Three big picture take-aways

• We are in the midst of an identification revolution
• This revolution poses fundamental challenges and opportunities for the social protection system
• Your agencies can play an important role in improving your country’s identification system
THE IDENTIFICATION REVOLUTION
Facial recognition – humans to machines
But how did we get here?

• China’s Hukou system, Europe’s parish registries, astrological records, others
• Morphing into civil registries in the 19\textsuperscript{th} century and have spread globally ever since
• Some are centralized and digitized, but many remain local and paper based
• First national IDs early 20\textsuperscript{th} century
• First electronic national IDs (e-IDs) in 2000s
Now, an explosion of national digital IDs
Fastest growth in low income countries

Number of NID programs by income level and period

Source: ID4D Global Database
But an ‘identification gap’ remains

An estimated **1 billion people** unable to prove their identity

Large proportions come from vulnerable populations: the poor, people living in rural/remote areas, children, migrants, refugees and stateless persons.

The lack of ID makes it difficult for individuals to...

- Access financial accounts and credit
- Own, transfer or inherit property
- Prove eligibility for and access social and health benefits
- Vote in elections
- Cross borders safely and legally

...which results in...

- Economic, political and social exclusion
- Service delivery and governance challenges, e.g. leakages and ineffective targeting in programs
- Difficulty tracking development progress due to no or unreliable data
Most of unregistered in Africa, South Asia

- Sub-Saharan Africa
- South Asia
- East Asia & Pacific
- Middle East & North Africa
- Latin America & Caribbean
- Europe & Central Asia

Percent of all unregistered by region, 2018

Source: ID4D Global Database
The situation is worse in LICs

Unregistered adults:
- Low income (18): 35.4%
- Middle income (68): 4.2%
- High income (13): 2.2%

Birth registration rate (0-4):
- LIC (34): 52%
- LMIC (50): 76%
- UMIC (55): 93%
- HIC (59): 97%

Source: ID4D Global Database based on FINDEX and UNICEF data
Sustainable Development Goal 16.9

“Provide legal identity for all, including birth registration by 2030”

But coverage is just the beginning of the journey...
First, many IDs are not digital

Birth registration records

National ID card
And may not ensure uniqueness

CURPS ISSUED: 186 million
Mexican population: 130 million
And many ID systems are not integrated
IDENTIFICATION AND SOCIAL PROTECTION SYSTEMS
Why ID matters for SPJ (program level)

We need to know if we are enrolling the right person

Keep track of their history and progression

Effectively monitor

Avoid inclusion errors and duplicities

Reliably source to Validate Identity

Unique Identifier

Reliably source Authenticate their Identity

We need to know if we are paying the right person

Avoid payment leakages

Source: Chavez (2018)
Three things that SPJ programs need

• Uniqueness (1:n)
  – Without it, there are duplicates and the other two ID functions are compromised

• Authentication (1:1)
  – Without it, there is fraud and leakage

• Links across databases
  – Without it, integration of SPJ policies is compromised and targeting is less accurate
Uniqueness: difficult without biometrics

Demographic Deduplication

Probabilistic method of matching individuals by comparing demographic fields for each person

- Name
- Middle Name
- Last Name
- Date of Birth
- Place of Birth
- Gender

Compares the demographic information of the head of HH against all existing in DB

- Complete Match
- Partial Match
- No Match

Compares all family members

- Complete Match
- Partial Match
- No Match

Investigation Protocol

New Household

Duplicated Family

Functional ID

Provides HH and Individual Program ID

Source: Chavez (2018)

and since no one program covers the entire population, the identity established is program specific and not unique in the SPJ system
### Authentication: various options

<table>
<thead>
<tr>
<th>Security</th>
<th>Manual verification</th>
<th>Electronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least</td>
<td>Manual verification</td>
<td>Card/SIM/voucher read by POS and e-record created</td>
</tr>
<tr>
<td></td>
<td>Some form of ID is shown to the agent/official and may be manually recorded</td>
<td>Card/SIM plus PIN</td>
</tr>
<tr>
<td></td>
<td>No electronic record generated at point of transaction</td>
<td>Card plus biometric verification</td>
</tr>
<tr>
<td></td>
<td>Combination of above</td>
<td></td>
</tr>
<tr>
<td>Most</td>
<td>Card/SIM/voucher read by POS and e-record created</td>
<td>Off-line or on-line</td>
</tr>
</tbody>
</table>
Manual authentication

India

Ethiopia
Biometric authentication for pensions

Mexico

India
Question: Does your program/agency use the national ID or its own functional ID?
Functional or foundational

Mexico's silos

Why silo's exist

- Low coverage of national IDs and civil registers
- NID and CR not robust or trustworthy
- National ID system does not offer authentication services
- Legacy systems and turf battle

Notes:
1) * = deduplicated
2) White = manual or no credential; Blue = electronic credential
Social Protection Programs in India over the last century

- Civil servant pensions
- Provident Fund
- Subsidized food
- Health insurance
- Pension Fund
- School meals
- Public Works
- CCT for hospital births
- Health insurance for poor
- Unique National ID

Timeline:
- 1900
- 1920
- 1940
- 1960
- 1980
- 1990
- 2000
- 2010
Social Protection Programs in US over the last century

- Social security number
- Civil servant pensions
- Pension for private sector
- Subsidized food
- Wage supplement
- Health insurance for poor, elderly
- Civil servants in National Pension
- Health insurance Obamacare

Timeline:
- 1900
- 1920
- 1940
- 1960
- 1980
- 1990
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- 2010
Challenges of ‘silence’ functional IDs

1. Limited ability to ensure uniqueness
   - Deduplication without biometrics has larger errors but the cost of ABIS for individual programs may be prohibitive
   - It is not a one-off exercise as people move in and out of the program due to changes in their income and labor market status
   - As a result, many programs don’t know how many people they actually cover, duplicates enter the system with costs to beneficiaries and government
Challenges of ‘silo’ functional IDs

2. Limited ability to authenticate
   – Many programs cannot authenticate securely and this has contributed to massive fraud
     • Billions of dollars of ‘leakages’ in the largest SP programs like subsidized food or fuel in India and Indonesia
   – This has led programs to invest in e-IDs with more secure authentication but this results in a plethora of cards, lack of interoperability and lots of extra cost
     • A household in Indonesia could receive 17 cards
     • RSBY in India collected biometrics for 130 million people most of whom are being enrolled again biometrically by Aadhaar
     • Mexico has spent hundreds of millions on five different program biometric IDs with overlapping populations
Challenges of ‘silo’ functional IDs

3. Lack of common identifier limits ability to coordinate across programs in order to:
   – Improve targeting, e.g., comparing social insurance and social assistance registries
   – Monitor social spending – who is receiving benefits from multiple programs? Who is excluded?
   – Provide better service to beneficiaries (one-stop shop, common on-line platforms)
   – Scale up and expand during natural disasters
   – Universality – you have to know the universe
Some success stories...

- **Indonesia**
  - introduction of unique ID number allowed individuals with multiple provident fund accounts to be merged – only 60% of accounts were unique

- **Botswana**
  - biometric enrolment for pensions and social transfers reduced the number of beneficiaries by 25 percent through cutting out duplicates, ghosts and the deceased

- **Thailand**
  - saved between 30-60 million dollars per year on cash transfer scheme by vetting eligibility with linked databases; also facilitated universal health insurance
System-wide: Linking databases

Examples:
- Compare Social Insurance to Social Assistance
- Compare Social Insurance to income tax
- Update address w/utility bill
- Check CCT education conditions met
Advanced cases – Chile and Turkey
Advanced cases – Chile and Turkey

[Graph showing the relationship between Total Pension, Contributory Pension, Non-contributory pension, Health insurance Premium, and Estimated income.]
But links raise privacy concerns...

- Does privacy exist? Personal data protection standards are lacking in both public and private sphere
- In the news: Aadhaar and Facebook
- Getting to know the EU’s General Data Protection Regulation (GDPR) 25/05/2018
SOCIAL PROTECTION SYSTEMS AND IDENTIFICATION SYSTEMS: WORKING TOGETHER
Begin with assessment of ID system
Recognize ‘win-win’

**Potential benefits**

Social Protection Programs
- Ensuring uniqueness
- Efficient authentication
- Advantages of linking multiple databases
- Lower overall costs of identification in long run

Foundational ID systems
- Outreach for coverage of the poor
- Potential for updating based on frequent contacts by programs
- Continuous demand for ID and services
It is beginning to happen...

• Indonesia: Unique National ID number collected as identifier for social registry last year
• Lesotho: Social Protection project working with ID agency to eliminate ghost pensioners
• Morocco: National Population Registry project (linked to social registry and targeting)
• Nepal: ‘Social Protection and Civil Registration Modernization Project’
• Rwanda: Social registry project linked to digitizing the civil registry
A few concluding observations

• Social protection programs need good IDs; the ideal would be a robust and unique identifier for the entire resident population from birth to death

• In its absence, suboptimal functional IDs have emerged and impose a significant cost on society

• A second best would be interoperability, common standards and shared platforms;

• The various ministries and agencies in the SPJ system can have a symbiotic relationship with NID agencies with benefits flowing in both directions
Thank you