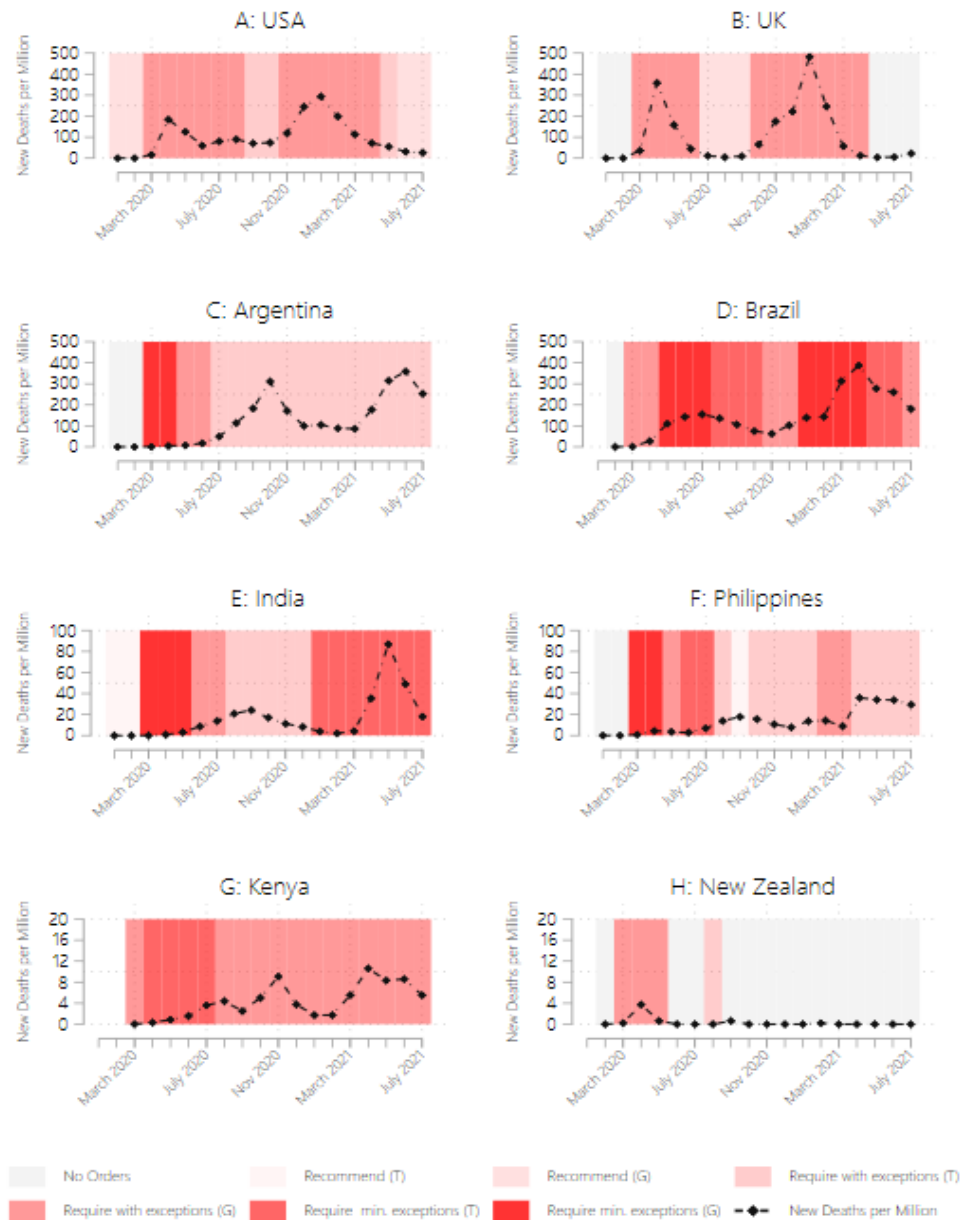


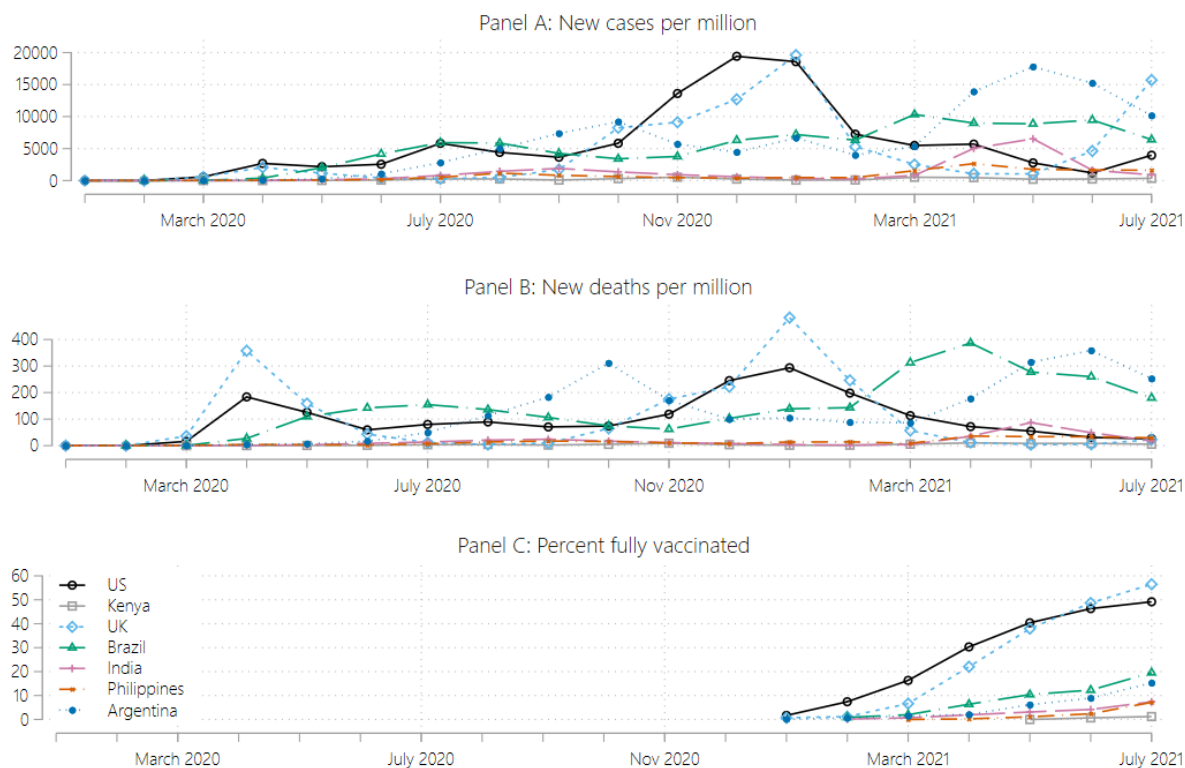
## APPENDIX MATERIAL:

**Figure A1: Stay-at-home orders by country over time**



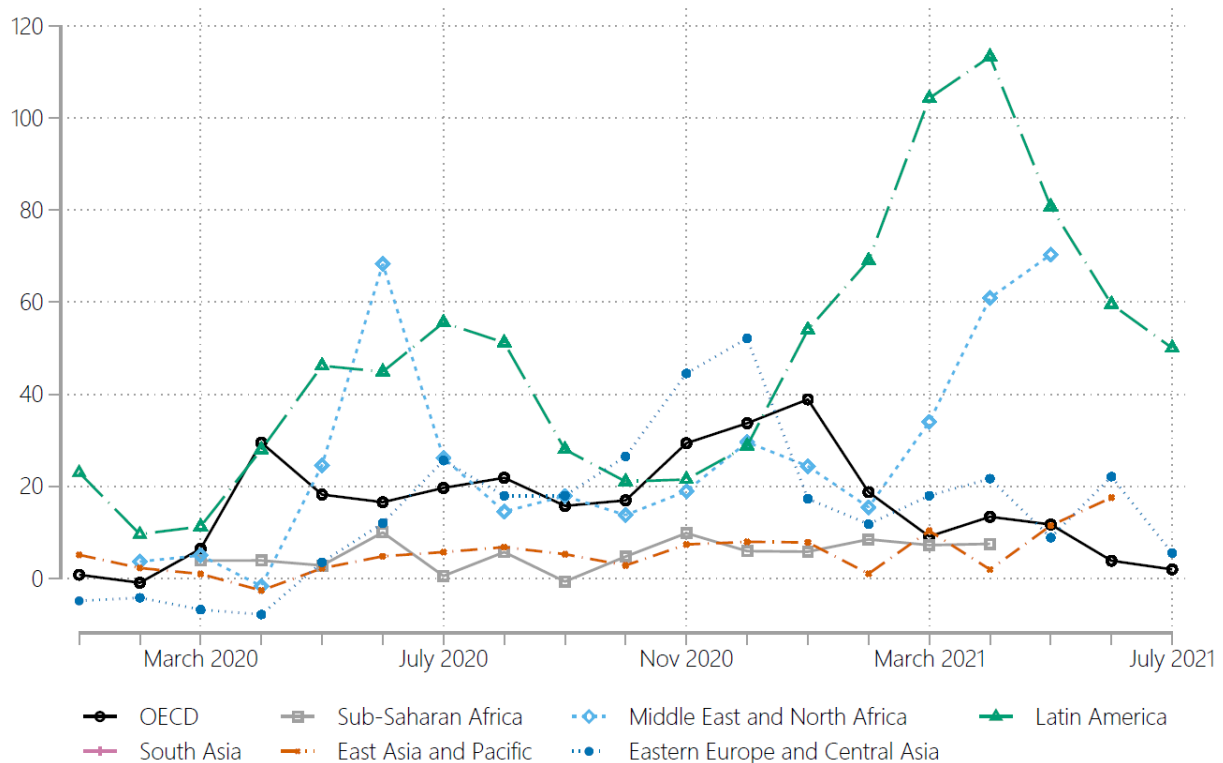
**Notes:** Categories are split by geographic scope. 'T' are targeted measures and 'G' are national-level measures. 'With exceptions' includes daily exercise, grocery shopping, and essential trips. 'Minimal exceptions' mean only once a week or only one person can leave at a time. This data comes from the Oxford Covid-19 Government Response Tracker.

**Figure A2: Cases, deaths, vaccination rates for selected countries**



**Sources:** Official data collated by Our World in Data (Ritchie et al. 2020; Dong, Du, and Gardner 2020) downloaded on Aug 1st, 2021.

**Figure A3: Excess deaths by region**

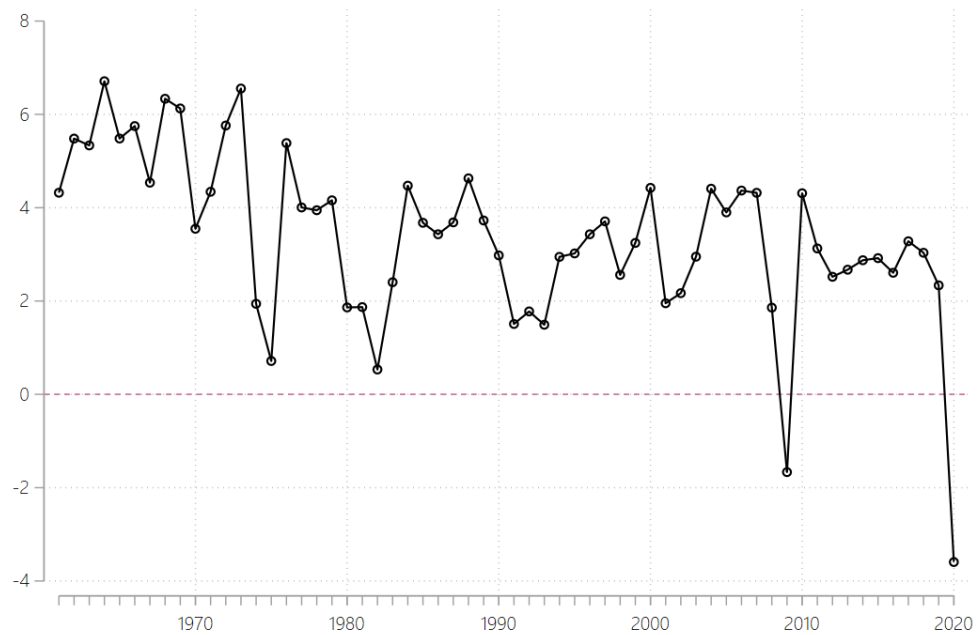


**Sources:** Our World in Data (Ritchie et al. 2020) based on mortality data from the [Human Mortality Database](#) (HMD) Short-term Mortality Fluctuations project and the [World Mortality Dataset](#) (WMD), downloaded on Aug 1st, 2021.

**Notes:** Excess mortality is defined as the percentage difference between the number of weekly or monthly deaths in 2020–2021 and the average number of deaths in the same period over the years 2015–2019 (though for a small minority of countries only data from 2016 or 2017 to 2019 are available).

Excess mortality contains missing data for many countries. In particular, there is no available information for any of the countries in the South Asia group. The countries included in the averages pictured for the other regions are given below in parentheses: OECD (Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom, and United States), Sub-Saharan Africa (Mauritius, and Seychelles), Middle East and North Africa (Egypt, Lebanon, Oman, Qatar, Tunisia), Latin America (Bolivia, Brazil, Cuba, Ecuador, El Salvador, Guatemala, Jamaica, Nicaragua, Panama, Paraguay, Peru, Uruguay), East Asia and Pacific (Hong Kong, Macao, Mongolia, Philippines, Singapore, Taiwan, and Thailand) and Eastern Europe and Central Asia (Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Gibraltar, Kazakhstan, Kosovo, Kyrgyzstan, Liechtenstein, Malta, Moldova, Monaco, Montenegro, North Macedonia, Romania, Russia, San Marino, Serbia, Ukraine, Uzbekistan).

**Figure A4: Annual Global GDP growth 1961-2020 (in %)**



*Notes:* Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Source: World Bank national accounts data, and OECD National Accounts data files.

**Appendix Table A1: Conceptual Issues for Analyzing the Economics of COVID-19**

Panel A: COVID-19 Response Policies for Low and Middle Income Countries				
	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	Economic Loss from COVID-19 Fatalities Across Countries: A VSL Approach (Kim and Loayza, 2021)	202 countries classified by income group	Susceptible-Exposed-Infected-Recovered (SEIR) model adjusting for country-specific healthcare capacity (number of hospital beds per 1,000)	Mitigation strategies show significant economic gains, but marginal gains decrease when moving from mitigation to suppression. Lower income countries gain less in moving from no intervention to mitigation and still less in moving from mitigation to suppression than higher-income countries do.
2.	The Benefits and Costs of Social Distancing in High- and Low-Income Countries (Barnett-Howell et al, 2020)	178 countries, aggregated by income classification	Susceptible-Exposed-Infected-Recovered (SEIR) model	Social distancing policies deliver less value in lower-income countries that have younger populations. Trade-offs are more pronounced for poorer people who are less able to make economic sacrifices.
3.	The Intergenerational Mortality Tradeoff of COVID-19 Lockdown Policies (Ma et al, 2020)	85 countries	SIR macro model augmented with different ages and elasticity of child mortality to aggregate income	Lockdown-triggered reduction in labor supply and consumption, meant to lower COVID-19 mortality, can be counterproductive in LMICs, as economic contractions increase overall child mortality.
4.	A Novel Index-Based Decision Support Toolkit for Safe Reopening Following a Generalized Lockdown in Low and Middle-Income Countries (Shonchoy et al, 2021)	24 countries	Susceptible-Infected-Recovered-Mortality (SIRM)	Re-opening strategies differ between HIC and LMIC.
5.	EMEs and COVID-19 (Alfaro et al, 2020)	Colombia, USA	Modelling framework to quantify job and income losses from accounting identities and data for US and Colombia, depending on different economic organizational structures	Characteristics of jobs (informality, sectoral distribution, lack of labor protections) in LMICs increases risk of labor income and job losses as a result of lockdowns, and social distancing policies. Workers are exposed to demand shocks and have limited ability to telework.
6.	The Macroeconomics of Pandemics in Developing Countries: An Application to Uganda (von Carnap et al, 2020)	Uganda	Extension of Susceptible-Infected-Recovered (SIR) model to incorporate economic decision-making (working and consuming exposes agents to contagion risk, and so when infection levels rise, they reduce economic activity)	Optimal containment is less restrictive in Uganda than in the US because of differences in demography, comorbidities, and health systems, lower income.
7.	How Should Policy Responses to the COVID-19 Pandemic Differ in the Developing World? (Alon et al., 2020)	N/A	Susceptible-Infected-Critical-Recovered (SICR) model incorporating contact matrices measuring the number of contacts between individuals of different ages in different locations, calibrating for the US and for a representative developing economy	Blanket lockdowns are less effective in developing countries, saving fewer lives per unit of lost GDP. Age-specific policies are more effective since they focus scarce public funds on childing those who are most at risk. School closures are more effective at saving lives in developing countries.
Panel B: COVID-Response Policies for High Income Countries				
	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	The Effect of Large-Scale Anti-Contagion Policies on the COVID-19 Pandemics (Hsiang et al., 2020)	China, South Korea, Italy, Iran, France, and the USA	Reduced-form econometric methods	Anti-contagion policies prevented or delayed on the order of 61 million confirmed cases, corresponding to averting approximately 495 million total infections.
2.	Does Social Distancing Matter? (Greenstone and Nigam, 2020)	UK, USA	Individual-based Simulation Model and Value of Statistical Life (VSL)	Moderate social distancing is projected to reduce fatalities by 1.76 million which would produce economic benefits worth \$7.9 trillion.
3.	Impact of Non-Pharmaceutical Interventions (NPIs) to Reduce COVID-19 Mortality and Healthcare Demand (Ferguson et al., 2020)	UK, USA	Microsimulation Modelling	Suppression will minimally require a combination of social distancing of the entire population, home isolation of cases and household quarantine of their family members. May need to be supplemented by school and university closures. Will need to be maintained until a vaccine becomes available since they predict that transmission will rebound if interventions are relaxed.
4.	Optimal Targeted Lockdowns in a Multi-Group SIR Model (Acemoglu et al., 2020)	N/A	Multi-group SIR model	Optimal policies differentially targeting risk/age groups significantly outperform optimal uniform policies and most of the gains can be realized by having stricter lockdown policies on the oldest group.

\*Summary may directly reference authors' own words in abstract and paper.

**Appendix Table A2: Impacts on Living Standards in Poor Countries**
**Panel A: Multi-Country Studies**

	Study	Countries/Regional Scope	Sample/Methodology	Themes	Summary
1.	Falling Living Standards During the COVID-19 Crisis: Quantitative Evidence from Nine Developing Countries (Egger et al., 2021)	Bangladesh, Nepal, Philippines, Burkino Faso, Ghana, Kenya, Sierra Leone, Rwanda, Colombia.	Phone surveys of samples drawn via RDD and from pre-existing studies. The total sample consists of rural and urban households, formal and informal sector workers, agricultural laborers, small business enterprises, refugees, and migrants. (~30,000 respondents)	Income	Steep declines in income: Median share of 70% of respondents across samples reported a drop in income.
				Employment	Decline in employment: Median share of 30% of respondents across samples who lost their jobs at the time of interview.
				Access to Markets	Reduced access to markets: Median share of 31% of respondents across samples faced difficulty purchasing food because of mobility restrictions.
				Food Security	Steep decline in food consumption: Median share of 45% of respondents across samples either skipped meals or reduced portion size or quality.
2.	The Short Term Impacts of COVID-19 on Households in Developing Countries: Overview Based on a Harmonized Dataset of High-Frequency Surveys (Bundervoet et al, 2021)	Burkina Faso, Bolivia, Chile, Colombia, Costa Rica, Djibouti, Dominican Republic, Ecuador, Ethiopia, Gabon, Ghana, Guatemala, Honduras, Croatia, Indonesia, Kenya, Cambodia, Lao PDR, Madagascar, Mexico, Myanmar, Mongolia, Malawi, Nigeria, Peru, Papua New Guinea, Paraguay, Romania, El Salvador, South Sudan, Uganda, Uzbekistan, Vietnam, Zambia.	Phone surveys of samples drawn via RDD and from pre-existing nationally representative surveys. The total sample consists of rural and urban households, and formal and informal sector workers. (~46,000 respondents)	Income	Steep declines in income: 64% of households reported a decrease in total income.
				Employment	Decline in employment: 35.6% of respondents stopped working, either temporarily or permanently.
				Food Security	Higher for those economically affected: 8 percentage points more likely to miss a meal if the respondent has lost their job, and 8 percentage points higher for households who experienced a drop in income.
3.	The Early Labor Market Impacts of Covid-19 in Developing Countries: Evidence from High-Frequency Phone Surveys (Khamis, 2021A, Follow-Up Khamis, 2021B)	Burkina Faso, Bolivia, Bulgaria, Chile, Colombia, Costa Rica, Djibouti, Dominican Republic, Ecuador, Ethiopia, Gabon, Ghana, Guatemala, Honduras, Croatia, Indonesia, Kenya, Cambodia, Lao PDR, Madagascar, Mexico, Myanmar, Mongolia, Malawi, Nigeria, Peru, Papua New Guinea, Paraguay, Romania, El Salvador, Solomon Islands, South Sudan, Tajikistan, Tunisia, Uganda, Uzbekistan, Vietnam, Zambia, Zimbabwe.	Phone surveys of samples drawn via RDD and from pre-existing nationally representative surveys. The total sample consists of rural and urban households, and formal and informal sector workers.	Income	Steep decline with modest recovery: Between April and July 2020, an average of 20% of employees experienced income loss. This share declined by around 25 percentage points since the early phase of the crisis but remain high.
				Employment	Large decline with substantial recovery: Between April and July 2020, an average of 34% of workers stopped working. Between the second and third quarters of 2020, the average employment rate increased by 10 percentage points. There is little evidence of a continues large recovery in employment between the third and final quarters of 2020, with only a 2 percentage point increase during the last two quarters of the year. The share of employment in the commerce sector increased by 0.8 percentage points and 1.2 percentage points in mining, manufacturing, public utilities and construction
4.	Socioeconomic Impacts of Covid-19 in Low-Income Countries (Josephson Et Al., 2021; Follow-Up Furbush Et Al., 2021)	Ethiopia, Malawi, Nigeria, and Uganda	Phone surveys of a sample drawn from a pre-existing nationally representative samples as part of the LSMS-ISA survey (10,865 households).	Income	Large reduction in income with a modest recovery over time: In the months immediately following COVID-19 restrictions 77% of the population reported a loss in monthly income. Since those times, fewer households have reported a loss of income since the previous month of the survey. Non-farm enterprise revenue saw a steep decline in the first few months in all four countries, but have made a modest recovery relative to the month previous.
				Food security	High food insecurity with modest decline over time: In the early months, food insecurity was high in Malawi and Nigeria where the prevalence was more than 60% of the adult population. For Uganda and Ethiopia food insecurity was relatively lower at 40%. However, the prevalence of food insecurity declined across all four countries over time.
5.	Young lives, interrupted: Short-term effects of the COVID-19 pandemic on adolescents in low- and middle income countries (Favara et al., 2021)	India, Ethiopia, Peru, and Vietnam	Phone surveys of a sample from a pre-existing survey called the Young Lives Survey (YLS). The total sample consists of young people from two cohorts aged 19 and 25. (~10,000 respondents)	Income	Large reduction in income: Between 60-94% of households in the four countries experienced a fall in income or a rise in expenses
				Employment	Higher employment: In the four countries, between 13 and 33 percent of adolescents who were not working before the pandemic were working.
				Food Security	Higher food insecurity: In three of the four countries, around 13-16% of respondents reported that their household had run out of food since the pandemic began at least once. In Vietnam, this was around 4%.
6.	Did COVID-19 Market Disruptions Disrupt Food Security? Evidence from Households in Rural Liberia And Malawi (Aggarwal et al, 2020)	Liberia, Malawi	Phone surveys of a sample drawn from a pre-existing study. The sample consists of rural households and market vendors. (~1,200 households and ~2,100 market vendors)	Income	Large decline in income- 42-52% reduced monthly profit among food vendors.
				Food Prices	Mixed depending on agricultural season: Increase of 4-9% for all food items and 12-20% for staples in Liberia. Large declines in prices of food in Malawi likely due to the harvest coinciding with lockdown
				Access to Markets	Severe disruption in market access: 98% of food vendors reported that they are closed or reduced business hours in Liberia, and 25% in Malawi.
				Food Security	No effects on worsened food security across the two countries from market disruptions.
7.	Unmasking the Impact of COVID-19 on Businesses: Firm Level Evidence from Across the World (Apedo-Amah et al, 2021)	Global (~51 countries)	Phone surveys of businesses (100,000 businesses)	Income	Decreases in sales: Globally, the pandemic has had a persistent negative impact on sales.
				Employment	Reduction in hours: Globally, the employment adjustment has mostly been a reduction in hours and increased leave of absences. A smaller share of firms laid off their workers.

**Panel B: Single Country Studies**

Study	Countries/Regional Scope	Sample/Methodology	Themes	Summary
1. Livelihoods, Coping, and Support During Covid-19 Crisis (Rahman and Matin, 2020)	Bangladesh	Phone surveys of urban slum dwellers and rural poor drawn from census data and a nationally-representative survey	Income	Drop in income: Income shocks led to a decline in income across groups. Vulnerable non-poor and non-poor categories suffered a drop of 67% and 65% respectively.
			Food security	Lower food expenditure: Expenditures for food are lower but much smaller than the corresponding drop in income.
			Savings and Debt	Higher use of savings and borrowing: 67% of urban respondents and 83% of rural respondents relied on savings. However more urban slum dwellers relied on borrowing to meet needs. Very few respondents sold assets to meet there needs.
2. Immediate Impact of Stay-at-Home Orders to Control Covid-19 Transmission on Socioeconomic Conditions, Food Insecurity, Mental Health, and Intimate Partner Violence in Bangladeshi Women and Their Families: An Interrupted Time Series (Hamadani et al, 2020)	Bangladesh	Phone surveys of a sample drawn from a pre-existing study. The total sample consists of mothers of children enrolled in an iron supplementation program. (2,424 mothers)	Income	Family income fell: Median monthly family income fell from US \$212 to \$59 during lockdown. Proportion of families earning less than \$1.90 per day rose by 47.1 percentage points.
			Employment	Reduction in work: 96% of mothers reported a reduction in paid work for the family
			Food Security	Moderate to severe food insecurity: The number of families experiencing any level of food insecurity increased by 51.7%
3. Food Consumption and Food Security During the COVID-19 Pandemic in Addis Ababa (Hirvonen et al., 2021)	Ethiopia	Phone surveys of a sample drawn from a pre-existing study. The total sample consists of urban households. (~600 respondents)	Income	Reduction in income: In the May, June, and July surveys, over 50% of respondents states their household incomes are lower or much lower than usual. Poorer households are more likley to report income losses than richer households.
			Employment	Reduced employment: Job losses were high, but mostly voluntary where the employee terminated their contract.
			Food Security	No change in food security: Food consumption and household dietary diversity were at the same levels, or even slightly higher by August 2020 compared to the same time the previous year.
4. The Market-Reach of Pandemics: Evidence from Female Workers in Ethiopia's Ready-Made Garment Industry (Meyer et al, 2021)	Ethiopia (Hawassa Industrial Park)	Phone surveys of a sample drawn from an electronic personnel dataset of RMG production workers and applicants. The sample consists of female RMG workers. (3,896 workers)	Employment	Large drop in employment: 41% of respondents employed in January 2020 were put on leave or terminated by April to July 2020. 91% of those not currently working do not have other employment, although 41% of them have tried to find a job or start a business. The majority of respondents no longer working have relocated to a rural area (43% of those on paid leave) - important coping mechanisms as those who left report lower levels of food insecurity and a lower percentage of them report any food expenditures at all
5. Short-term impacts of COVID-19 on food security and nutrition in rural Guatemala: Phone-based farm household survey evidence (Ceballos et al, 2020)	Guatemala	Phone surveys of a sample drawn from a pre-existing study. The total sample consists of rural agricultural households. (1,428 households)	Income	Large reduction in income: About 80% of households report a decrease in income. Almost two- thirds of households reported a fall in income from both agricultural-related and non-agricultural-related activities. For non-agricultural activities, more people report a large decrease. Households receive significantly less remittances-- 94% report a decrease in the amount received and a 97% decrease in frequency .
			Market access	Higher difficulty accessing markets: 78% of sampled communities were closed or had restricted access. 90% of households indicate a decrease in food availability, and the majority of households report an increase in prices across all food groups.
			Food security	High food insecurity: 91% of households report having eating less than they thought they should. 20% report having not eaten despite feeling hungry. Dietary diversity also decreased, mainly driven by reduced diversity in animal proteins. Dietary diversity for children increased.
			Savings and Debt	High share of dissaving and selling assets: About one-third use savings to cope with the crisis. 30% report selling assets. Borrowing from friends and family dropped.
6. Impacts of a National Lockdown on Smallholder Farmers' Income and Food Security: Empirical Evidence from Two States in India (Ceballos et al., 2020)	India (Haryana and Odisha)	Phone surveys of a sample drawn from a pre-existing study. The total sample consists of rural agricultural households. (1,515 farmers)	Income	Costs and prices changed: 41% of farmers in Haryana reported having spend more on harvest than usual, including higher labor and machinery costs. In Odisha, 36% of farmers reported selling at prices lower than usual.
			Access to Markets	More difficulty accessing markets: 61-74% of farmers could not sell their harvest immediately upon harvest, and had to store it to sell or consume in the future.
			Food security	Difficulty accessing food: In the period after the lockdown 25% of farmers in Haryana reported that they had difficulty accessing different kinds of food due to unavailability in the market or increased prices.
			Savings and Debt	Higher debt: In one state, 14% of farmers were more likely to take out a loan to finance the shortfall in agricultural income
7. Economic Impacts of COVID-19 Lockdowns: An Examination of Recoveries in Jordan (Cefalà et al., 2020)	Jordan	Phone surveys of a sample drawn using RDD. The total sample consists of refugees, and low and high wage workers (4,000 respondents)	Income	Large decline in earnings: Wage earnings decreased by 42% of pre-pandemic baseline levels on average during lockdowns. After lockdowns eased, earnings still remained 19% below their baseline. Low wage workers saw a larger decline in earnings compared to high wage service workers.
			Employment	Decrease in employment: Unemployment of adult population increased from 7% to 16% during lockdown. Highly educated and high wage service workers saw relatively larger reductions in hours worked during lockdown.
			Access to Markets	Decline in access to markets: About hald of workers faced some difficulty buying food suring lockdown.
			Food security	Decline in food consumption: 10% of working respondents skipped meals or reduced portions.

8.	The Short-Term Economic Effects of COVID-19 on Low-Income Households in Rural Kenya: An Analysis Using Weekly Financial Household Data (Janssens et al., 2020)	Kenya	Phone surveys of a sample drawn from a pre-existing study. The total sample consists of low-income rural households with either a woman who is pregnant or a mother of a child below 4 years old. (328 respondents)	Income	Sharp drop in income: Household income decreased by up to a third in the five weeks after the first lockdown was implemented. In particular income drop work, as well as gifts and remittances received decreased sharply.
				Food security	No change in food consumption: Food expenditures were stable over the 5 week period.
				Savings and Debt	Deposited less and loaned less: Households withdrew less money from accounts, and deposited less savings. Credit and loan supply dropped, as well as loan repayments, gifts, and Harambee contributions.
9.	How COVID-19 Has Affected Lagos Traders: Findings from High-Frequency Phone Surveys (Bishi et al, 2020)	Nigeria	Phone surveys of a sample drawn from a sample of a pre-existing survey. The sample consists of wholesale and retail traders in Lagos, Nigeria. (765 respondents)	Business Revenue	Severe drop in revenue: 91% of traders reported zero revenue during lockdown measures. Sales rose substantially after re-opening but did not return to pre-pandemic levels.
10.	Impacts of COVID-19 on Food Security: Panel Data Evidence from Nigeria (Amare et al., 2020)	Nigeria	Phone surveys of a sample drawn from a pre-existing nationally representative survey. (1,950 households)	Employment	Reduced employment: Participation in non-farm business activities reduced by 11 percentage points. There is a smaller impact on wage-related activities and farming activities.
				Food Security	Significant increase in food insecurity: lockdowns increased households' experience with food insecurity by 13 percentage points.
11.	COVID-19 and the Future of Microfinance: Evidence and Insights from Pakistan (Malik et al., 2020)	Pakistan	Phone surveys of a sample drawn from a general population of microfinance borrowers with outstanding loans, and a population of 'graduated' borrowers. The sample consisted of microenterprise owners and microfinance loan officers. (1,000 microenterprise owners, 200 loan officers)	Income	Huge decline in income: Week-on-week business sales and household income fell 88-91% after the lockdown. Informal sector workers were particularly hit hard.
				Savings and Debt	Severe drop in repayment rates: 70% of regular borrowers reported that they could not meet the required payment on their microfinance loans.
12.	Phone Survey on the COVID Crisis in Senegal (Le Nestour et al., 2020)	Senegal	Phone surveys of a sample drawn via RDD. (1,023 respondents)	Income	Large decline in income: 86.8% of respondents reported a loss of income. This is more pronounced in rural areas and among people living below the poverty line.
				Food Security	Less meals: Over a third of respondents report limiting the size of their meals four to seven days a week.
13.	Age, Employment and Labour Force Participation Outcomes in COVID-era South Africa (Espí et al, 2021)	South Africa	Phone surveys with a sample of households drawn from a pre-existing nationally representative survey (5,862 respondents)	Employment	High churn over time: The employment-to-population ratio in March 2021 is nearly identical to how it was in February 2020, before lockdown policies. However, there has been a lot of churn between these two time periods with 23% of those employed in February 2020 are employed a year later, and 30% of those without employment finding employment by March 2021. The youth experienced the largest recovery in employment-to-population ratio between February 2020 and March 2021 compared to older adults. The industries that experienced the highest recovery were community, social and personal services, and wholesale and retail trade.
14.	Household Response to an Extreme Shock: Evidence on the Immediate Impact of the COVID-19 Lockdown on Economic Outcomes and Well-Being in Rural Uganda (Mahmud and Riley, 2021)	Uganda	Phone surveys of a sample drawn from a pre-existing study. The sample consists of rural households. (1,277 households)	Income	Large decline in household income: 60% on household non-farm income both enterprise and labor.
				Food Security	Large decrease in food expenditure: 40% reduction per adult equivalent
				Savings and Debt	Households use up nearly 50% of their savings and borrow more
				Labor Supply	Increase total household labor supply to enterprises and labor outside of the household.

#### Panel C: Data and measurement methods during COVID-19

	Study	Countries/Regional Scope	Sample/Methodology	Themes	Summary
1.	The Short-Term Impacts of COVID-19 on Households in Developing Countries (Bundervoet et al, 2021)	34 countries	Representative samples from phone surveys in 34 countries	Phone/household surveys	Use of high-frequency phone surveys in 34 countries to study economic and social effects of pandemic, by focusing on inequities within LMICs
2.	Rapid Food and Income Security Assessment: How Are BRAC International Volunteers and Programme Participants Coping with COVID-19 (BRAC report, 2020)	Afghanistan, Myanmar, Nepal, Tanzania, Liberia, Sierra Leone, Uganda and the Philippines	BRAC phone surveys with BRAC volunteers and participants (1019 respondents)	Phone/household surveys	Phone surveys within BRAC structure to understand effects of COVID virus among most vulnerable: focusing on rapid response to changes in income and food security, and current and future coping mechanisms
3.	Falling Living Standards During the COVID-19 Crisis: Quantitative Evidence from Nine Developing Countries (Egger et al, 2021)	Bangladesh, Burkina Faso, Colombia, Ghana, Kenya, Rwanda, Nepal, Philippines and Sierra Leone	Random digit dialing + random samples from pre-existing studies: to create representative random samples	Phone/household surveys	Move towards phone survey for real-time tracking of the economic effects of the pandemic in 9 countries, due to lack of frequency with household surveys and increased precision not found in aggregate data
4.	Household Response to an Extreme Shock (Mahmud and Riley, 2020)	Uganda	Representative random sample from in-person surveys pre-pandemic (1217 rural households)	Phone/household surveys	Use of phone surveys to follow up on in-person survey to study well-being and economic effects of the lockdown for rural households
5.	Public Mobility Data Enables COVID-19 Forecasting and Management at Local and Global Scales (Illin et al, 2021)	China, France, Italy, South Korea, and the United States (local and regional data); 80 other countries (national data)	N/A	Tech companies and mobility data	Publicly available mobility data (FB, Google, Baidu) measuring adherence to NPIs are integrated in an epidemiological model to forecast COVID-19 cases and help assist public officials
6.	European Mobile Operators Share Data for Coronavirus Fight (Reuters, March 2020)	EU countries	N/A	Tech companies and mobility data	European mobile carriers are sharing data with EU politicians to monitor people's movements and compliance with national and local lockdowns, prompting concerns on privacy
7.	Aggregated Mobility Data Could Help Fight COVID-19 (Buckee et al, 2020)	N/A	N/A	Tech companies and mobility data	Population-level (aggregated) mobility data could be used in order to refine COVID response policies, especially interventions and messaging meant to encourage social distancing, as it provides real-time information about movement patterns at a granular level.
8.	How Did COVID-19 and Stabilization Policies Affect Spending and Employment? (Chetty et al, 2020)	USA	N/A	Private sector data	Use of private sector data to analyze effect of COVID and of US COVID policy response (PPP, stimulus checks, etc.) on spending and employment for low-wage and high-wage workers in the US
9.	Precision for COVID - Vulnerability Index (SurgoVentures)	African Countries	N/A	Mismeasurement of real effect of pandemic	Combining large-scale surveys (DHS, etc.) and other sources (published papers, etc.) in order to establish more granular data - at the subnational level - and look at the social, health, and economic effects of COVID within different African countries



10.	COVID-19 is a Developing Country Pandemic (Gill and Schellekens, 2021)	LMICs	N/A	Mismeasurement of real effect of pandemic	Using excess mortality data (compared to official statistics), analysis finds that LMICs might have been more affected than HIC countries - due to comorbidities and higher infection prevalence
11.	Three New Estimates of India's All Cause Excess Mortality During the COVID-19 Pandemic (Anand et al, 2021)	India	N/A	Mismeasurement of real effect of pandemic	Contrasting official statistics to other sources (local admin data, IFR (infection fatality rate) and household surveys) finds 3.5 to 5m extra deaths from the pandemic in India, highlighting the underestimation of the true effect of pandemic in LMICs
* Summary may directly reference authors' own words in abstract and paper.					

**Appendix Table A3: Broader Impacts for Households and Society**

**Panel A: Education**

	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	COVID-19: Missing More Than a Classroom. The Impact of School Closures on Children's Nutrition (Borkowski et al, 2021)	Global	UNICEF report	School closures have led to the collapse of school feeding programs. These programs have played a large role in supporting childhood nutrition (providing up to 15% of daily family income), and catching up early growth failures. The 39bn in-school meals missed worldwide as a result of the pandemic will have dire consequences on children's health, cognitive development, education (test scores) and earnings potential in the long run. The economic crisis triggered by the pandemic will also worsen childhood food insecurity with adverse effects on nutritional outcomes (increase in stunting, wasting, morbidity, especially in SSA and South Asia due to malnutrition but also in obesity due to reduced physical activity).
2.	Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates (Azevedo et al, 2020)	Global	Simulations considering 3, 5, and 7 months of school closures	COVID-19 could result in a loss of between 0.3 and 0.9 years of schooling. Close to 7 million students from primary up to secondary education could drop out due to the income shock of the pandemic alone. Students from the current cohort could, on average, face a reduction of \$355, \$872, or \$1,408 in yearly earnings.
3.	It's Been a Year Since Schools Started to Close Due to COVID-19 (Evans et al, 2021)	LMICs	Evidence from phone surveys, UNESCO's global monitoring of school closures and CGD's COVID Education Policy Tracker	Across SSA, MENA, EAP and LAC, children have missed 57%, 75%, 46% and 78% of their schooling in 2020 respectively. In some of the poorest countries in Eastern and Central Africa, that amounts to nearly 10-16% of their lifetime expected education. School closures have also meant that students, especially marginalized ones, have experienced lower levels of learning, even with access to distance education; many students are at risk of permanently dropping out, leading to potentially long-term adverse consequences in terms of human capital accumulation and earnings.
4.	Economic Costs of Preprimary Program Reductions due to COVID-19 Pandemic (Lopez Boo et al, 2020)	140 countries	Simulations considering different per-child program cost depending on income groups and 3, 6 or 12 months of preprimary school closures	COVID-19 could result in large losses for children currently in preschools due to cuts in program participation in pre primary. For a median 6-month cut in participation, losses are highest for upper middle income countries (3.38% of GDP), similar for high-income (2.94% of GDP) and lower-middle income countries (2.66% of GDP) and smaller for low-income countries (0.89% of GDP) highlighting large aggregate losses in terms of lifetime earnings.
5.	The Short Term Impacts of COVID-19 on Households in Developing Countries: Overview Based on a Harmonized Data Set of High-frequency Surveys (Bundervoet et al, 2021)	Burkina Faso, Bolivia, Chile, Colombia, Costa Rica, Djibouti, Dominican Republic, Ecuador, Ethiopia, Gabon, Ghana, Guatemala, Honduras, Croatia, Indonesia, Kenya, Cambodia, Lao PDR, Madagascar, Mexico, Myanmar, Mongolia, Malawi, Nigeria, Peru, Papua New Guinea, Paraguay, Romania, El Salvador, South Sudan, Uganda, Uzbekistan, Vietnam, Zambia.	Phone surveys drawn via RDD and pre-existing nationally representative surveys. The total sample consists of rural and urban households, and formal and informal sector workers. (~46,000 respondents)	Over 30% of children were unable to continue learning activities during school closures. Disruptions were higher for children in low-income countries, and within countries they were higher for children in lower-income households with lower-educated parents in rural areas.
6.	Impact of COVID-19 on Children's Education in Africa (HRW report, 2020)	Burkina Faso, Cameroon, DRC, Kenya, Madagascar, Morocco, Nigeria, South Africa and Zambia	Qualitative interviews with students, parents, teachers and education officials (57 remote interviews)	Lockdown has meant that many children especially vulnerable have received no education at all; even for those attending remote schooling, interactions with teachers or instructions have been scarce in some contexts. Children also report learning less (fewer topics or less content) through remote schooling.
7.	Young Lives, Interrupted: Short-term Effects of the COVID-19 Pandemic on Adolescents in Low- and Middle Income Countries (Favara et al, 2021)	Ethiopia, India (Andhra Pradesh and Telangana), Peru and Vietnam	Phone survey to participants of a longitudinal cohort study of a geographically diverse, poverty-focused sample, also reaching those without mobile phones or internet access (8988 individuals)	All countries experienced disruptions in education. In Peru, 16% of those engaged in formal education before the pandemic had dropped out or did not enrol again. In Vietnam, 8% dropped out, and in Ethiopia and India the rate is lower. Those in India and Ethiopia, only 40% and 10% of students engage in learning activities with their teachers respectively (both in-person or virtual classes).
8.	Socioeconomic Impacts of COVID-19 in Low-Income Countries (Josephson et al, 2021)	Ethiopia, Malawi, Nigeria, and Uganda	Phone surveys of a sample drawn from a pre-existing nationally representative samples as part of the LSMS-ISA survey (10,865 households).	Following school closures, the incidence of school-aged children who were previously attending school engaging in any learning activity fell to an estimated 46%. Student-teacher contact dropped from 96% during pre-COVID times to 17% among households with school-aged children.
9.	Remote-learning, Time-Use, and Mental Health of Ecuadorian High-School Students during the COVID-19 Quarantine (Asanov et al, 2020)	Ecuador	Phone Surveys with a random sample from pre-existing sample of high-school students (1552 students)	Between 59 and 74% of students have access to a computer/tablet and/or internet at home, and a vast majority (59% and 92% resp.) have access to the radio and the television, with some variation with SES levels. Disadvantaged groups with reduced or no access to internet are less likely to participate in telelearning, and spending less time on average on schooling. There is also some difference in engagement with online schooling, with less wealthy students and younger students spending less time studying compared to richer students, spending more time on work or leisure (boys), on household tasks (girls).
10.	Learning Inequalities Widen Following COVID-19 School Closures in Ethiopia (RISE Programme)	Ethiopia	Sample from Young Lives Survey, and retesting of some students (~2645 students)	COVID has exacerbated schooling inequalities, leading to a widening learning gap between rural and urban students as a result of school closures. The gap is even larger conditional on pre-primary participation, showing that rural children or poorest children without pre-primary education are left behind. However, the gender gap has remained the same and not been affected by school closures.
11.	Measuring the Impact of COVID-19 on Learning in Rural Kenya (Whizz Education Report, 2021)	Kenya	Sample of students in rural Kenya, who participated in NGO project (Project iMlango) and had a reliable Maths Age in March 2020, reassessed between October and March 2021 (~965 students from 88 schools)	Between March 2020 and late 2020/early 2021, as a result of school closures, rural students experienced significant learning loss (53% of students saw a decline in their Maths Age, already behind by 3-4 years compared to international peers). The average loss is 1.1 years. The remaining students (47%) saw a small gain in their math learning, by 0.68 years, which is comparable to the annual rates of learning, suggesting that even students who were least affected by COVID were barely able to catch up to their baseline levels of learning (prior to any tutoring intervention by the NGO). There is some heterogeneity: with lower grade students, female students or students from 'hardship' (rural schools facing more difficult conditions) and rural schools exhibited higher learning loss.
12.	COVID-19 and Children's School Resilience: Evidence from Nigeria (Dessy et al 2021)	Nigeria	Phone surveys with school-age individuals (aged 5 to 18) from subsample of households from the Nigeria COVID-19 national longitudinal monthly phone survey, also interviewed in person in 2019, and interviewed before school closures and after school reopening (4006 individuals)	Lockdown measures reduce school attendance by 7pp, for children age 5 to 19 and the effect increases with age (5pp for children 5 to 11; 9pp for children 12-18 and 11pp for children 15 to 18, past the age of compulsory schooling); suggesting long term effects of lockdown on schooling outcomes and labor market outcomes. No difference in gender on the effect of lockdowns on school attendance, except when interacting gender and geopolitical zone, showing disproportionate effects on girls' attendance, aged 12-18, in the North West, where education attainment is the poorest for girls. Suggestive evidence that lockdown measures can increase risk of child marriage in areas where child marriage is prevalent.

13.	New Data on Learning Loss in Pakistan (Crawford et al, 2021)	Pakistan	Phone surveys with a sample of households whose children are enrolled into a large private school network (~1528 households)	Increase in time spent studying between June and September 2020 (coinciding with 1st peak), with slightly larger increase for girls than boys who spent more time working outside the home. Math assessment suggests lost learning (fewer correct answers) for boys only, with a 10pp drop in the percentage of boys who can correctly subtract or divide, compared to expected levels of learning from grade to grade prior to the pandemic. Learning losses are even more pronounced among poorest children. Data reveals limited engagement with distance learning: teleschool program launched by the govt is mostly followed by richer families (86% more likely). Upon school reopening, 86% of children re-enrolled, with lower re-enrollment rates for girls.
14.	COVID-19 in Pakistan: A Phone Survey to Assess Education, Economic, and Health-Related Outcomes (Akmal et al, 2020)	Pakistan	Phone surveys with a sample of households whose children are enrolled into a large private school network (~1211 households)	As of June 2020, 66% of households are not using technology for learning - even among households with access to TV and mobile, with richer households much more likely (+55%) to engage in distance learning via technology. 2/3 of households report helping children at home, with strong differences by SES (more educated and wealthier families being more likely to do so). Limited differences in studying time between income groups, but some differences based on gender, with girls more likely to engage in household chores and boys more likely to work outside the home.
15.	What Happened to Senegalese Students after the COVID-19 School Closure? (Mbaye et al, 2021)	Senegal	Face-to-face surveys with households and students (984 households and 182 schools)	By May 2021, most students were back in school: there was no increase in dropout rates compared to 2018 but +81% increase in grade retention due to the months of closure. Poorer students were more likely to be held back a grade, with financial consequences on families, whereas as a result of fear of worse performance from their children, richer families were more likely to invest in tutoring (+1.3pp) and private education (+3.2pp at the secondary level and +1.4pp at the primary level). Poorest students were financially affected by the closures, as 60% of them declared one household had to stop working because of them, compared to 37 percent.
16.	The Impact of COVID-19 in Education: Synthesis Report (Spaul et al, 2021)	South Africa	Phone surveys with a sample of households drawn from a pre-existing nationally representative survey (5,862 respondents)	500,000 children have dropped out of school during the pandemic. This has tripled from 230,000 pre-pandemic to approximately 750,000 as of May 2021. The highest rates were found amongst the poorest households, those in rural areas, and those with high caregiver worry about learners returning to school. Average school attendance for 7-17 year olds have dropped 4 percentage points from pre-pandemic times. Results from projects indicate that between March 2020 and June 2021, most primary school learners in South Africa have lost nearly a full year of learning relative to the 2019 cohort.

#### Panel B: Health Access

	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	Estimating Global and Regional Disruptions to Routine Childhood Vaccine Coverage during the COVID-19 Pandemic in 2020: A Modelling Study (Causey et al, 2021)	Global	Modelling combined with administrative and reports from immunization systems, mobility data	Compared to expected dose delivery, there was lower (estimated) vaccine coverage in 2020 for DPT and measles vaccines, leading to 30m and 27m children missing doses of vaccines for DPT and measles respectively between Jan to December 2020. This corresponds to about 9m children not being routinely vaccinated for each of these diseases, across the whole world, with most missed doses in April, and in the most severe impact in MENA, South Asia and Latin America.
2.	The Impact of the COVID-19 Pandemic on Maternal and Perinatal Health: A Scoping Review (Kotlar et al, 2020)	Global	Scoping review of 95 publications	Some evidence that pregnant people are at higher risk of adverse outcomes when infected with COVID-19. Also, more likely to suffer more from the non-medical impacts of COVID-19: deteriorated mental health, lower access to antenatal care (with potentially worse birth outcomes in LMICs); disruption of health services affecting delivery and early infant health outcomes; etc.
3.	COVID-19 and Healthcare Workers: A Systematic Review and Meta-analysis (Gholami et al, 2021)	Global	Meta-analysis of 28 studies (119,883 patients)	Half (51.7%) of health care workers tested positive for COVID-19, with higher share of hospitalizations (15.1%) and a total mortality of 1.5%, highlighting the high infection risk by COVID-19 for healthcare workers in the first 6 months of the pandemic.
4.	Infection and Mortality of Healthcare Workers Worldwide from COVID-19: A Systematic Review (Bandyopadhyay et al, 2020)	Global	Systematic review including 594 records	Healthcare workers as of early May 2020 represented 4% of the number of patients with COVID-19, and 0.5% of the COVID-19 deaths worldwide. Women (72% of healthcare worker infections) and nurses (39%) were more likely to get infected, whereas doctors (51%) were the largest group who died from COVID-19.
5.	Lives and Livelihoods: Estimates of the Global Mortality and Poverty Effects of the COVID-19 Pandemic (Decerf et al, 2020)	150 countries	Estimation of welfare costs using pre-pandemic and COVID age-specific mortality data, income distribution and poverty distribution datasets and GDP growth estimates	Effects of the pandemic and pandemic policies has led to massive welfare costs: based on growth estimates for 2020, the pandemic could cause 68m additional poverty years (years of life spent in poverty), and 4.3m years of life lost. The substantial costs of the pandemic in terms of poverty are concentrated in poorer countries.
6.	The COVID-19 Crisis Will Exacerbate Maternal and Child Undernutrition and Child Mortality in Low- and Middle-Income Countries (Osendarp et al, 2021)	118 countries (LMICs)	Modelling (the MIRAGRODEP computable general equilibrium model, Lives Saved Tool (LlST) and Optima Nutrition model) based on different scenarios of predicted declines in GNI during 2020-2022	Accounting for elasticity of wasting to national income, as well as the additional effect of service disruptions to the health sector on nutritional outcomes, the moderate scenario (in terms of GNI declines) estimates an increase of 9.3m in the number of children under 5 with wasting (with 2/3th of them in South Asia); an increase of 2.6m children with stunting in 2022 (most of them will be in SSA) as well as increased child mortality as a result of child wasting and declines in nutritional intervention coverage. Additional child stunting and mortality suggest substantial future productivity losses of \$29.7bn dollars under the moderate scenario, these represent 0.2% of current GNI in the sample countries. Similar, increases in cases of anemia during pregnancy would incur \$79m dollars in productivity losses between 2020-2022.
7.	Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic: Interim Report, 27 August 2020 (World Health Organization, 2020)	105 countries (LMIC and non-LMIC)	Key-informant surveys of 105 Ministry of Health Officials	Disruptions in essential services are geographically widespread across the globe. Almost every country (90%) experienced a disruption to some extent, with greater disruptions being reported in low- and middle-income than in high-income countries.  The most frequently disrupted services included routine immunization services – outreach services (70%) and facility-based services (61%) – noncommunicable disease diagnosis and treatment (69%), family planning and contraception (68%), treatment for mental health disorders (61%), antenatal care (56%) and cancer diagnosis and treatment (55%).
8.	Indirect Effects of the COVID-19 Pandemic on Malaria Intervention Coverage, Morbidity, and Mortality in Africa: A Geospatial Modelling Analysis (Weiss et al., 2021)	African Countries	Mathematical model of COVID-19 and malaria	COVID-19-related disruption to malaria control in Africa could almost double malaria mortality in 2020, and potentially lead to even greater increases in subsequent years.
9.	The Potential Public Health Consequences of COVID-19 on Malaria in Africa (Sherrard-Smith et al, 2020)	Sub-Saharan African Countries	Mathematical model of COVID-19 and malaria	If activities are halted, the malaria burden in 2020 could be more than double that of 2019. In Nigeria alone, reducing case management for 6 months and delaying long-lasting insecticidal nets campaigns could result in 81,000 (44,000–119,000) additional deaths
10.	Effects of the COVID-19 Pandemic on Maternal and Perinatal Outcomes: A Systematic Review and Meta-analysis (Chmielewska et al, 2021)	17 countries (LMIC: Brazil, Botswana, China, India, Mexico, Nepal, Turkey and non-LMIC)	Meta-analysis	Significant increase in stillbirths and maternal deaths during versus before the pandemic; a higher incidence of post-natal depression during versus before the pandemic; and an increase in surgically managed ectopic pregnancies.

11.	Falling Living Standards During the COVID-19 Crisis: Quantitative Evidence from Nine Developing Countries (Egger et al., 2021)	Burkina Faso, Colombia, Ghana, Kenya, Rwanda, Sierra Leone*	*Healthseeking behavior module only collected in these countries but study covers 9 countries (Bangladesh, Nepal, Philippines, Burkina Faso, Ghana, Kenya, Sierra Leone, Rwanda, Colombia)	Phone surveys drawn via RDD and from pre-existing studies. The total sample consists of rural and urban households, formal and informal sector workers, agricultural laborers, small business enterprises, refugees, and migrants. (~30,000 respondents)	Across the 5 African countries: between 11-20% of the respondents (6% in Sierra Leone) report a delayed or reduced access to healthcare, whereas 44% of the sample reports the same situation in Colombia.
12.	The Potential Impact of COVID-19-related Disruption on Tuberculosis Burden (McQuaid et al 2020)	China, India, South Africa		Mathematical model of tuberculosis with an age-specific contact matrix calibrated to data from the 3 countries	Models find that COVID-19 restrictions could lead to an increase of over 20,000 tuberculosis deaths.
13.	Intersecting Vulnerabilities: The Impacts of COVID-19 on the Psycho-emotional Lives of Young People in Low and Middle-Income Countries (Banati, Jones and Youssef, 2020)	Cote d'Ivoire, Ethiopia, Lebanon		Qualitative phone and in-person interviews of adolescents sampled from pre-existing panel study (Rural/Urban; refugee camps; with disabilities; married; in education/out-of-education) (568 adolescents)	Concerns about infection were a major deterrent to health-seeking behaviour, especially for sexual and reproductive healthcare (Cote d'Ivoire/Ethiopia). In Ethiopia, married girls not seeking antenatal care opting for home births with potentially adverse birth events and mortality increases
14.	The Effects of India's COVID-19 Lockdown on Critical non-COVID Health Care & Outcomes (Jain & Dupas 2021)	India (Rajasthan)		2,110 patients taken from 3,183 dialysis patients under insurance: disproportionately male (69%), 46 yrs old on average, under dialysis under insurance for 11.5 months, 5 visits/month Of the 1392 patients alive at the time for the first survey, 1177 completed a follow-on survey	62% of households report disruption of dialysis care during lockdown; 42% report being unable to reach the hospital due to travel barriers. Effects on care-seeking were worse for lower caste, poorer patients and those living far away from a dialysis hospital.  Mortality in May 2020 is 4.37%, a 1.7pp increase (63% increase) relative to the 2.67% mortality in March 2020, pre-lockdown; mortality declines in June & July but never to March levels - excess mortality appears driven by lockdown related disruptions to care.

### Panel C: Mental Health and Wellbeing

	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	COVID-19 and Mental Health: A Review of the Existing Literature (Rajkumar, 2020)	Global	Narrative review of 28 articles	The COVID-19 outbreak seems to have worsened psychological health. Across all studies, the pandemic and its response have led to the emergence of symptoms of anxiety, depression, and self-reported stress. Sleep also seems to have worsened. This mental health impact of the pandemic seems to be especially pronounced among vulnerable populations (health care workers, migrant workers, pregnant women, etc.)
2.	Impact of the COVID-19 Pandemic on Anxiety and Depression Symptoms of Young People in the Global South: Evidence from a Four-Country Cohort Study (Porter et al, 2021)	Ethiopia, India (Andhra Pradesh and Telangana), Peru and Vietnam	Phone survey to participants of a longitudinal cohort study of a geographically diverse, poverty-focused sample, also reaching those without mobile phones or internet access (8988 individuals)	Rates of mild anxiety and mild depression were higher in Peru (32% and 41% resp.) and Ethiopia (18% and 15% resp.), mirroring higher COVID-19 mortality rates in these countries, and lowest in Vietnam. In all countries except Ethiopia, women had higher rates of anxiety and depression than men. Across all countries, there was no consistent pattern in differential rates of mental health distress by urban/rural, or wealth tercile, or internet access. Further analysis shows positive association between (at least) mild anxiety and perception of risk with respect to being infected with COVID-19, leaving the house at least 1 day a week (only in India), economic adversity (even among those who did not have to reduce food consumption), increasing the odds of mild anxiety. Increased domestic responsibilities, in India, Peru and Vietnam, as well as changes in employment status substantially increased odds of anxiety, in Ethiopia.
3.	COVID-19-related Knowledge, Attitudes, and Practices Among Adolescent Girls in Bangladesh (Amin et al, 2020)	Bangladesh	Phone Surveys; Sample from pre-existing survey in UNFPA districts and random sample (480 girls) from existing program targeting 2200 adolescent girls at risk of child marriage in 5 high child marriage districts (Bogura, Jamalpur, Sherpur, Kushtia and Chapainawabganj) (960 girls)	75% of the sample of adolescent girls reports feeling sometimes or mostly depressed during the lockdown period.
4.	Immediate Impact of Stay-At-Home Orders to Control COVID-19 Transmission on Socioeconomic Conditions, Food Insecurity, Mental Health, and Intimate Partner Violence in Bangladeshi Women and their Families: An Interrupted Time Series (Hamadani et al, 2020)	Bangladesh	Phone Surveys; Random sample of mothers of children enrolled in previously enrolled in an iron supplementation RCT (2,424 mothers)	Deterioration of mothers' mental health symptoms: increase of reports during lockdown of symptoms of depression compared to period before lockdown; anxiety during lockdown was high, with 25.7% of respondents reported a score consistent with mild anxiety and 12.2% moderate anxiety. 68.8% report change in anxiety symptoms with lockdown (increase of anxiety for 98.9% of those who reported a change).
5.	Remote-learning, Time-Use, and Mental Health of Ecuadorian High-School Students during the COVID-19 Quarantine (Asanov et al, 2020)	Ecuador	Phone Surveys with a random sample from pre-existing sample of high-school students (1552 students)	There is some suggestive evidence that depression rates have increased as a result of the pandemic (no baseline score collected), with higher depression levels reported by female and indigenous students. Closure of schools and isolation are two main problems; 16% have mental health scores that indicate depression.
6.	The Market-Reach of Pandemics: Evidence from Female Workers in Ethiopia's Ready-Made Garment Industry (Meyer et al, 2021)	Ethiopia	Phone surveys (random digit dialing) of a random sample from existing electronic personnel dataset sample of female Hawassa Industrial Park workers (3896 respondents)	24% of respondents screen positive as depression of the depression scale, although there are no significant differences by employment status.
7.	Prevalence and Changes in Boredom, Anxiety and Well-being Among Ghanaians During the COVID-19 Pandemic: A Population-based Study (Boateng et al, 2021)	Ghana	Web-based survey restricted to adults 18 and above and resident in Ghana recruited on social media (811 participants)	Despite limited spread of the infection at the time of the survey, participants were concerned about the spread of COVID. As a result of the pandemic, the proportion of people with better well-being (based on mental well-being scale) dropped from 64% to 39%, while the likelihood of reporting boredom symptoms increased from 30% to 43%. Analysis shows a significant increase in boredom scores, in generalized anxiety disorders and a decrease in well-being, compared to the period before the pandemic (self-reported).
8.	Women's Well-Being During a Pandemic and its Containment (Bau et al, 2021)	India (Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, and Maharashtra)	Pre-existing surveys with sample drawn from nationally representative voter rolls, and CHW registers of lactating mothers and rural households (1545 households, incl. 573 women for the female survey)	Lockdown policies worsen women's mental health: moving from 0 to average containment policies leads to a 13-14pp (+39-40%) increase in the likelihood that feelings of depression have worsened and a 20pp (+73%) increase in the likelihood that feelings of tiredness have increased, with effects increasing in magnitude with the level of containment. Similar effects from containment are found for anxiety (+13pp or +45%), feelings of safety (non-significant decrease).

9.	Impact of the Lockdown on the Indian Village Economy (Cefala et al 2020)	India (Tamil Nadu, primarily Chennai)	Male Migrant daily-wage laborers working in construction recruited in Chennai but mostly from villages & towns in Tamil Nadu and their wives	45% of male participants reported feeling very scared or terrified about this situation. Drop in mental health status for both men (4 pp) and women (2.9 pp). Stigma with travel - 63% believe that migrants would be treated as ill by people around them if they traveled back to their native villages.
10.	The COVID-19 Pandemic, Hunger, and Depressed Mood Among South Africans (Hunt et al., 2021)	South Africa	Phone surveys with a sample of households drawn from a pre-existing nationally representative survey (5,862 respondents)	The risk of screening positive for depression increased from 24% to 29% in mid-end of 2020. This is an increase compared to pre-pandemic risk of depression screening, which was 21%. The risk persists at 29% through to May 2021.
11.	Household Response to an Extreme Shock: Evidence on the Immediate Impact of the COVID-19 Lockdown on Economic Outcomes and Well-being in Rural Uganda (Mahmud and Riley, 2021)	Uganda	Phone survey of randomly selected representative sample of rural households in Uganda (1075 households)	Decrease in respondent well-being: high prevalence of mild to moderate depression (53% of respondents) at follow-up (just before lockdown began - early to mid March) and lower satisfaction with quality of life (-1 point), with a decrease of 25% during the lockdown.

#### Panel D: Migrants and Refugees

	Study	Countries/Regional Scope	Sample/Methodology	Summary*
1.	COVID-19 Crisis Through a Migration Lens (World Bank, 2020)	Global	N/A	Migrant workers are more vulnerable to job and income loss, and unemployment risks; less able to move across sectors. Internal migrants' limited access to basic services and social safety nets make them more vulnerable to infection and economic crisis under lockdown restrictions as their movements can seed infections and they cannot migrate to smooth consumption.
2.	COVID-19 and the Displaced (Refugees International, 2020)	Global	N/A	Living conditions of refugees/internally displaced people (density, limited access to basic services esp. intensive care and to reliable info; disruption to humanitarian chains and lack of attention from broader world) makes them even more vulnerable to the spread of the disease.
3.	Falling Living Standards During the COVID-19 Crisis: Quantitative Evidence from Nine Developing Countries (Egger et al., 2021)	Bangladesh, Burkina Faso, Colombia, Ghana, Kenya, Rwanda, Nepal, Philippines and Sierra Leone	Phone surveys of samples drawn via RDD and from pre-existing studies. The total sample consists of rural and urban households, formal and informal sector workers, agricultural laborers, small business enterprises, refugees, and migrants. (~30,000 respondents)	No evidence of differential impacts of the pandemic among refugees and non-refugee populations in Bangladesh and in Kenya.
4.	Migration and the Labour Market Impacts of COVID-19 (Barker et al., 2020)	Bangladesh, Nepal	Phone surveys of representative samples of migrant and non-migrant households linked to prior studies.	Migrant households report 25% greater declines in earnings and fourfold greater prevalence of food security since March. This is attributed to lower migration rates, less remittances, isolation in origin communities, and greater health risks.
5.	The Impact of Domestic Travel Bans on COVID-19 is Nonlinear in Their Duration (Burlig et al, 2021)	Indonesia, Philippines, South Africa, Kenya and China	Susceptible-Exposed-Infected-Recovered (SEIR) model	Moderately lengthy domestic mobility restrictions substantially increase infections once restrictions are lifted (but do not if restriction is short or very long).
6.	Prevalence of COVID-19 Symptoms, Risk Factors, and Health Behaviors in Host and Refugee Communities in Cox's Bazar (Lopez-Pena et al, 2020)	Bangladesh	Phone survey drawn from a household panel representative of Rohingya refugees and host population (909 households)	The higher prevalence of COVID symptoms among refugees is likely due to worse living conditions at baseline, but refugees seem more likely to attend social and religious gatherings (less adherence to social distancing). Controlling for baseline characteristics, households with return migrants are also more likely to be report COVID symptoms.
7.	COVID-19 Lockdown and Migrant Workers: Survey of Vocational Trainees from Bihar and Jharkhand (Chakravorty et al. 2020)	India (Bihar and Jharkhand)	Phone survey with 2,259 youth from Bihar & Jharkhand in June & Jul 2020; all trainees of a previous 3-6 residential skills training program	45% of the interstate migrants returned at their home state and 44% of intrastate migrants returned home after the COVID-19 lockdown in India. 32% of respondents with a salaried job in the pre-lockdown period had lost their job. Of those who were in employment, only 31% had received support from employers, mainly through food supplies. 51% of interstate migrants received government assistance (financial aid, & food supplies) and 31% did not receive support from any source. Average anxiety levels were higher than in pre-lockdown (44 vs. 37 on a scale of 100). Willingness to re-migrate was substantially lower among former female migrants (34% vs. 68% for men).

#### Panel E: Gender Differences

	Study	Countries/Regional Scope	Sample	Summary*
1.	Pandemics and Violence against Women and Children (Peterman et al, 2020)	Global	N/A	A network of pathways (such as quarantine, social isolation or economic security) links pandemics to increased domestic violence for women and children. This requires a gender-sensitive pandemic response due to gendered consequences of the pandemic.
2.	Women and Men in the Informal Economy (ILO report, 2018)	LMICs	ILO surveys	In low and lower-middle countries, women are more likely to be informal workers. Women in LMICs are also more often engaged in vulnerable informal work, as family or domestic workers, where they have a lower labor income and are exposed to "higher decent work deficits".
3.	COVID-19: What Does This Mean for Gender (IGC, 2020)	LMICs	UN Women surveys	Due to women's occupations in more informal and low-paid sectors (food service for example), they might bear a disproportionate impact of the economic crisis.
4.	COVID-19 Sends the Care Economic Deeper into Crisis Mode (Staab, 2020)	LMICs	N/A	Women are more likely to be in client-facing sectors (they form the majority of health care workers in many LMICs; they are also involved in food service; carework), thus they might be more directly exposed to the virus.
5.	COVID-19 and Girls' Education (Mendez-Acosta and Evans, 2020)	LMICs	N/A	School closures along with health and economic crises can make girls less likely to return to school long-term, and more likely to engage in negative coping strategies to counteract loss of HH income (early marriages, transactional sex, etc.) or suffer from disruption of health services (early pregnancy).
6.	Child Marriage: the Unspoken Consequence of COVID-19 (Effoum and Revacarren, 2020)	LMICs	N/A	School closures put girls at an increased risk for child marriage and an overall increase in gender-based violence.
7.	COVID-19: Reducing the Risk of Infection Might Increase the Risk of Intimate Partner Violence (van Gelder et al, 2020)	N/A	N/A	Quarantine is effective in controlling spread of COVID but might increase risk of IPV towards women by fostering isolation and limiting access to support.
8.	Whose Time to Care? (UN Women, 2020)	Afghanistan, Albania, Azerbaijan, Bangladesh, Belarus, Bosnia and Herzegovina, Cambodia, Chile, Cote d'Ivoire, Egypt, Ethiopia, Georgia, Guinea, Indonesia, Iraq, Jordan, Lebanon, Libya, Kazakhstan, Kenya, Kosovo, Kyrgyzstan, Maldives, Mexico, Republic of Moldova, Morocco, Nepal, North Macedonia, Palestine, Pakistan, Philippines, Senegal, Serbia, Thailand, Tunisia, Turkey, Samoa, Uzbekistan, Vietnam, Yemen, Croatia.	Web-based and Phone surveys; sampling strategies and sample size vary by country	Both men and women report increased domestic responsibilities: an increase in time spent on chores (60% of women and 54% of men) and an increase in the intensity of unpaid domestic work (i.e. performing at least three domestic activities) (28% of women, and 16% of men). Men and women report spending more time on unpaid care work in similar proportions (51% and 56% respectively) - in particular, spending more time assisting elderly, sick or disabled adults (21% and 20%). However, women's care burden has increased even more, as 33% report increasing time spent on at least 3 care activities, compared to 26% of men.

9.	The Gendered Impacts of COVID-19 on Labor Markets in Latin America and the Caribbean (Cucagna and Romero, 2021)	Argentina, Brazil, Bolivia, Colombia, Costa Rica, Chile, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Peru, and Paragua	High-Frequency Phone Surveys - Random Digit Dialing; Nationally representative sample of individuals 18 and above with access to a phone; formal and informal workers; women and men (13,152 individuals)	56% of women workers lost their jobs temporarily or permanently by May 2020 (+44% compared to men workers). Employment remained unchanged even after individuals started going back to work (by August 2020); in all countries, women are more likely than men to face job losses: most female-intensive sectors observed the most job losses (56% of losses concentrated in trade, personal services, education, and hospitality, employing 60% of women before the pandemic). Caregiving was a factor in women remaining unemployment as the pandemic persisted (a child in school age results in a 6pp decrease in likelihood of retaining a job for women but not for men, by August 2020 but not in May 2020). No sign of recovery among female workers by August 2020, only for lower-quality jobs; distribution of women across job type also moving towards more self-employment (+5pp) and less paid employees (-8pp)
10.	Adolescent Well-Being in the Time of COVID-19 (Baird et al, 2020)	Bangladesh; Ethiopia; Jordan	Phone surveys; Census-style listing to create sample of rural and urban adolescents aged 12-21 years from pre-existing panel study, oversampling marginalized adolescents, i.e adolescents in refugee camp settings, with disabilities or who experienced child marriage (~6,000 adolescents)	Pressure to marry has increased for adolescents in rural areas; but in urban areas, economic fallout acted as a protective factor (42% of the urban sample in Bangladesh reports that the pressure to marry has decreased). Older girls face substantial demands on their time due to domestic and care work responsibilities - which limits their time for leisure and study.
11.	The Short Term Impacts of COVID-19 on Households in Developing Countries: Overview Based on a Harmonized Data Set of High-frequency Surveys (Bundervoet et al, 2021)	Burkina Faso, Bolivia, Chile, Colombia, Costa Rica, Djibouti, Dominican Republic, Ecuador, Ethiopia, Gabon, Ghana, Guatemala, Honduras, Croatia, Indonesia, Kenya, Cambodia, Lao PDR, Madagascar, Mexico, Myanmar, Mongolia, Malawi, Nigeria, Peru, Papua New Guinea, Paraguay, Romania, El Salvador, South Sudan, Uganda, Uzbekistan, Vietnam, Zambia.	Phone surveys drawn via RDD and pre-existing nationally representative surveys. The total sample consists of rural and urban households, and formal and informal sector workers. (~46,000 respondents)	Women were 9pp more likely to lose their job (42%, compared to 31% of men); women also more likely to report reductions in total household income in the aftermath of the pandemic.
12.	Intersecting Vulnerabilities: The Impacts of COVID-19 on the Psycho-emotional Lives of Young People in Low and Middle-Income Countries (Banati, Jones and Youssef, 2020)	Cote d'Ivoire, Ethiopia, Lebanon	Qualitative phone and in-person interviews of adolescents sampled from pre-existing panel study (Rural/Urban; refugee camps; with disabilities; married; in education/out-of-education) (568 adolescents)	Girls (but not boys) report increased exposure to intra-household tensions and violence in all 3 countries (psychological and physical violence in Cote d'Ivoire; intra-family tentions and problems in Lebanon); married girls report increased tensions and IPV in Lebanon and in Ethiopia. Ethiopian adolescents report increased pressure to marry with school closures - coinciding with traditional wedding season.
13.	Immediate Impact of Stay-At-Home Orders to Control COVID-19 Transmission on Socioeconomic Conditions, Food Insecurity, Mental Health, and Intimate Partner Violence in Bangladeshi Women and their Families: An Interrupted Time Series (Hamadani et al, 2020)	Bangladesh	Phone Surveys; Random sample of mothers of children enrolled in previously enrolled in an iron supplementation RCT (2,424 mothers)	Increase in emotional violence and physical violence during the lockdown (reported by 20% and 6.5% respectively); lower prevalence of sexual violence but reports of increase since the lockdown for 51% of those affected (6.5%).
14.	COVID-19-related Knowledge, Attitudes, and Practices Among Adolescent Girls in Bangladesh (Amin et al, 2020)	Bangladesh	Phone Surveys; Sample from pre-existing survey in UNFPA districts and random sample (480 girls) from existing program targeting 2200 adolescent girls at risk of child marriage in 5 high child marriage districts (Bogura, Jamalpur, Sherpur, Kushtia and Chapainawabganj) (960 girls)	18% of the adolescent girls reported facing any form of violence in the past 2 weeks. Married and older adolescents report higher levels of household violence (35% for married girls compared to 16% for unmarried girls)  Adolescent girls report increased domestic responsibilities under lockdown: they reported increased caretaking for ill family members (63% for girls aged 16 and above and 46% for younger girls) and 22% of adolescent girls reported an increase in household chores during lockdown.
15.	The Short- and Long-Term Impacts of the COVID-19 Pandemic on Family Farms in China – Evidence From a Survey of 2 324 Farms (Du et al, 2020)	China	Online surveys of family farms (2324 family crop farms)	No difference in terms of short-term (immediate shock caused by anti-pandemic policies) impact of the lockdown/pandemic on family farms by age, gender, education but female owners received more shocks to resource allocations than male owners. However, long-term impact (effects on long-term production plans) of the pandemic was differential by education and gender, as male-owned family farms are more diversified and larger, thus better able to adjust in the face of risk such as COVID-19.
16.	Unintended Consequences of Lockdowns: COVID-19 and the Shadow Pandemic (Ravindran and Shah, 2020)	India	Administrative (NCW on district-month level complaints from January 2018–May 2020) and survey datasets (NHFS from 2015-2016 and Google data) (577 districts out of 640)	Increase in domestic violence complaints by 0.47 sd (+131%), in cybercrime complaints by 0.7sd (+184%) concentrated in districts with high intensity of lockdowns ("red zone districts") compared to districts with low intensity of lockdowns in May 2020. Districts with medium intensity of lockdowns saw smaller increases in cybercrime (0.12sd, +31%). Overall, decrease in number of rape and sexual assault complaints by 0.4-0.6sd in April and May 2020.  Long term effects of lockdowns show number of domestic violencecomplaints continue to increase till July 2020, and decreases slightly between Aug and Feb 21 (although it is still above pre-lockdown levels). Cybercrime, rape and sexual assault complaints reach pre-lockdown levels by November 2020.
17.	Experiences Among Adults and Adolescents during the COVID-19 Pandemic from Four Locations Across Kenya (Abuya et al, 2020)	Kenya	Phone Surveys; Samples of urban households from ongoing survey cohorts in 5 Nairobi informal settlements (~1750 adults)	Women more likely to experience violence (3pp) or tension (5pp) in their homes; 7% (5%) of women (men) report more fear than their partner will harm them. Women are 13pp, 37pp and 31pp more likely to report doing more cooking, cleaning and childcare respectively, compared to men.
18.	Falling Living Standards During the COVID-19 Crisis: Quantitative Evidence from Nine Developing Countries (Egger et al., 2021)	Kenya*	Phone surveys drawn via RDD and from pre-existing studies. The total sample consists of rural and urban households, formal and informal sector workers, agricultural laborers, small business enterprises, refugees, and migrants. (~30,000 respondents)	Increase in violence against women by 4% (0.3pp) and against children by 13% (2.6 pp), during the crisis period (although these increases are not statistically significant).
19.	The Great Crime Recovery: Crimes Against Women During, and After, the COVID-19 Lockdown in Mexico (Hoehn-Velasco et al 2021)	Mexico	Municipal level crime incidents throughout Mexico in 2019 and 2020; Data comes from National public Security System; data comprises all municipalities in Mexico, including 2457 municipalities Over Jan - Oct for 2019 & 2020	Lapses in alimony, sexual crimes and domestic violence follow a U-shaped trend: decrease during lockdown to a minimum and then begin to return to pre-COVID19 levels. During the stay-at-home period (March to May 2020), overall crimes against women declined by 20%, domestic violence fell by 20%, lapses in alimony by 59% and sexual crimes by 28%. After 4 months, all crimes were back to pre-pandemic levels. Femicides remain constant through the pandemic.

20.	Families under Confinement: COVID-19 and Domestic Violence (Silverio-Murillo et al, 2020)	Mexico (Mexico City)	Domestic violence call-center calls and official police reports in Mexico City	Calls for psychological violence and physical domestic violence increased by 17% and 7% respectively, whereas police reports of domestic violence decreased by 22%. COVID-19 lockdown most likely prevented reporting of domestic violence even when violence continued or increased. Domestic violence reports return to baseline levels by December 2020.
21.	COVID-19 and the Rise of Intimate Partner Violence (Agüero, 2021)	Peru	Number of calls to the helpline Linea 100 by state from January 2007 to July 2020, adjusted by population size	High prevalence of domestic violence prior to COVID (60%) but increase in incidence of calls (+48%) after lockdown was imposed in Mid-March until July, with effects increasing over time between April and July. Findings robust to baseline characteristics, found in all states.
22.	The Gendered Effects of the COVID-19 Crisis and Ongoing Lockdown in South Africa: Evidence from NIDS-CRAM Waves 1 - 5 (Casale and Shepherd, 2021)	South Africa	Phone surveys with a sample of households drawn from a pre-existing nationally representative survey (5,862 respondents)	Relative to men, women were more likely to lose their jobs during the initial lockdown phase, and their recovery was slower as lockdowns eased. Women were less likely than men to benefit from government income support during the lockdown. Women cited childcare responsibilities as a constraint to their labor market activities more than men. By March 2021, men's employment and working hours returned to pre-COVID levels, while women's employment and working hours remained below the February 2020 baseline figures. Gender gaps in time spent on childcare and income support persist.
23.	Household Response to an Extreme Shock: Evidence on the Immediate Impact of the COVID-19 Lockdown on Economic Outcomes and Well-being in Rural Uganda (Mahmud and Riley, 2021)	Uganda	Phone survey of randomly selected representative sample of rural households in Uganda (1075 households)	Respondents report an increase in perception of violence (# times a man acts violent towards his wife): +0.6 violent acts a month after the lockdown. 30% increase in likelihood of major argument with partner.

\* Summary may directly reference authors' own words in abstract and paper.

**Appendix Table A4: Public Policy Responses**

<b>Panel A: Vaccine Acceptance</b>				
	<b>Study</b>	<b>Scope</b>	<b>Sample/Methodology</b>	<b>Summary</b>
1.	COVID-19 Vaccine Acceptance and Hesitancy in Low & Middle Income Countries (Solis Arce et al., 2021)	Global - Burkina Faso, Colombia, India, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, Sierra Leone, Uganda, Russia and United States.	Analysis across 15 survey samples covering the countries mentioned comprising 44,260 individuals.	LMIC countries show a higher willingness to take a COVID-19 vaccine (mean 80.3%) vs. USA (mean 64.6%) or Russia (mean 30.4%). The authors argue that prioritizing vaccine distribution to the Global South will likely best advance global vaccination coverage. Personal protection is the most frequently cited benefit for acceptance. Concern about side effects is the most frequently cited reason for hesitancy. Health workers are considered the most trusted source of guidance about vaccine choices.
2.	Preparing for a Pandemic: Accelerating Vaccine Availability (Ahuja et al., 2021)	Global	Modelling and then computed optimal portfolios for each country based on a constant price of \$10 per vaccine course per year.	The authors indicate that if the goal is to accelerate vaccine delivery, buyers should directly fund manufacturing capacity and shoulder the risk of failure, while maintaining some direct incentives for speed. During a pandemic accelerating manufacturing capacity for a wide portfolio of vaccine candidates has large benefits. It is efficient to contract on capacity versus doses
3.	Assessing Country Readiness for COVID-19 Vaccines: First Insights from the Assessment Rollout (World Bank, 2021)	Global - 128 countries	Vaccine Readiness Assessment Surveys carried out in countries	Last-mile delivery needs more planning: 85% of countries have vaccination plans but only 30% have developed training processes for vaccinators and only 27% have created public mobilization strategies
4.	COVID-19 Vaccine Perceptions: A 15 Country Study (CDC Africa, 2020)	Africa - Burkina Faso, Cote D'Ivoire, DR Congo, Ethiopia, Gabon, Kenya, Malawi, Morocco, Nigeria, Niger, Senegal, South Africa, Sudan, Tunisia, Uganda,	Survey of public opinion conducted between August and December 2020 in 15 countries. The survey used mixed methodology, combining face-to-face with telephone (CATI - computer assisted telephonic interviewing). Minimum 1,000 interviews per country. Countries cover all five regions of Africa, lower/higher reported COVID-19 case rates and a mix of large and small populations	Reported willingness to accept a vaccine is highly variable: higher in Ethiopia, Niger and lowest in Senegal, DRC. Vaccine safety is a key concern: 60% who would reject a vaccine believe it would not be safe compared to 16% who would accept it. Vaccine hesitant are young, unemployed, living close to cities. Women are more skeptical of COVID-19 vaccine. People who don't know anyone who has tested positive, who think the threat is exaggerated and who believe in conspiracy theories are also more skeptical. Nearly 2 out of 3 (64%) mention TV as one of their most trusted information sources for COVID-19. Onelin channels, particularly social media are most trusted by hesitant groups. Misinformation is common: 66% mention having seen or heard rumors about COVID-19.
5.	Acceptance of COVID-19 Vaccines in Sub-Saharan Africa: Evidence from 6 National Phone Surveys (Kanyanda et al., 2021)	Africa - Burkina Faso, Ethiopia, Malawi, Mali, Niger, Uganda	Six national high-frequency phone surveys conducted Sep-Dec 2020	Vaccine acceptance is high: at least 80% are willing to be vaccinated in all but one country (Mali 64.5%). Clusters of hesitancy vary by country but urban areas, richer households and those with more education.
6.	Impact of COVID-19 on Communities in the Philippines (World Bank, 2021)	Philippines	Two rounds of a high frequency social monitoring survey conducted across National Community Driven Development Project (NCDD) communities in nine regions in Luzon, the Visayas and Mindanao; 200 respondents from community volunteers & barangay officials randomly selected	Respondents were concerned about vaccine safety and effectiveness. Doctors are a trusted source about vaccination plans. Other effects such as economic, social cohesion, education were also studied.
<b>Panel B: NPIs - Social Distancing &amp; Lockdowns</b>				
	<b>Study</b>	<b>Countries/Regional Scope</b>	<b>Sample/Methodology</b>	<b>Summary</b>
1.	Determinants of Social Distancing and Economic Activity During COVID-19 (Maloney and Taskin, 2020)	Global - 131 Countries	Google Mobility Data	In all but the poorest countries, non-pharmaceutical interventions (NPIs) can be effective but voluntary de-mobilization by people is much more important. NPIs may function as a coordinating device among predisposed people rather than a repressive measure.
2.	Health Knowledge and Non-Pharmaceutical Interventions during the COVID-19 Pandemic in Africa (Fitzpatrick et al., 2021)	Africa - Ghana, Malawi, Sierra Leone, Tanzania	Survey data April to June 2020. Demographics of sample were: Ghana - Educators; Malawi - men who frequent bars; Sierra Leone - residents of Freetown who participated in an intervention pilot to improve safety on public transportation and Tanzania were micro-renterprise owners; Tanzania - Microenterprise owners	Knowledge was not sufficient to enable social distancing though high levels of knowledge in general are associated with increased take-up of risk mitigation measures. Early government action worked: 50 percentage point difference in likelihood of coming in close contact with another person at a house of worship in countries that mandated closure Ghana and Sierra Leone) versus. those that did not (Malawi, Tanzania). Similarly, for masking, 50 percentage point difference in mask use between countries that mandated masks (Ghana and Sierra Leone) versus those that did not (Malawi and Tanzania).
3.	Early Effects of the COVID-19 Lockdown on Children in Rural Bangladesh (Makino et al., 2021)	Bangladesh (Gaibandha province)	Survey data with rural children with a focus on adolescent girls 3,760 households in Gaibandha province.	Decrease in study time and an increase in time spent on household chores and caring: magnitude of changes was significantly larger for girls than for boys. Children were affected differently depending on the precise nature of the shock to the household (e.g. symptoms of respiratory illness, job loss, decrease in wages, decrease in remittance, return of male migrant or female migrant worker).
4.	More than Words: Leaders Speech and Risky Behavior during a Pandemic (Azjenman et al., 2020)	Brazil	Combined electoral information, card transactions (in-person) and geo-localized mobile phone data for more than 60 million devices; data used from 3,975 out of 5,571 municipalities (unit of analysis is the municipality)	After the Brazilian President publicly dismissed risks of COVID-19, social distancing measures by citizens in pro-government localities significantly weakened compared to places where political support was not as strong.
5.	Remote Learning, Time-Use and Mental Health of Ecuadorian High School Students during the COVID-19 Quarantine (Asanov et al., 2020)	Ecuador	Phone survey with 1,500 high school students aged 15 to 19 years.	59% of students had both an internet connection and a computer/tablet; 86% have done some schoolwork in the last weekday. Most students had established daily routines. Closure of schools and isolation are two main problems; 16% have mental health scores that indicate depression
6.	Food Consumption and Food Insecurity during the COVID-19 Pandemic in Addis Ababa (Hirvonen et al., 2021)	Ethiopia (Addis Ababa)	Phone surveys with around 600 households in Addis Ababa (577 in the final wave).	Ethiopia never went into full lockdown. In each survey round around 50% said their income was lower than usual; poorer households much more likely to report income loss than richer two quintiles. It is not clear there was higher involuntary unemployment during the pandemic. In August 2020, dietary diversity was the same level as pre-pandemic.
7.	COVID-19 Lockdown and Migrant Workers: Survey of Vocational Trainees from Bihar & Jharkhand (Chakravorty et al., 2020)	India (Bihar, Jharkhand)	Phone survey with 2,259 youth from Bihar & Jharkhand in June and July 2020. All respondents were trainees of a previous three to six month residential skills training program.	Almost half (45% of the interstate migrants and 44% of intrastate migrants) returned home. Almost a third (32% of respondents) with a salaried job in the pre-lockdown period had lost their job. Of those who were employed, around a third (31%) had received support from their employers, mainly in the form of food supplies. 51% of interstate migrants received government assistance in the form of financial aid and food supplies while 31% did not receive support from any source. Average anxiety levels were higher during lockdown compared to pre-lockdown (44 vs. 37 on a scale of 100) Willingness to re-migrate was substantially lower among former female migrants (34%) compared to male migrant workers (68%).
8.	The Effects of India's COVID-19 Lockdown on Critical non-COVID Health Care and Outcomes (Jain and Dupas, 2021)	India (Rajasthan)	Phone surveys with 2,110 patients taken from 3,183 dialysis patients under insurance: disproportionately male (69%), 46 yrs old on average, under dialysis under insurance for 11.5 months, 5 visits/month Of the 1,392 patients alive at the time to the first survey, 1,177 completed a follow-on survey	Over 62% of households report disruption of dialysis care during lockdown and 42% reported being unable to reach hospitals because of travel barriers. Effects on care-seeking were disproportionate: they were worse for lower caste, poorer patients and those living far away from a dialysis hospital The authors document a 64% increase in mortality between March and May 2020 and a total estimated 22-25% total excess mortality by July 2020. Mortality increase is greater among women and disadvantaged groups.
9.	Impact of the Lockdown on the Indian Village Economy (Cefala et al., 2020)	India (Tamil Nadu)	Five rounds of household surveys conducted between June - October 2020. Respondents were male migrant daily-wage laborers working in construction recruited in Chennai but mostly from villages & towns in Tamil Nadu. Wives of migrant daily-wage laborers.	Migrants headed home when lockdown began but returned: 41% were in their native district in May-June which fell to 27% in October. Employment was low for May and June (45%) but recovered: October witnessed a transition to almost 87%. Mental health effects: 45% of male participants reported feeling very scared or terrified about this situation. There was a drop in mental health status both for men and women. Stigma around travel: 63% of respondents believe that migrants would be treated as ill by people around them if they traveled back to their native villages.



10.	Messages on COVID-19 Prevention in India Increased Symptoms Reporting and Adherence to Preventive Behaviors among 25 Million Recipients with Similar Effects on Non-Recipient Members of their Communities (Banerjee et al., 2020)	India (West Bengal)	Randomized controlled trial (RCT) with 28 million individuals in West Bengal. 25 million individuals who were Jio (telecom) subscribers were sent a text message containing a 2.5 min video of 2019 Nobel Laureate (and West Bengal native) Abhijit Banerjee. 3 million who were part of the comparison group got a text link to a government website. For the survey, 677 health workers reported on symptoms. In addition, an individual survey was conducted with a random sample of 1,883 people.	The intervention doubled reporting of health symptoms: reporting of fevers increased by 110% and respiratory symptoms by 94%. Intervention also decreased reporting of travel beyond one's village for the last two days by around 7.4 percentage points (comparison: 37%), increased estimated handwashing when returning home by 4.7 percentage points (comparison group: 68%). The intervention increased reported mask wearing.
11.	Economic Impact of COVID-19 Lockdowns: An Examination of Recoveries in Jordan (Cefala et al., 2020)	Jordan	Drew from a random sample of 4,000 accounts from one of the largest mobile phone operators in Jordan. The study oversampled Syrians, both inside and outside refugee camps. The survey was run July to September 2020.	Unemployment and labor earnings followed a U-shaped flat curve: unemployment increased to 16% during lockdown (from 7.2% pre-lockdown), recovered slightly to 11% post lockdown (July to September). Similarly, labor earnings fell by 42% of pre-lockdown earnings for those employed and rebounded partially to 19% below pre-lockdown levels. Groups disproportionately impacted were less educated workers, low-wage workers, manual workers. Lockdowns led to reduced social mobility with differences across groups. Mobility reduced trips by around 2 from (pre-lockdown estimate of 3 to 3.5 trips per day per user) with higher reductions from those in affluent neighborhoods.
12.	The Great Crime Recovery: Crimes against Women during, and after, the COVID-19 Lockdown in Mexico (Hoehn-Velasco et al., 2021)	Mexico	Municipal level crime incidents with data from the National Public Security System comprising all municipalities in Mexico, including 2,457 municipalities from January to October for 2019 and 2020.	Lapses in alimony, sexual crimes and domestic violence follow a U-Shaped trend of declining during lockdown and returning to pre-COVID levels after. Femicides, on the other hand, remain constant through the pandemic. During the stay-at-home period from March to May 2020, overall crimes against women decline by 20% with domestic violence falling by 20% and lapses in alimony decreasing 59% while sexual crimes decreased 28%. By month four of the series, all crimes were back to original levels.
13.	The Long Downturn: The Impact of the Great Lockdown on Formal Employment (Hoehn-Velasco et al., 2020)	Mexico	Data from IMSS (Mexico Social Security Institute) which is a census of all formal private sector employees	Mexico's formal job market contracted by 5.4% over the first nine months of the COVID-19 recession and remained 6% lower after the lockdown compared to early 2020 or 2019. Disproportionate impacts: men's employment started to recover faster than women, youngest individuals (15-29) were most affected but they recovered the fastest. Older individual had more steady job losses. Construction sector was most affected whereas service sectors like education and health were unaffected.
14.	Correcting Perceived Social Distancing Norms to Combat COVID-19 (Allen et al., 2021)	Mozambique	Randomized controlled trial (RCT) testing the impact of informing people about high local support for social distancing. Sample of 2,117 households contacted by phone. Along with the social norm correction treatment, a randomly assigned "endorsement" condition (endorsement of social distancing by a community leader)	The average effect of the social norm correction is not statistically different from zero, but the treatment has significant effects when COVID-19 cases are higher. In districts with the most COVID-19 cases, the treatment increased social distancing by 9.3 pp (75% increase over comparison group mean). Leader endorsement had no effect on social distancing.
15.	How COVID-19 has Affected Lagos Traders: Findings from High Frequency Phone Surveys (Bishi et al., 2020)	Nigeria (Lagos)	Lagos Trader Survey which is a panel of 1,179 wholesale and retail traders in Lagos. Data from two rounds of phone surveys with 765 traders between April and June 2020. The typical trader is male (72%), 42 years, in business for around 14 years, has around 1.3 shops and 1.2 workers, with average weekly revenue in Feb 2020 of N 400,000 (\$1,030).	Traders' businesses were heavily impacted by lockdown but survived: from May 2020 onwards, 85% of traders considered their businesses to be in operation. Sales rose sharply since the lockdown was lifted: average weekly revenue in May 2020 was 72% higher than in Feb 2020. Employment is lower than pre-lockdown average, with average hours worked down by 74% in May 2020 compared to Feb 2020. In general, support for the lockdown was high with 78% approving.

#### Panel C: NPIs - Masks

	Study	Countries/Regional Scope	Sample/Methodology	Summary
1.	An Evidence Review of Face Masks Against COVID-19 (Howard et al. 2021)	Global	Systematic review of various pieces of evidence including direct epidemiological evidence (Beijing), reviews of RCTs for respiratory illnesses, ecological studies, modeling	Mask wearing reduces transmissibility per contact by reducing transmission of infected particles. Public mask wearing is more effective at reducing the spread of the virus when compliance is high. Given shortages of medical masks, authors recommend cloth masks. The authors recommend mask wearing by infectious people (source control) with population level benefits vs. only susceptible people (health care workers)
2.	The Impact of Community Masking on COVID-19: A Cluster-Randomized Trial in Bangladesh (Abaluck et al. 2021)	Bangladesh	Cluster randomized controlled trial (RCT) in rural Bangladesh with 341,830 adult in 600 villages. The core intervention and a number of other interventions were tested to increase mask wearing. Both surgical and cloth masks were tested. COVID-19 testing was done by recording of COVID-19 like symptoms, with serology study for those who reported symptoms and consented to have a blood test done.	The intervention (no-cost mask distribution, offering information, reinforcements and reminders in person in public spaces and modelling by trusted leaders) significantly increased mask-wearing to 42% in treatment villages (from 13% in comparison villages). The effects persisted 10 weeks even after the intervention ended. The intervention increased social distancing by 5 percentage points. A 30 percentage point increase in surgical mask wearing reduced COVID-19 by 12%, with larger effects (35% decrease) for 60+ populations.
3.	Self-Reported Mask Wearing Greatly Exceeds Directly Observable Use: Urgent Need for Policy intervention in Kenya (Jakubowski et al. 2021)	Kenya	Phone survey of 1,960 respondents and direct-use observations of 9,549 respondents.	Huge differences in reported versus observed mask-wearing: in phone interviews, only 12% admit to not wearing a mask in public whereas when observed, 90% of those observed were not wearing a mask. Self-reported mask use was higher than observed use in all scenarios
4.	Persuasion and Public Health: Evidence of an Experiment with Religious Leaders during COVID-19 in Pakistan (Vyborny 2021)	Pakistan	Randomized controlled trial (RCT): One-on-one engagement with religious leaders to encourage them to instruct congregants to comply with public health guidelines when attending religious gatherings. Trial was carried out in 19 districts of urban and rural Punjab in Pakistan.	Overall treatment increases compliance of COVID 19 measures (index) by 7 percentage points, proportion who tell callers they are required to wear a mask increases by 25% over the control group mean
5.	Case-Control Study of Use of Personal Protective Measures and Risk for SARS-CoV-2 Infection, Thailand (Doung-Ngem et al. 2020)	Thailand	211 cases of coronavirus disease and 839 controls	Wearing masks all the time during contact was independently associated with lower risk of SARS CoV-2 infection, wearing a mask sometimes did not reduce infection risk. Other practices are also effective: Maintaining >1 m distance from a person with COVID-19, having close contact for < 15 minutes and frequent handwashing was also independently associated with a lower risk of SARS CoV-2 infection.

#### Panel D: Social Benefit Transfers

	Study	Scope	Sample/Methodology	Summary
1.	Social Protection and Job Responses to COVID-19: A Real Time Review of Country Measures (Gentilini et al. 2020)	Global	Survey	As of April 2020, 151 countries have planned or introduced 684 social protection measures. Social Assistance Transfers are the most widely used class of interventions (60%). Among safety nets, cash transfers are most widely used. Cash transfers are a mix of existing & new (47%). 22% of measures are one-off payments. Average duration of transfers is 2.9 months. Size of transfers is generous around 22% of monthly GDP per capita in respective countries.
2.	Safety Net and Pandemic: The State of Social Benefit Payments During COVID-19 (Shonchay et al.)	Bangladesh	Phone survey of 7,338 beneficiaries of two government safety net transfer programs (Old Age Allowance & Widow Allowance)	Average household income decreased by 83% compared to one year prior. 51% reported having to cut down on medication one week prior and 22% on food. 21% mentioned government food assistance from the beginning of the lockdown. On benefit payments, 17% had received zero benefits and 51% reported they had only received a fraction of what they were entitled to from January 2020.
3.	Cash Transfers as COVID-19 Relief: Evidence from Ghana (Karlan et al. 2021)	Ghana	1,500 relatively low-income Ghanians drawn from the Ghana Socioeconomic Panel survey	Transfers led to an increase in weekly food expenditures by approximately one-third of the weekly value of transfers. They also increased compliance with social distancing measures. Cash transfers did not relieve people of the psychological stress associated with the pandemic. Many of the effects are strongest among poorer households and those belonging to the non-Christian minority.

4.	Intent to Implementation: Tackling India's Social Protection Response to COVID-19 (Bhattacharya and Sinha Roy 2021)	India	Analyzed data from the nationally representative Consumer Pyramid Household Survey by the Center Center for Monitoring Indian Economy (CMIE) . The survey covers 63,340 rural households and 110,975 urban households	Between May and August 2020, more than 87% of India's poorest households reported receiving at least one benefit which was either food or cash. Nearly 74% of all households received food allocations and 40% received cash transfers. Delivery of benefits was stronger in rural areas (85% of all households) compared with urban areas (69%). Cash delivery remains challenging due to difficulties in identifying new beneficiaries
5.	A Million Dinar Question: Can Cash Transfers Drive Economic Recovery in Conflict Driven Crises? Experimental Evidence from Iraq (Kurtz et al., 2021)	Iraq (Anbar, Salah-Al-Din, Ninewa governorates)	Randomized Controlled Trial (RCT) from October 2019 to June 2020 with 827 participants. Participants in the treatment condition received either a lumpsum or \$1,200 or three equal monthly transfers of \$400 each or three unequal monthly transfers (\$200, \$200, \$800). The team also added a behavioral insight driven financial education for half of all treatment groups.	Cash transfers made households more food secure and enabled them to invest more in meeting needs. Cash transfers improved household recovery prospects by boosting or stabilizing employment and productive asset ownership. Larger lump sum payments were most effective in expenditures on basic needs, education and productive households assets while smaller payments were better at improving short and medium-term food insecurity. Cash Transfers did not lead to additional income generation. Participants who received cash and financial education had stronger impacts on food security, employment, intercommunity relationships and perceptions of their economic and physical security.
6.	Effects of a Universal Basic Income during the Pandemic (Banerjee et al. 2020)	Kenya (sub-counties of Bomet and Saiya)	Randomized controlled trial (RCT). The treatment group either received long-term universal basic income (each adult received \$0.75/day for twelve years in 44 villages, 5000 people), short-term universal basic income (in 80 villages with 8,800 people, each adult received \$0.75/day for two years) or a lump sum (in 71 villages with 8,800 people, each adult received one-time payment of \$500). Comparison villages did not receive anything.	Recipients were around 5-11 percentage points less likely to report experiencing hunger in the last thirty days compared to 68% in the comparison group. The effect was significantly larger for the longer UBI arm that expected to continue to receive the transfer. Recipients were around 4-6 percentage points less likely to report a household member being sick in the last thirty days, compared to 44% in the comparison group. Recipients were significantly less depressed in the short and long -term but not in the lump-sum transfer arm. Recipients were around 3-5 percentage points less likely to have sought medical help from a hospital compared to 29% in the comparison group. Some evidence that transfers reduced interactions for friends and families; estimated impacts on commercial activity interactions are not precise to reach any conclusion
7.	Cash Transfers as a Response to COVID-19: Experimental Evidence from Kenya (Brooks et al.2020)	Kenya (Dandora)	Randomized controlled trial (RCT) of a one time unconditional cash transfer to female micro-enterprise owners.	Business profits increased by 38% and household food expenditures increased by 7% relative to a comparison group. Treatment firms were 5 percentage points more likely to be open and remain open for an extra half-hour every day. Treatment caused PPE spending increase by more than 22 percent on average but effects were not universal: those who believed coronavirus was no more deadly than seasonal flu were less likely to engage in mitigating measures.
8.	Community Perceptions of the Social and Economic Impacts of COVID-19 in Myanmar (Zaw Oo et al. 2020)	Myanmar	Survey - first round (Jun/Jul 2020): 308 different communities from 168 of Myanmar's 356 townships Second round: additional 185 townships	Assistance moved from food to non-food: Jul/Aug, 68% of respondents said they had received non-food assistance from 7% in Jun/Jul Reduction in reported extreme poverty: from 17% in Jun/Jul to 11% in Jul/Aug Communities were particularly affected by weather shocks; bad weather affected 40% of communities Jul/Aug but only 33% between Jan & June;

\*Summary may directly reference authors' own words in abstract and paper.