- **“Before vs. currently” variables** — Round 2's instrument added a retrospective version of the water, electricity, gas, and signal questions. To keep Round 1's same criterion, the clustering uses only the current status; the “before” remains solely as descriptive reference.
- **Different geographic coverage** — Falcón appears as a new state in Round 2 (7.3% of the sample, not present in Round 1) and Carabobo nearly doubled its relative weight. Comparisons of absolute magnitude between rounds should be read with this caveat: part of the change may reflect where the survey was conducted, not only the real evolution of households' situation.

3. Comparative finding: Round 1 → Round 2

Comparing two rounds built with different instruments requires caution, but the methodological consistency described in the previous section allows us to draw three reliable conclusions about how the crisis facing affected households evolved — or didn't.

1. The four-profile structure remains stable

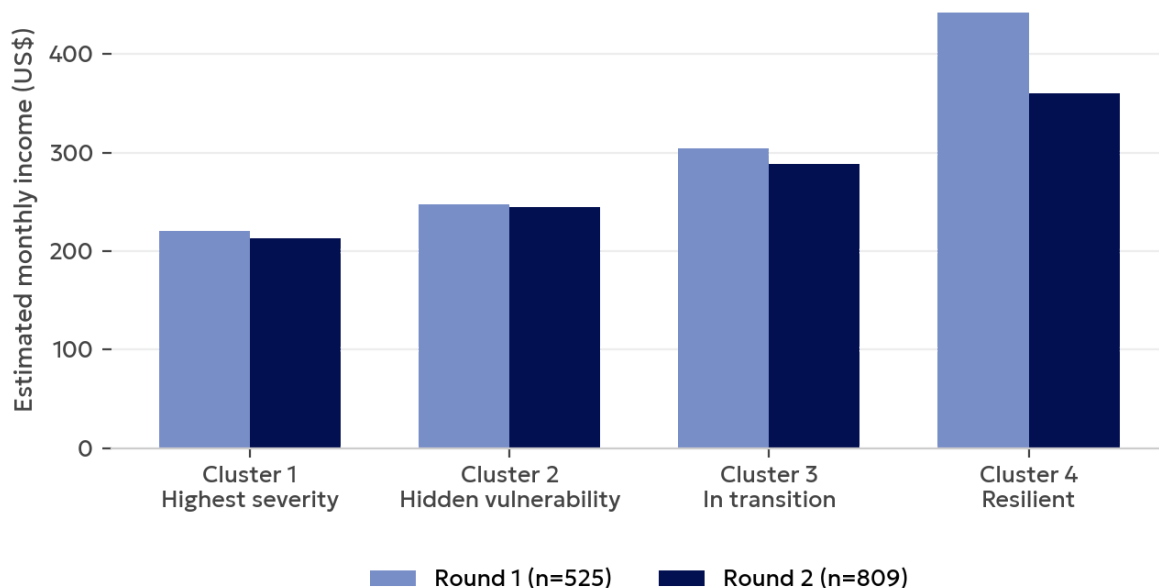
The analysis grouped households into four clusters in both rounds, independently, without editorially forcing it in Round 2 as was necessary in Round 1. This suggests that the heterogeneity of needs among affected households is not an artifact of a single survey, but a real and persistent pattern: a small group facing maximum severity, a large group with low-visibility vulnerability, an intermediate group in transition, and a relatively resilient group.



Relative size of each cluster as % of the sample, Round 1 vs. Round 2

2. The income gap between profiles persists, with somewhat lower levels in Round 2

In both rounds Cluster 1 reports the lowest estimated monthly income and Cluster 4 the highest — the relative distance between both extremes is nearly identical (2.0x in Round 1 and 1.7x in Round 2). Absolute levels are slightly lower in Round 2, but this difference cannot be attributed solely to greater impoverishment: the change in the sample's state mix (Falcón's appearance, Carabobo's greater weight) also affects the overall average.



Estimated monthly income (US\$) by cluster, Round 1 vs. Round 2

3. Round 2 reveals a dimension Round 1 could not measure: institutional trust

Dissatisfaction with the authorities' response cuts across all four profiles

Between 46% and 58% of households in each of the four clusters report being “not at all satisfied” with the authorities' response to the emergency — including Cluster 4, the most materially resilient. This variable did not exist in Round 1's instrument; its inclusion in Round 2 shows that institutional dissatisfaction is not exclusive to households with greater material need, but a common denominator across the entire affected population.

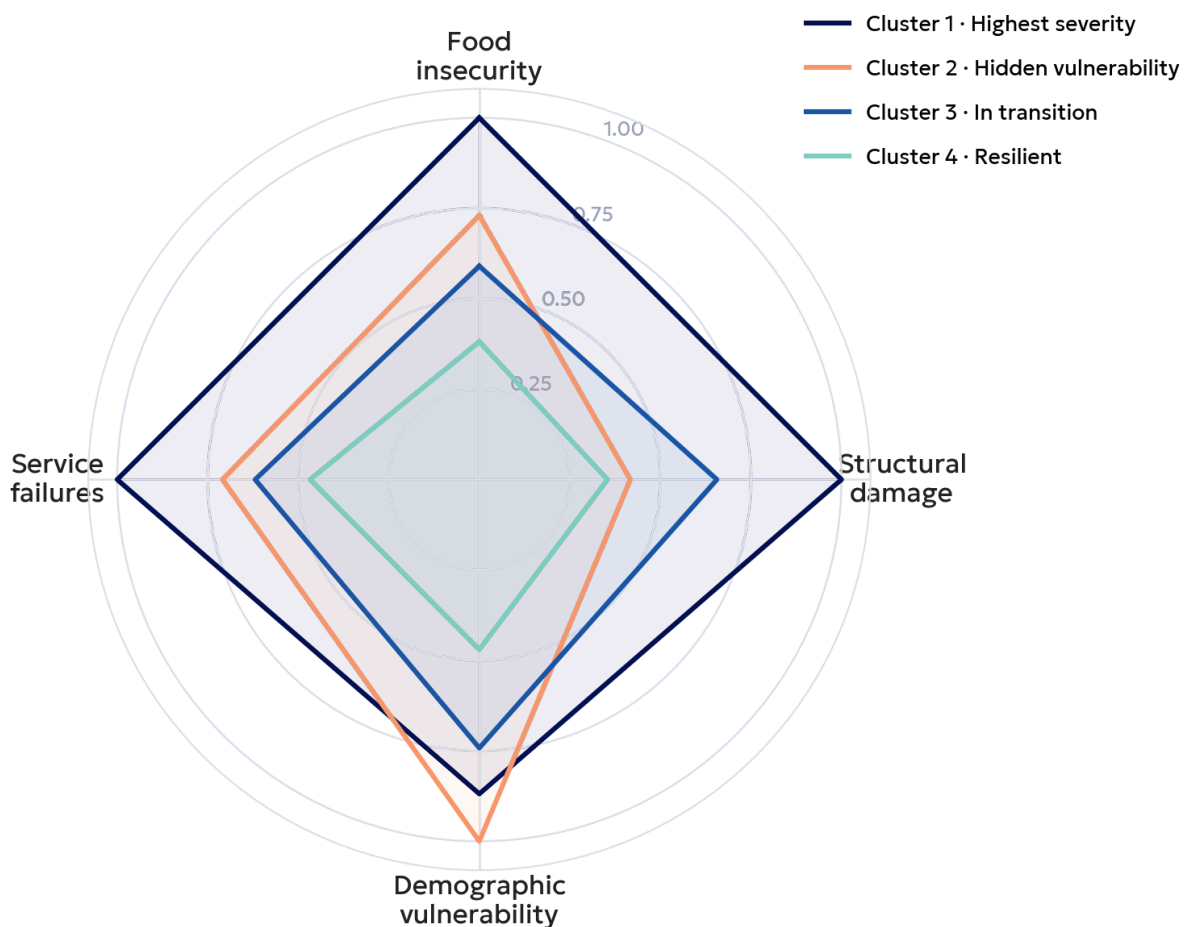
In summary: the picture of material need (housing, food, income) changes relatively little between rounds — expected given only weeks of difference and a sample that does not track the same households over time. What does change is the depth of the diagnosis: Round 2 shows more clearly that the crisis also has a dimension of unaddressed chronic health needs (Cluster 2), of protection and perceived fairness in aid distribution, and of institutional trust eroded across the board.

4. Results by cluster

Below, the profile of each of the four groups identified in Round 2, ordered from highest to lowest relative need. Each profile includes its most distinctive variables relative to the overall average and its geographic concentration.

A four-dimension need index

To compare clusters that operate on different scales — dollars, days, headcounts — we built a relative need index: each dimension is normalized by dividing each cluster's value by the highest value observed in the sample for that same dimension, so that 1.00 always identifies the most affected cluster on that axis.



Relative need index by dimension (1.00 = most affected cluster on that dimension)

The result shows at a glance that no single cluster dominates all four dimensions at once: Cluster 1 leads in structural damage, food insecurity, and service failures, but it is Cluster 2 — not Cluster 1 — that leads in demographic vulnerability. This confirms, in a single view, this report's central finding: the most urgent need does not always coincide with the most visible damage.

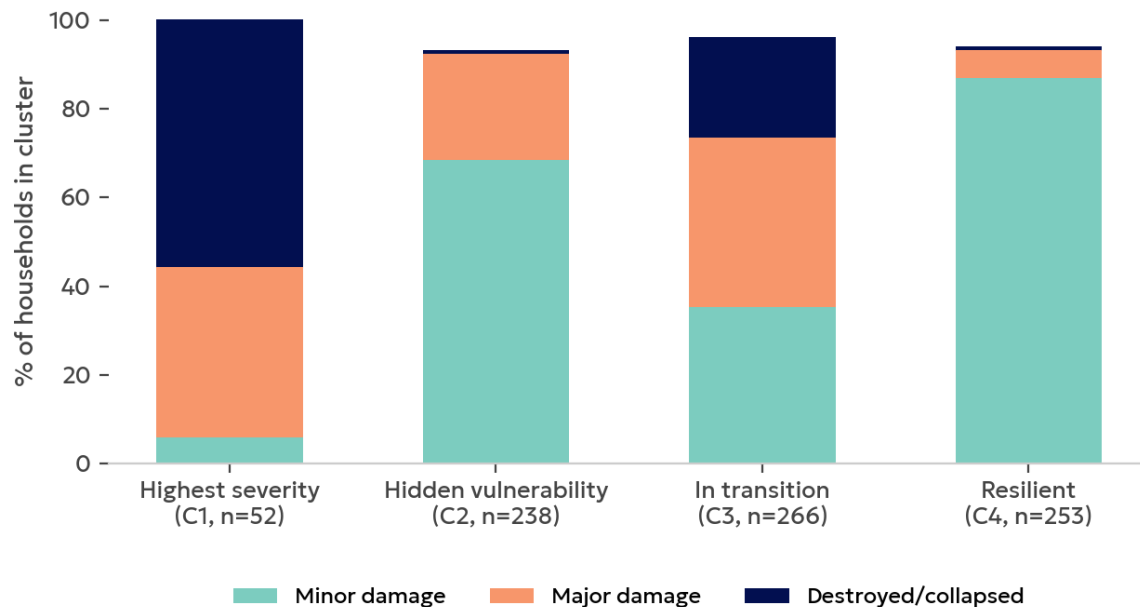
C1

Highest severity · 52 households · 6.4% of the sample
Still without shelter, and now without trust in the response

The smallest cluster in the sample concentrates the most severe damage and the least visible recovery more than a month after the earthquake. More than half of its households have housing that is destroyed or collapsed, and seven in ten no longer have electricity or piped water.

It is also the only group with households still living in official shelters or improvised spaces (46% and 35%, respectively), and the one reporting the highest share of households with a family death (46%) or a missing family member (23%) as a result of the earthquake. This combination of material loss, human loss, and near-total absence of basic services explains why it is also the group with the greatest distrust in the institutional response: for these households, the emergency is not over.

Housing destroyed or collapsed	55.8%
Currently without electricity	59.6%
Currently without piped water	71.2%
No food reserves	44.2%
Estimated monthly income	US\$ 212.98 (the lowest)
Lost a family member (death)	46.2%
Lost identity/property documents	71.2%
Considers spaces unsafe for women/children	69.2% (the highest)
“Not at all satisfied” with authorities' response	57.7%



Housing damage level by cluster

Where it is concentrated

69% in La Guaira and 27% in Distrito Capital — the same geographic concentration as the highest-need cluster in Round 1.

C2

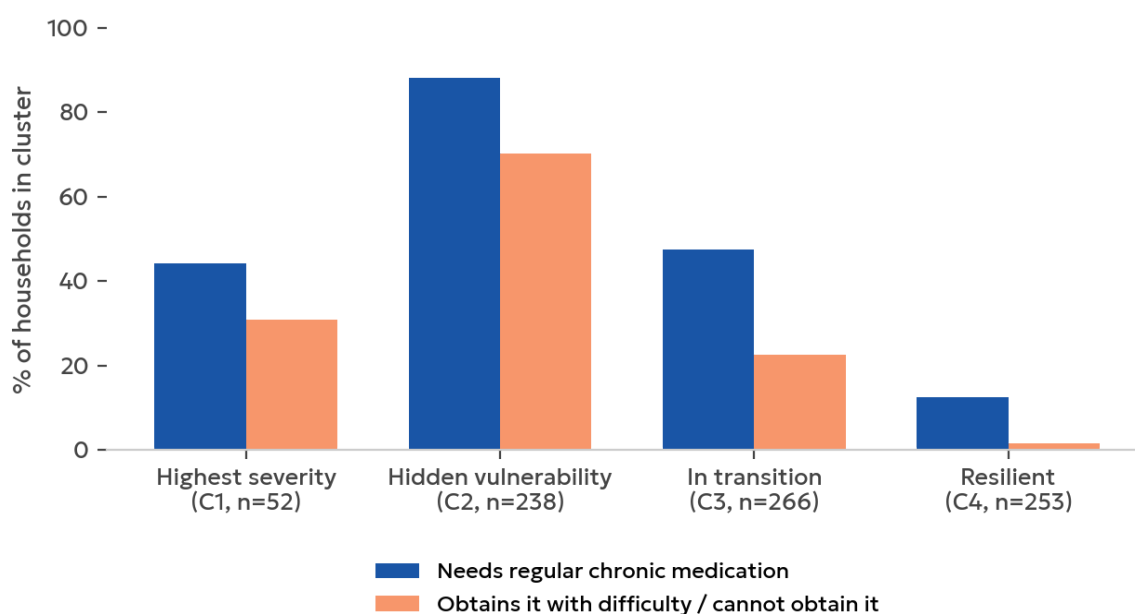
Hidden vulnerability · 238 households · 29.4% of the sample

The crisis you can't see: chronic illness without access to medicine

The most numerous cluster after Cluster 3. Its housing is relatively intact — 68% with only minor damage — and most are not displaced. But it is by far the group with the greatest burden of chronic illness and the least access to the medication it needs: a vulnerability that isn't visible walking through the community, but that undermines household members' health on an ongoing basis.

Unlike Cluster 1, here the central problem is not housing but health and income: nearly nine in ten households have someone who depends on regular medication, and seven in ten of them cannot obtain it without difficulty. It is also the group with the highest share of people aged 60 or older, children, or people with disabilities in the household, which helps explain why it reports the highest level of emotional distress since the earthquake. With no visible housing damage, it is the group at greatest risk of falling outside targeting criteria based solely on infrastructure.

Needs regular chronic medication	88.2% (the highest, ×2 vs. the rest)
Obtains it with difficulty or cannot obtain it	70.2%
Vulnerable-persons index (60+, children, disability, chronic illness)	2.18 (the highest)
“Significant distress” since the earthquake	50.0% (the highest)
Has not received any aid so far	51.7% (the highest)
Main obstacle: lack of money or income	66.0% (the highest)
Currently intermittent electricity	83.6% (the highest)
“Not at all satisfied” with authorities' response	58.4% (the highest)



Need for chronic medication and difficulty obtaining it, by cluster

Where it is concentrated

The cluster with the broadest geographic distribution: 31% La Guaira, 26% Distrito Capital, 17% Yaracuy, 9% Carabobo, 7% Falcón, 6% Aragua, 4% Miranda.

C3

In transition · 266 households · 32.9% of the sample
Halfway there, living in someone else's home

The largest group in the sample. It combines considerable housing damage —38% with major damage, 23% destroyed— with a pattern of active displacement: 74% of its households are displaced (within their area or elsewhere), and 45% currently live with relatives or friends, the highest share of the four clusters.

It is a group in motion: a large share of its households have not yet decided whether to stay in their community, return to their original home once repaired, or move permanently. Living with relatives eases

the immediate need for shelter, but shifts the economic burden onto host households — a cost that damaged-housing statistics don't capture, but that can become unsustainable if it continues.

Living with relatives or friends	45.1% (the highest)
Displaced (within area or elsewhere)	74.4%
“None” food-insecurity severity (normal access)	24.1%
Income equal to or already recovered	22.2%
Considers women at greater risk	28.9% (the lowest)
Lost identity/property documents	28.2%
“Not at all satisfied” with authorities' response	46.2% (the lowest of the group)
Urgent need: shelter or housing repair	36.1%

Where it is concentrated

51% in La Guaira, 20% in Distrito Capital, 7% Falcón, 7% Miranda, 5% Aragua, 5% Carabobo, 5% Yaracuy — the most dispersed cluster along with Cluster 2.

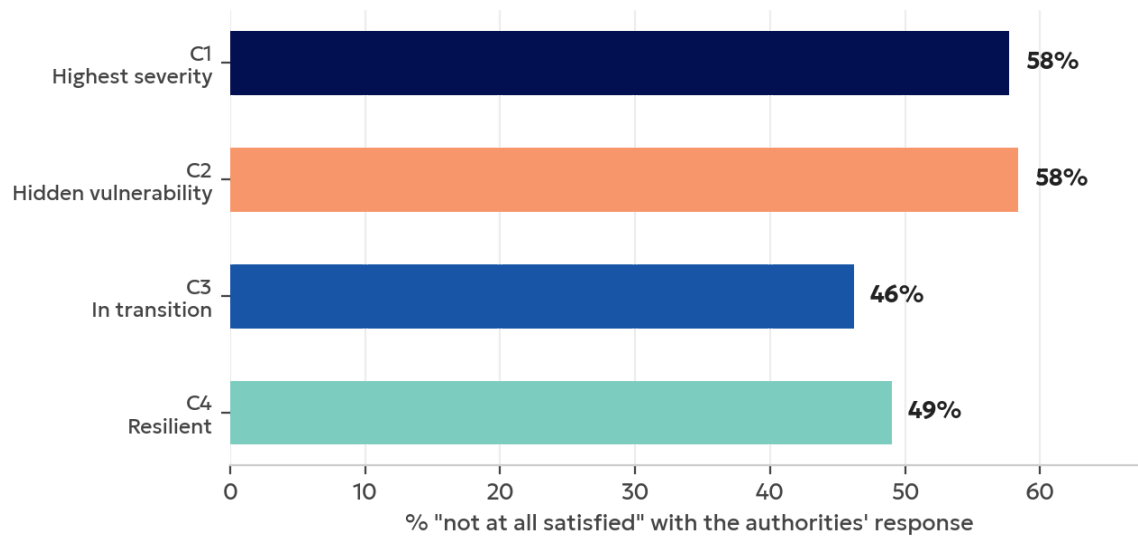
C4

Resilient · 253 households · 31.3% of the sample
The damage was light, but the distrust is universal

The most materially resilient profile: 87% of its housing shows only minor damage, 77% of its households are not displaced, and half have already recovered their income. Even so, dissatisfaction with the institutional response reaches nearly the same level as the other groups — evidence that trust in the authorities does not depend solely on how much each household lost.

It is the only group where most households have not received humanitarian aid, and unlike Clusters 1 and 2, this is consistent with their lower level of need rather than a coverage gap. Its main concern is no longer material but forward-looking: how quickly electricity service will be restored to normal and how transparent accountability for the overall emergency response will be.

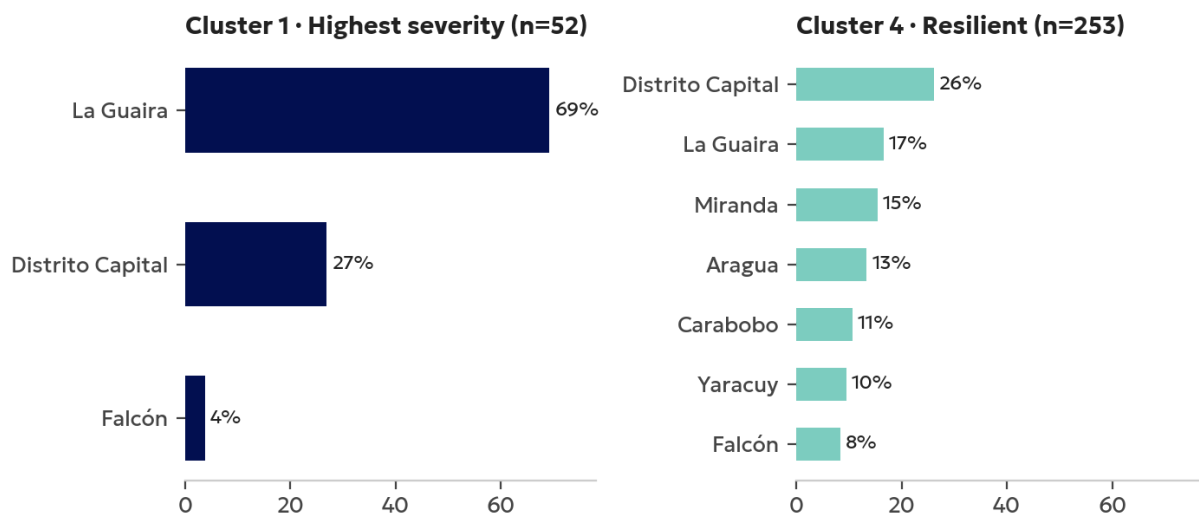
Housing with only minor damage	87.0% (the highest)
Not displaced	77.1% (the highest)
Income equal to or already recovered	50.2% (the highest)
No food reserves	4.7% (the lowest)
“Have adapted well” since the earthquake	30.4% (the highest)
Has not received any aid so far	64.4% (consistent with lower need)
Urgent need: electricity/power	28.1% (their main outstanding need)
“Not at all satisfied” with authorities' response	49.0%



% of households "not at all satisfied" with the authorities' response, by cluster

Where it is concentrated

The most dispersed and evenly balanced cluster across states: 26% Distrito Capital, 17% La Guaira, 15% Miranda, 13% Aragua, 11% Carabobo, 9% Yaracuy, 8% Falcón.



Geographic concentration: Cluster 1 (most concentrated) vs. Cluster 4 (most dispersed)

5. Recommendations

More than a month after the earthquake, the response priority is no longer uniform: each cluster requires a different type of intervention, and several of them require more than one at once.

C1

Highest severity · 52 households · 6.4% of the sample
Still without shelter, and now without trust in the response

- **Immediate priority** — reconnecting basic services (electricity, water) and restoring adequate shelter; it is the only group with households still exposed to the elements or in improvised spaces.
- **Document recovery** — 71% lost identity or property documents; set up document-recovery drives at the points of highest concentration (La Guaira, Distrito Capital).
- **Communication and transparency** — this is the group with the greatest institutional distrust and the highest perceived risk to women and children; the material response must be paired with clear communication about aid-allocation criteria.

C2

Hidden vulnerability · 238 households · 29.4% of the sample
The crisis you can't see: chronic illness without access to medicine

- **Immediate priority** — restore access to chronic medication; this is the group with the widest gap between need (88%) and effective access (only 30% without difficulty).
- **Economic support** — this is the group where “lack of money or income” is most often cited as the main obstacle; cash or transfers conditioned on health may have the greatest return here.
- **Mental health** — half of its households report significant distress; this is the group with the greatest need for psychosocial support, even though it does not spontaneously prioritize it as an urgent need.
- **Active outreach** — 52% has not received any aid; since it lacks visible housing damage, it is the group most likely to fall outside targeting criteria based solely on infrastructure.

C3

In transition · 266 households · 32.9% of the sample
Halfway there, living in someone else's home

- **Immediate priority** — support for temporary housing or repairs, given that 45% currently depends on relatives or friends — a strain on host families that is not sustainable over the medium term.
- **Return pathway** — 34% of its households are still undecided about staying, returning, or relocating; clear information on reconstruction timelines and relocation options would help them decide.
- **Livelihoods** — second-highest group in loss of productive assets; training and credit to resume economic activity.

C4

Resilient · 253 households · 31.3% of the sample
The damage was light, but the distrust is universal

- **Immediate priority** — restoring electricity; it is the only material need where this group stands out from the rest (28% flags it as urgent).
- **Does not require large-scale material assistance** — given its level of recovery, channeling emergency aid here would yield a lower return than for Clusters 1 and 2.
- **Institutional communication** — even without urgent material need, nearly half distrusts the authorities' response; keeping this group informed supports social cohesion without diverting resources from direct assistance.

General recommendations

- **Target by profile, not just by housing damage** — Cluster 2 shows that the most urgent need (access to chronic medication) does not always match the most visible infrastructure damage. Aid eligibility criteria should incorporate health variables, not just housing.
- **Address the institutional trust gap across the board** — with dissatisfaction of 46-58% across all four clusters, a communication strategy on allocation criteria and response progress benefits the entire affected population, not just the groups with the greatest material need.
- **Make protection and mental health a standard component** — these dimensions, absent in Round 1, now appear as real, cluster-differentiated needs; they should be maintained in future monitoring rounds.
- **Repeat the measurement** — since the four-cluster structure remained stable between rounds, a third measurement would confirm whether this is a persistent typology of the crisis or whether households are shifting between profiles as recovery progresses.