India Report
- Seventh Largest country (1,222,559 sq miles)
- Second most populous (1.25 billion people)
- 8°4' and 37°6' north latitude and 68°7' and 97°25' east longitude
Study Site: SKIMS, Srinagar

• The laboratory set up 5 years back with the support of Indian Council of Medical Research and CDC, USA has the capacity to run RT-PCR for influenza and other respiratory viruses

• CDC-ICMR collaboration project entitled Multi-site epidemiological and virological monitoring of human influenza virus in India-Phase II.

• Multipathogen surveillance in India (CDC sponsored project currently under way)
Fig 1. Monthly trends and seasonality of circulating influenza viruses in India, 2009-2013.
Monthly distribution 2014-2016

A/H1N1 pdm09

30% of 2000 samples positive; (80% A/H1N1pdm09)
16 deaths, 4 pregnant females

A/H3 B (Yamagata)
GIHSN study period

December 2016 to June 14, 2016
Samples selection in age group > 5 years

4060 (patients screened)

240 (Eligible for recruitment)

24 (excluded from the study)

1 (Didn’t consent) 4 (Non-residents) 6 (discharged from hosp. in last 30 days) 13 (Non-compliance with ILI symptoms)

216 (patients recruited in the study)
Samples selection in age group < 5 years

2639 (patients screened)

131 (Eligible for recruitment)

5 (excluded from the study)

1 (Non-residents)

3 (discharged from hosp. in last 30 days)

1 (Non-compliance with ILI symptoms)

126 (patients recruited in the study)
## Results of the Surveillance

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total Number</th>
<th>Flu positive</th>
<th>Flu A</th>
<th>Flu B</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 years</td>
<td>126</td>
<td>4</td>
<td>H1n1 (n=1)</td>
<td>Yamagata (n=1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Victoria (n=2)</td>
</tr>
<tr>
<td>&gt; 5 years</td>
<td>216</td>
<td>32</td>
<td>H1N1 (n=4) H3N2 (n=18)</td>
<td>Yamagata (n=7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Victoria (n=3)</td>
</tr>
</tbody>
</table>
Surveillance of influenza virus infection during the season 2015-2016

Number of Influenza infections confirmed at SKIMS: 23 cases of influenza A (18 - subtype H3, 05 - subtype H1 pdm09), 13 cases of influenza B (8 B-yamagata, 5 B-victoria).
Influenza activity during 2015-2016 season

Weekly distribution of influenza virus detection in 2015-2016 in Srinagar, J&K

- H3
- H1pdm09
- B
Symptoms among adults (>5 years)
Chronic comorbidities among both age groups

- CVD
- COPD
- Asthma
- Diabetes
- Immunodeficiency
- Renal impairment
- Rheumatologic disease
- Neuromuscular disease
- Cirrhosis/liver disease
- Neoplasm
- Autoimmune disease

Yellow bars represent >5 Years; Red bars represent below 5 years.
Smoking status among adults (> 5 years)

- Current Smoker: 25
- Past Smoker: 76
- Never Smoker: 112
ICU admissions (n=32)

- >5 Years: 87%
- <5 Years: 13%
Mechanical Ventilation

- > 5 years: 19
- < 5 years: 3
Surveillance of deaths related to influenza virus infection

There were recorded 21 deaths, 3 related to influenza.

1 recorded death.

Children (<5 years)

- 1% Death Within hospital
- 99% Discharged alive

Adults (>5 years)

- Death Within hospital
- Discharged alive
- h1pdm09
- H3
- B

There were recorded 21 deaths, 3 related to influenza.
Anti-viral administration

- > 5 years: 58
- <5 years: 2
THANK YOU