How Did the Elderly in Tamil Nadu Weather the COVID-19 Lockdown? Evidence from the Tamil Nadu Aging Panel

September 6, 2020

Outline

- The Tamil Nadu Aging Panel and Government Partnership
- What we know about the lives of the elderly (Baseline: Jan - Jun 2019)
- How the elderly are coping with the coronavirus pandemic
- Improving mental health and economic well-being

The Tamil Nadu Aging Panel Government Partnership

- Challenge: **Demographic transition**, with elderly population (55 years or above) in developing countries slated to grow more than three-fold between 2011 and 2050
  - Tamil Nadu: from 7.2% in 2011 to 22%+ by 2050
  - Insufficient data to inform policy to address this changing context
- Solution: create a **high-quality 7-year-long panel dataset**
- Inform design and implementation of social safety schemes (pensions, cash transfers, public distribution), health policy, mental health interventions
  - Launch an **RCT with an intervention to fight loneliness** among the elderly living alone
- **Collaborating with Government of Tamil Nadu** to collect data, part of the larger J-PAL institutional partnership since 2014
  - The Department of Economics and Statistics collected self-reported survey data; medical staff at the Directorate of Public Health collected health measurements;
  - J-PAL provided technical guidance and research support; principal investigators designed and piloted project and interventions

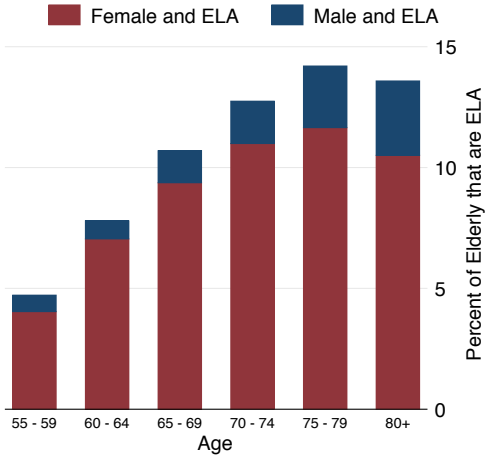
A representative sample of TN's elderly

- **Census**: **61,954 households** (HHs) from 5 state-representative districts, further stratified into district-representative Primary Sampling Units, were surveyed to identify eligible households (those with at least one elderly)
- **Panel sample**: **5,000 HHs** with at least one elderly member (55 years or over)
- Subgroups of interest
  - Elderly living alone (ELA), i.e., single-member HHs (1530)
  - Elderly potentially eligible for but not receiving Old Age Pensions (OAP) (1279)
- **Stratified random sampling**, by village/town, identified a panel sample with three subgroups from the census listing: a random sample, the ELA, and the OAP

Panel Survey Waves and COVID-19 Update

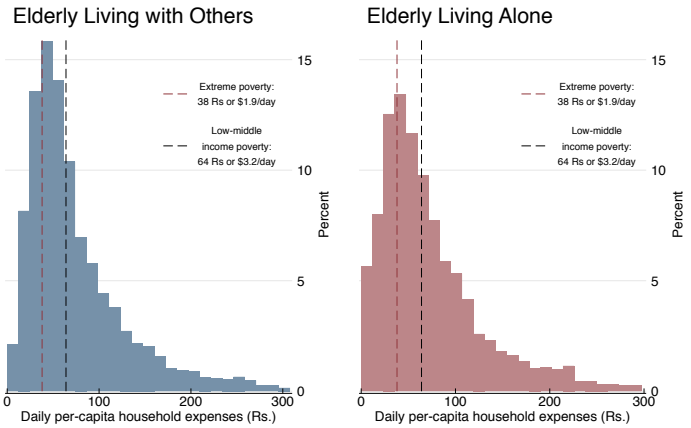
- **Baseline survey**: January-June 2019. Future waves: 2021, 2023, 2025.
  - Economic well-being (consumption, income, food security)
  - Health (mobility, diagnosed diseases, health-seeking behavior and utilization)
  - Mental health (depression, loneliness)
  - Social interaction (community activities, family)
  - Health measures (blood pressure, diabetes, mobility)
- **COVID update**: Two short phone surveys. April and July 2020.
  - Awareness of symptoms/lockdown, prevalence of symptoms
  - Coping: access to the government's COVID welfare measures, food security, economic situation, physical and mental health.

The Elderly Living Alone (ELA) are predominantly female



- TN census exercise with 61,954 households
- 13% of households with elderly are single-member households, i.e. elderly living alone.
- 87% of the ELA are female; written another way, 15% of elderly females are ELA.

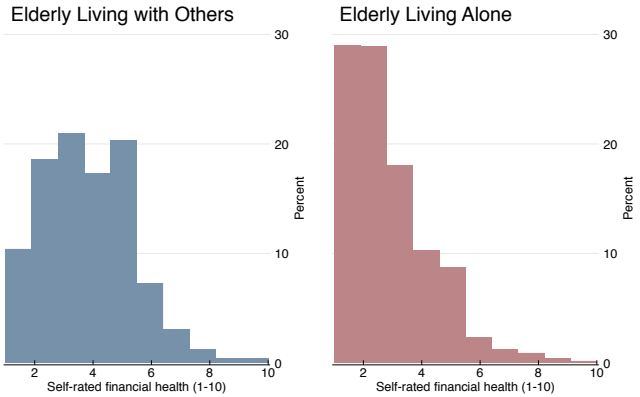
Poverty is very high among the elderly



Notes: Extreme and low-middle income poverty lines are taken from the World Bank. USD coversions are PPP.

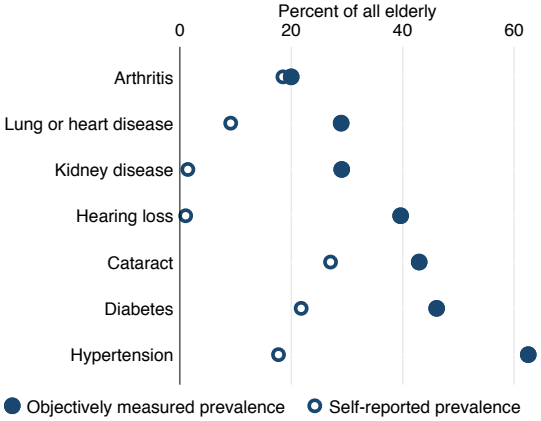
- 25% of the elderly living with others fall under the extreme poverty line, $1.90 per person per day.
- 28% of the elderly living alone are below the extreme poverty line
- Compared to 12% of the state as a whole.

Self-described financial situations are worse for the ELA



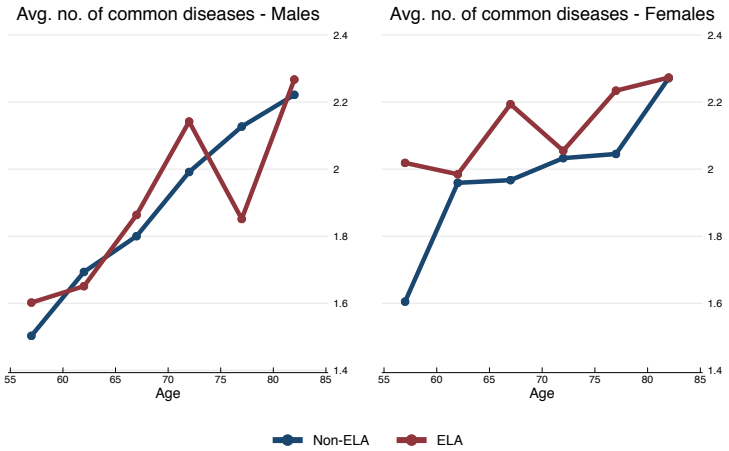
- The average elderly household rated their financial situation as "difficult," a 3 on a 1-10 scale.
- 1 reflects an extremely difficult financial situation; 10 reflects extremely comfortable.
- Despite an only slightly higher ELA poverty rate, nearly 60% of the ELA rated their financial situation as "extremely or very difficult."

Objective disease prevalence is high yet not self-reported



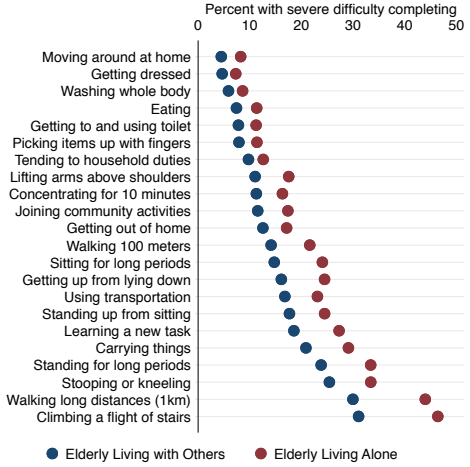
- Very high disease prevalence among the elderly when medically examined
- Awareness gap: much lower self-reported prevalence of most diseases.

Disease prevalence increases in age



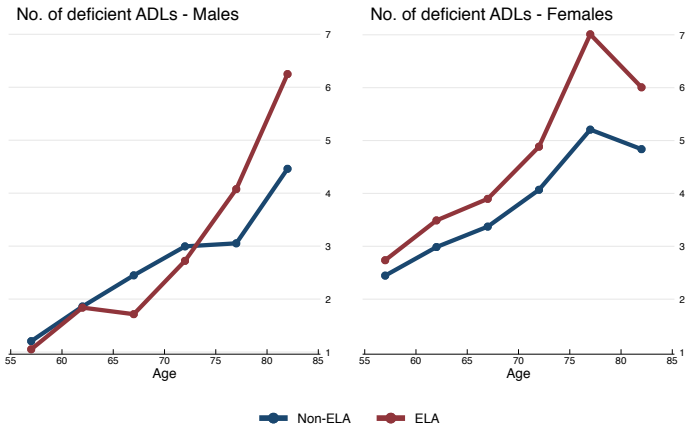
- Of the seven common diseases listed above, prevalence is increasing in age.
- Particularly steep increase among males, as females have higher disease prevalence early on, especially the female ELA

Significant functional impairment, especially for the ELA



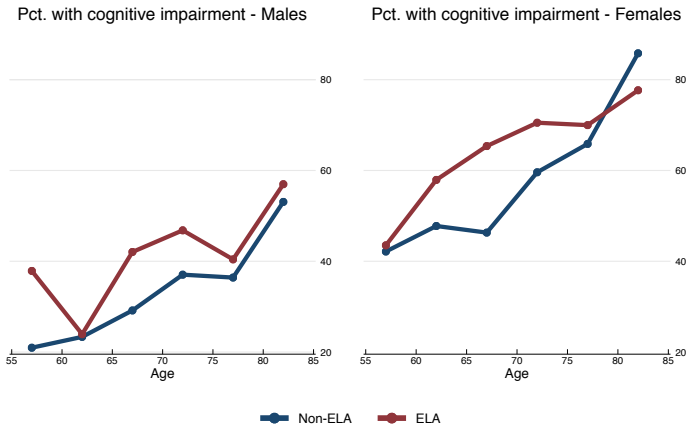
- ELA considerably more likely to have difficulty completing various activities of daily living;
- Disparity grows with activity difficulty.

Functional impairment increases steeply with age



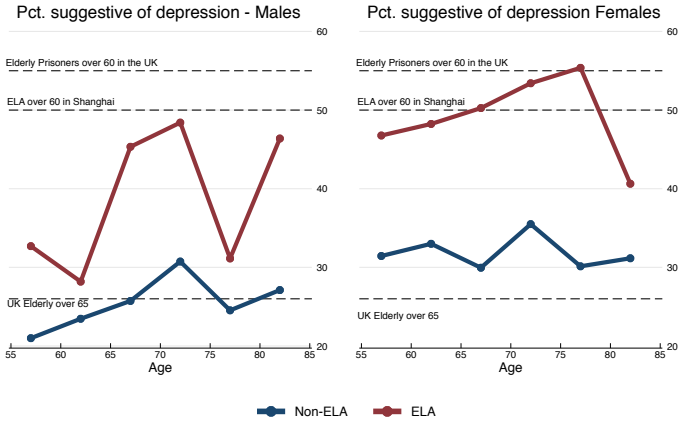
- "Functional impairment" is the number of ADLs (of 22 listed previously) which respondents have at least severe difficulty completing.
- Females and the female ELA are more likely to be functionally impaired.
- Functional impairment grows sharply with age.

Cognitive impairment is very high for females



- High prevalence of cognitive impairment, as measured by the Mini Mental State Examination
- Higher for the ELA and far higher for females, across ages.
- 80% of females over 80 demonstrate mild or severe cognitive impairment.

The ELA are far more likely to demonstrate depression



- High absolute rates of depression, as has commonly been seen for the elderly.
- More females and many more ELA show symptoms of depression depression.

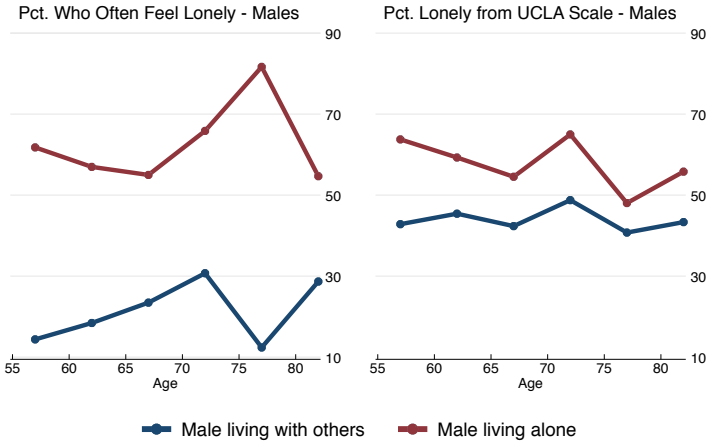
Notes: Depression scores from 15-item Geriatric Depression Scale: scores above 5 (out of 15) are suggestive of depression and scores above 9 are almost always indicative of depression. Values for elderly prisoners from O'Hara et al. 2016, ELA in Shanghai from Chen and While 2018, UK elderly from D'Ath et al. 1994.

We measure loneliness in two ways

- **Directly-reported loneliness**: "Do you often feel lonely?"

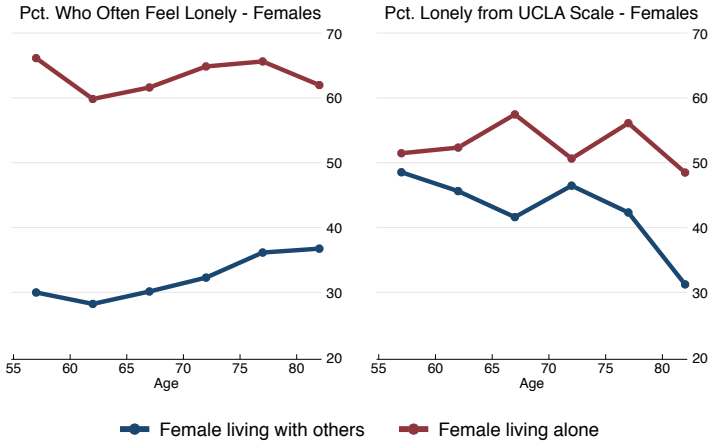
- **UCLA Loneliness Scale**:
  - Short-form (four-item) version;
    - "I feel in tune with the people around me"
    - "No one really knows me well"
    - "I can find companionship when I want it"
    - "People are around me but not with me"
  - Responses on 3-point Likert scale. Items are reverse or forward-scored, depending on direction.
  - Not validated in the Indian context

Among males, the ELA are especially lonely



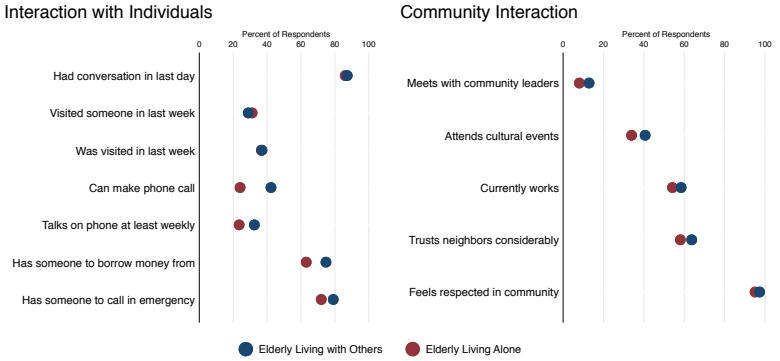
- Loneliness among males differs significantly between direct reports and that from 4-item UCLA scale, but considerable rate of loneliness persists.
- Loneliness among the male ELA is extremely high, around 60%.

Among females as well, the ELA demonstrate outsized loneliness



- Among females, the high rate of loneliness roughly doubled for the female ELA.
- Mirrors male loneliness, as does the discrepancy between direct reports and UCLA loneliness scale.

Social interaction with individuals and community



- Elderly report having sources of support in times of trouble and feel respected in their community.
- Little in-person and phone interaction, as well as low community engagement.
- For ELA, all forms of community interaction slightly less likely, as are phone use and having sources of emergency support.

The ELA own far fewer assets enabling connection

	(1) Living with others mean	(2) Living alone mean
Bicycle	30	3
Scooter	47	2
Car	4	1
Phone	84	36
Computer	5	1
Internet connection	11	1
Observations	4760	1534

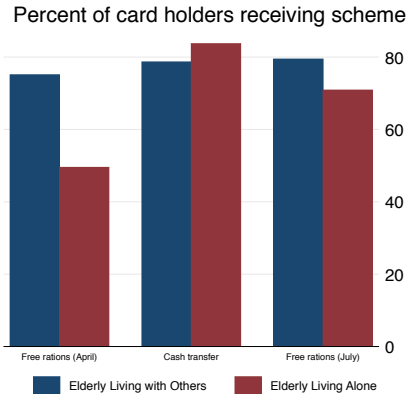
Table: Asset ownership (percentage who own each asset)

- ELA far less likely to own assets enabling both in-person and remote connection
- Raises concerns about reaching the ELA in times of crisis

Two waves of COVID-19 phone surveys

- Two waves of phone surveys were planned to understand the effects of COVID-19 and the lockdown on the elderly, specifically:
  - Access to government COVID welfare measures, food security, economic situation, physical and mental health.
  - The role of state pensions and welfare measures in alleviating the pandemic's effects over time.
- Target sample: 4,929 elderly with phone access, from the 6,294 baseline sample.

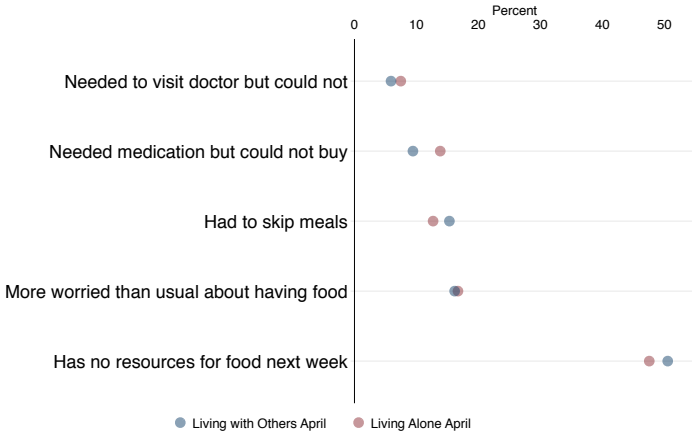
Receipt of government schemes



- The state of Tamil Nadu launched two schemes for ration card holders
  (1) Free rations from April to July, doubling the rice entitlement
  (2) Cash transfer of Rs. 1000 (about USD 14) per ration card for April and May
- The schemes reached most, although not all, intended recipients.

Notes: During Wave 1 (April), the ELA were surveyed one week earlier than all others.

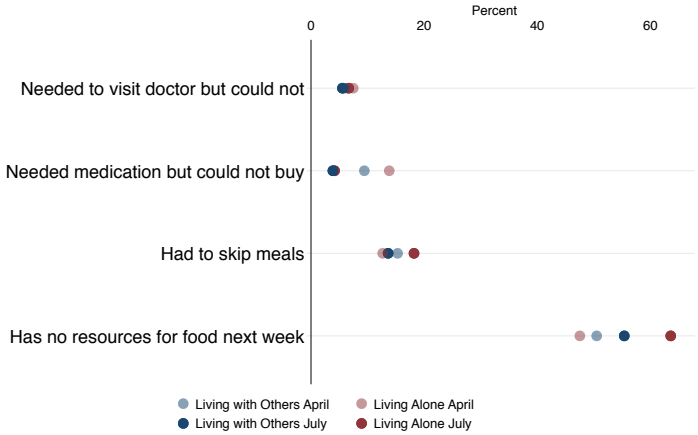
Health challenges and food insecurity at the beginning of the lockdown



Notes: During Round 1, the ELA were surveyed one week earlier than all others.

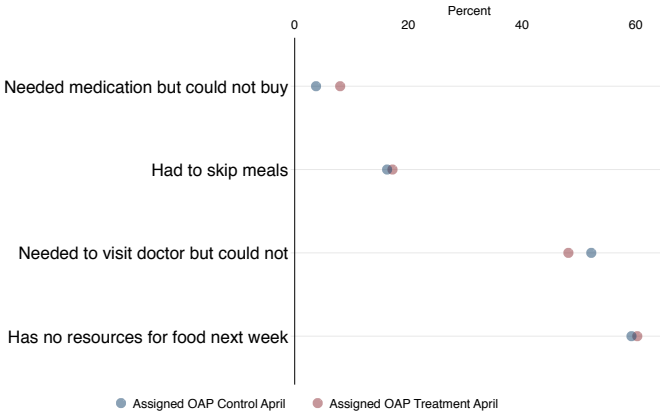
- At the start of the lockdown, the elderly faced significant health and food-security challenges.
- Nearly 50% reported not having enough resources for food in the next week.

Health challenges and food insecurity later in the lockdown



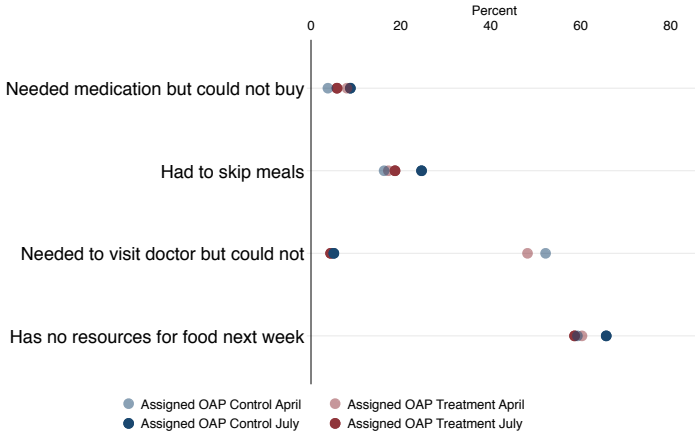
- The number of elderly unable to buy medicine or see a doctor since April has fallen.
- Food insecurity, however, has risen and is high, particularly among the elderly living alone.

Among the pension-eligible, recipients and non-recipients are equally well-off in April



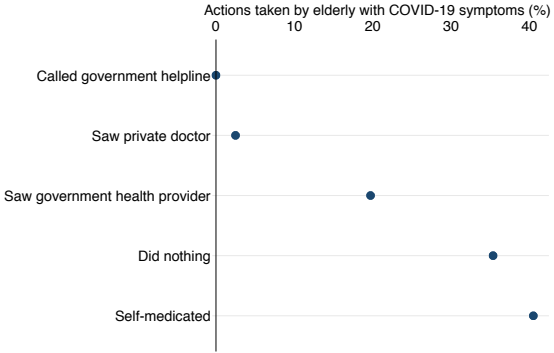
- Not all eligible for the Old Age pension receive it.
- In the census exercise, a group of 1,124 individuals were identified as OAP eligible but not receiving it. These individuals were randomized into a treatment group or a control group for receiving the pension. 42% of the treatment group, compared to 8% of the control group, now receive the pension.
- Those in the treatment and control groups were of equal financial stability in April, when pension payouts were delayed.

Those randomized to receive the pension fare better as the lockdown progresses (July)



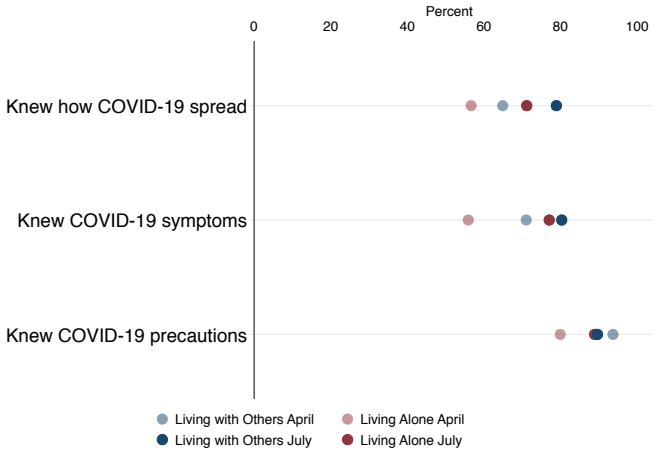
- By the July survey, Old Age pension payments had resumed for a number of weeks.
- The treatment group, relative to control, was now much less likely to report having not having enough resources for food in the next week.

Most elderly with COVID symptoms did nothing or self-medicated



- 1.4% of the elderly reported having COVID-19 symptoms during the April phone surveys.
- Of the elderly reporting symptoms, nearly 80% did nothing or self-medicated.
- No one reported calling the government helpline in April; only 0.1% reported having called the government helpline in July.

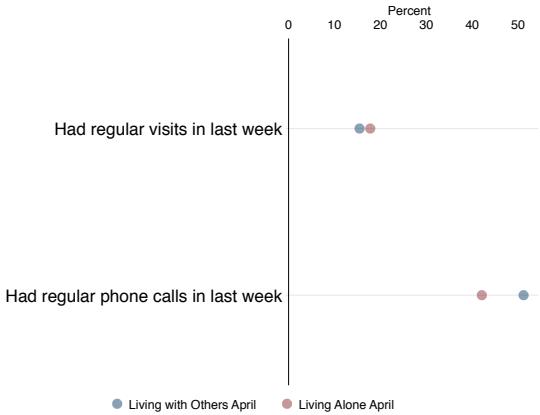
COVID-19 awareness



- Awareness of COVID-19 spread, symptoms, and precautions is moderate.
- Awareness has grown among the elderly living alone, presumably as information percolates through networks.

Notes: During Round 1, the ELA were surveyed one week earlier than all others.

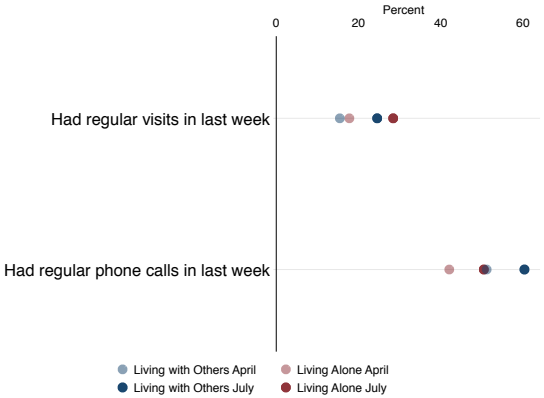
Social connection was very low early lockdown (April)



- At the beginning of the lockdown, social interaction was low for the elderly, both in-person and remote.
- Early on, the ELA were less likely to have regular phone calls.

Notes: During Round 1, the ELA were surveyed one week earlier than all others.

Social connection increased mildly throughout lockdown (July)



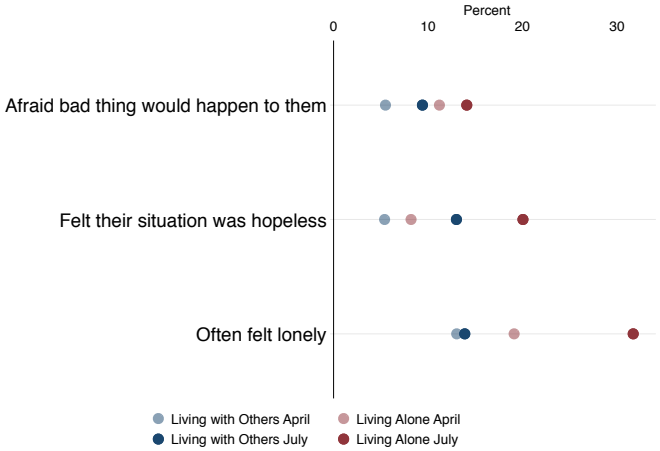
- By July, both regular in-person visits and calls had picked up moderately for the elderly living alone and elderly living with others.

The ELA demonstrate outsized loneliness and depression early lockdown (April)

- At the beginning of the lockdown, the elderly living alone were about twice as likely to indicate feelings of loneliness and depression.
- These indicators reflect lower loneliness and depression than those at the baseline survey. This may be due to nature of the COVID survey - shorter and via the phone - being less conducive to rapport-building between surveyors and respondents.

Notes: During Round 1, the ELA were surveyed one week earlier than all others.

Loneliness and depression spike significantly during the lockdown (July)



- As the lockdown progressed, all elderly became far more likely to express feelings of loneliness and depression.
- This was especially true for the ELA, 32% of whom reported often feeling lonely, when asked in July.

Improving mental health, food security, and health access: background

- We were on the cusp of starting an in-person therapy and group counseling intervention when COVID-19 crisis began.
- But, it is obviously no longer safe to have older people meet together and to have young people travel from village to village to spend extended periods of time with them.
- The elderly are most vulnerable to COVID-19, and those living alone are completely left alone from any support system: starkly more likely to report being lonely (32% vs 15%) and having to skip meals in last week (20% vs 15%)
- Suggestive indication that pension receipt mitigates food insecurity and health access.

Improving mental health, food security, and health access: proposed intervention

Cross-randomized RCT with a therapy and a cash component for 1,530 participants across 5 districts

- **Therapy:** Delivered over the phone for 6 weeks (meticulous IRB-approved protocol to ensure safety of the elderly and interviewer)
  - Counseling to address depression
  - Companionship to address loneliness
  - Self-efficacy and problem-solving for addressing financial and/or health concerns
  - Follows non-specialist therapy approach that was found highly effective in low-resource settings (Singla et al. 2017)

- **Cash transfer:** One-time, Rs. 1000, equivalent one-time government COVID-19 cash transfer for ration-card holders
  - Enable elderly to meet immediate needs: health, food
  - Delivered after therapy sessions
  - Considerable evidence that cash and other transfers improve mental health (Ridley et al. 2020)

Main intervention outcomes

- Depression: geriatric depression scale
- Food security: Skipping meals in the last week or month
- Mobility and health (access and adherence)
- Social interaction with family members and other community members

Conclusion

- The elderly living alone are not assumed to exist in India; they constitute a blind spot in economic policy-making.
- The COVID-19 crisis has given new urgency to monitoring what is happening to the elderly and ELA and helping them, as they are particularly vulnerable both in terms of their health and the financial situations.
- At the same time, COVID-19 makes any intervention for this group more difficult to implement; it is a unique opportunity to see what might work.