



## Monthly summary report

# Hospital Based Human Influenza Surveillance in Bangladesh

**February 2020**

**Hospital based influenza surveillance**  
**Monthly enrollment by different wards (Medicine, Pediatrics and CCU)**  
**February 2020**

| Hospital | District    | Medicine ward |          |           | Pediatrics ward ( $\leq 12$ years of age) |          |           | Coronary Care Unit (CCU) |          |            |
|----------|-------------|---------------|----------|-----------|---|----------|-----------|--------------------------|----------|------------|
|          |             | Sample        | Flu      | Flu %     | Sample                                    | Flu      | Flu %     | Sample                   | Flu      | Flu %      |
| JIMCH    | Kishoregonj | 14            | 2        | 14%       | 7   | 1        | 14%       | 4                        | 0        | 0%         |
| RMCH     | Rajshahi    | 11            | 0        | 0%        | 6   | 0        | 0%        | 5                        | 0        | 0%         |
| CuMCH    | Cumilla     | 10            | 0        | 0%        | 7   | 1        | 14%       | 6                        | 2        | 33%        |
| KMCH     | Khulna      | 16            | 1        | 6%        | 8   | 0        | 0%        | 3                        | 0        | 0%         |
| JGH      | Jashore     | 8             | 2        | 25%       | 6   | 0        | 0%        | 2                        | 0        | 0%         |
| JRRMCH   | Sylhet      | 5             | 0        | 0%        | 14  | 1        | 7%        | 8                        | 1        | 13%        |
| SBMCH    | Barishal    | 17            | 1        | 6%        | 6   | 1        | 17%       | 6                        | 1        | 17%        |
| CMCH     | Chattogram  | 8             | 2        | 25%       | 11  | 0        | 0%        | 9                        | 1        | 11%        |
| MARMCH   | Dinajpur    | 5             | 0        | 0%        | 7   | 0        | 0%        | 5                        | 0        | 0%         |
|          |             | <b>94</b>     | <b>8</b> | <b>9%</b> | <b>72</b>                                 | <b>4</b> | <b>6%</b> | <b>48</b>                | <b>5</b> | <b>10%</b> |

**Hospital based influenza surveillance**  
**Monthly hospitalwise influenza lab results**  
**February 2020**

| Hospital | District    | Sample     | Flu       | Flu %     | Flu A     | Flu B    | Flu A+B  | Flu A/H1 | Flu A/H3 | Flu A/H5 | Flu A/H7 | Flu A/<br>(H1N1)pdm09 | Flu B<br>Yamagata<br>lineage | Flu B<br>Victoria<br>lineage |
|----------|-------------|------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------------------|------------------------------|------------------------------|
| JIMCH    | Kishoregonj | 25         | 3         | 12%       | 3         | 0        | 0        | 0        | 0        | 0        | 0        | 3                     | 0                            | 0                            |
| RMCH     | Rajshahi    | 22         | 0         | 0%        | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0                     | 0                            | 0                            |
| CuMCH    | Cumilla     | 23         | 3         | 13%       | 3         | 0        | 0        | 0        | 0        | 0        | 0        | 3                     | 0                            | 0                            |
| KMCH     | Khulna      | 27         | 1         | 4%        | 1         | 0        | 0        | 0        | 0        | 0        | 0        | 1                     | 0                            | 0                            |
| JGH      | Jashore     | 16         | 2         | 13%       | 2         | 0        | 0        | 0        | 0        | 0        | 0        | 2                     | 0                            | 0                            |
| JRRMCH   | Sylhet      | 27         | 2         | 7%        | 2         | 0        | 0        | 0        | 0        | 0        | 0        | 2                     | 0                            | 0                            |
| SBMCH    | Barishal    | 29         | 3         | 10%       | 3         | 0        | 0        | 0        | 1        | 0        | 0        | 2                     | 0                            | 0                            |
| CMCH     | Chattogram  | 28         | 3         | 11%       | 3         | 0        | 0        | 0        | 0        | 0        | 0        | 3                     | 0                            | 0                            |
| MARMCH   | Dinajpur    | 17         | 0         | 0%        | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0                     | 0                            | 0                            |
|          |             | <b>214</b> | <b>17</b> | <b>8%</b> | <b>17</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>1</b> | <b>0</b> | <b>0</b> | <b>16</b>             | <b>0</b>                     | <b>0</b>                     |

**Hospital based influenza surveillance**  
**Monthly enrollment by different surveillance groups**  
**February 2020**

| Hospital | District    | SARI (aged $\geq$ 5 years) |           |            | SARI (aged < 5 years) |          |           |
|----------|-------------|----------------------------|-----------|------------|-----------------------|----------|-----------|
|          |             | Sample                     | Flu       | Flu %      | Sample                | Flu      | Flu %     |
| JIMCH    | Kishoregonj | 20                         | 3         | 15%        | 5                     | 0        | 0%        |
| RMCH     | Rajshahi    | 17                         | 0         | 0%         | 5                     | 0        | 0%        |
| CuMCH    | Cumilla     | 18                         | 3         | 17%        | 5                     | 0        | 0%        |
| KMCH     | Khulna      | 21                         | 1         | 5%         | 6                     | 0        | 0%        |
| JGH      | Jashore     | 11                         | 2         | 18%        | 5                     | 0        | 0%        |
| JRRMCH   | Sylhet      | 18                         | 2         | 11%        | 9                     | 0        | 0%        |
| SBMCH    | Barishal    | 24                         | 2         | 8%         | 5                     | 1        | 20%       |
| CMCH     | Chattogram  | 23                         | 3         | 13%        | 5                     | 0        | 0%        |
| MARMCH   | Dinajpur    | 12                         | 0         | 0%         | 5                     | 0        | 0%        |
|          |             | <b>164</b>                 | <b>16</b> | <b>10%</b> | <b>50</b>             | <b>1</b> | <b>2%</b> |

**Hospital based influenza surveillance  
Influenza results by different age groups  
February 2020**

| Age groups  | February 2020         |           |            |                       |          |           | Initiation - February 2020 |              |            |                  |              |            |                       |            |           |
|-------------|-----------------------|-----------|------------|-----------------------|----------|-----------|----------------------------|--------------|------------|------------------|--------------|------------|-----------------------|------------|-----------|
|             | SARI (aged ≥ 5 years) |           |            | SARI (aged < 5 years) |          |           | SARI (aged ≥ 5 years)      |              |            | ILI <sup>‡</sup> |              |            | SARI (aged < 5 years) |            |           |
|             | Sample                | Flu       | Flu %      | Sample                | Flu      | Flu %     | Sample                     | Flu          | Flu %      | Sample           | Flu          | Flu %      | Sample                | Flu        | Flu %     |
| <1 Year     | -                     | -         | -          | 23                    | 0        | 0%        | -                          | -            | -          | 2665             | 189          | 7%         | 6,637                 | 384        | 6%        |
| 1-4 Years   | -                     | -         | -          | 27                    | 1        | 4%        | -                          | -            | -          | 4217             | 601          | 14%        | 2,440                 | 364        | 15%       |
| 5-14 Years  | 24                    | 3         | 13%        | -                     | -        | -         | 3403                       | 789          | 23%        | 2317             | 547          | 24%        | -                     | -          | -         |
| 15-24 Years | 20                    | 1         | 5%         | -                     | -        | -         | 4081                       | 966          | 24%        | 2167             | 413          | 19%        | -                     | -          | -         |
| 25-39 Years | 32                    | 2         | 6%         | -                     | -        | -         | 3982                       | 832          | 21%        | 1916             | 299          | 16%        | -                     | -          | -         |
| 40-59 Years | 40                    | 6         | 15%        | -                     | -        | -         | 4662                       | 892          | 19%        | 1245             | 201          | 16%        | -                     | -          | -         |
| ≥ 60 Years  | 48                    | 4         | 8%         | -                     | -        | -         | 4803                       | 880          | 18%        | 400              | 46           | 12%        | -                     | -          | -         |
|             | <b>164</b>            | <b>16</b> | <b>10%</b> | <b>50</b>             | <b>1</b> | <b>2%</b> | <b>20,931</b>              | <b>4,359</b> | <b>21%</b> | <b>14,927</b>    | <b>2,296</b> | <b>15%</b> | <b>9,077</b>          | <b>748</b> | <b>8%</b> |

<sup>‡</sup>Outpatient ILI surveillance discontinued in October 2017.

**Hospital based influenza surveillance**  
**Hospitalwise influenza lab results**  
**Surveillance initiation - February 2020**

| Hospital            | District    | Initiation | Sample        | Flu          | Flu %      | Flu A <sup>ψ</sup> | Flu B <sup>λ</sup> | Flu A+B <sup>‡</sup> | Flu A/H1   | Flu A/H3     | Flu A/H5 | Flu A/H7 | Flu A/<br>(H1N1)pdm09 | Flu B<br>Yamagata<br>lineage | Flu B<br>Victoria<br>lineage |
|---------------------|-------------|------------|---------------|--------------|------------|--------------------|--------------------|----------------------|------------|--------------|----------|----------|-----------------------|------------------------------|------------------------------|
| DNMCH <sup>γ</sup>  | Dhaka       | Jun 2007   | 2061          | 312          | 15%        | 201                | 111                | 0                    | 15         | 84           | 0        | 0        | 102                   | 13                           | 7                            |
| CBMCH <sup>γ</sup>  | Mymensingh  | Oct 2007   | 2053          | 302          | 15%        | 206                | 96                 | 0                    | 7          | 107          | 1        | 0        | 91                    | 16                           | 10                           |
| JIMCH               | Kishoregonj | Sep 2007   | 5393          | 1089         | 20%        | 742 <sup>‡</sup>   | 347                | 0                    | 9          | 387          | 0        | 0        | 344                   | 64                           | 113                          |
| RMCH                | Rajshahi    | May 2007   | 3467          | 481          | 14%        | 315 <sup>‡</sup>   | 166                | 0                    | 14         | 177          | 0        | 0        | 122                   | 39                           | 66                           |
| SZRMCH <sup>γ</sup> | Bogura      | Sep 2007   | 3865          | 653          | 17%        | 439                | 213                | 1                    | 12         | 256          | 0        | 0        | 170                   | 29                           | 39                           |
| LAMB <sup>†</sup>   | Dinajpur    | Oct 2007   | 1171          | 112          | 10%        | 72                 | 40                 | 0                    | 7          | 41           | 0        | 0        | 24                    | 1                            | 0                            |
| BBMH <sup>†</sup>   | Chattogram  | Aug 2007   | 1440          | 157          | 11%        | 118                | 39                 | 0                    | 13         | 42           | 0        | 0        | 63                    | 3                            | 0                            |
| CuMCH <sup>‡</sup>  | Cumilla     | Oct 2007   | 4978          | 636          | 13%        | 418*               | 215                | 3                    | 9          | 220          | 0        | 0        | 188                   | 28                           | 37                           |
| KMCH                | Khulna      | Jul 2007   | 2979          | 453          | 15%        | 316* <sup>‡</sup>  | 137                | 0                    | 16         | 153          | 0        | 0        | 143                   | 17                           | 59                           |
| JGH <sup>γ†</sup>   | Jashore     | Sep 2007   | 3884          | 823          | 21%        | 515                | 307                | 1                    | 10         | 257          | 0        | 0        | 248                   | 26                           | 143                          |
| JRRMCH              | Sylhet      | Jul 2007   | 3833          | 671          | 18%        | 416 <sup>‡</sup>   | 254                | 1                    | 16         | 199          | 0        | 0        | 200                   | 34                           | 77                           |
| SBMCH               | Barishal    | Aug 2007   | 5607          | 861          | 15%        | 541 <sup>‡</sup>   | 316                | 4                    | 9          | 260          | 0        | 0        | 270                   | 56                           | 111                          |
| CMCH                | Chattogram  | Apr 2014   | 2541          | 498          | 20%        | 340                | 155                | 3                    | 0          | 128          | 0        | 0        | 212                   | 41                           | 94                           |
| MARMCH <sup>‡</sup> | Dinajpur    | Apr 2014   | 1663          | 355          | 21%        | 222 <sup>‡</sup>   | 133                | 0                    | 0          | 111          | 0        | 0        | 108                   | 28                           | 84                           |
|                     |             |            | <b>44,935</b> | <b>7,403</b> | <b>16%</b> | <b>4,861</b>       | <b>2,529</b>       | <b>13</b>            | <b>137</b> | <b>2,422</b> | <b>1</b> | <b>0</b> | <b>2,285</b>          | <b>395</b>                   | <b>840</b>                   |

<sup>λ</sup>Influenza B typing initiated in January 2016.

<sup>ψ</sup>rRT-PCR result of four samples were equivocal positive for Influenza A.

<sup>ψ</sup>One sample collected in June 2013 and another sample collected in June 2017 were co-infected with both A(H3) and A(H1N1)pdm09.

<sup>λ</sup>Three samples were co-infected with both Influenza B (Yamagata lineage) and Influenza B (Victoria lineage), another ten samples were unsubtypeable.

<sup>‡</sup>Three samples were co-infected with both Influenza A(H1N1)pdm09 and Influenza B (Victoria lineage).

<sup>‡</sup>One sample collected in May 2019 was co-infected with both Influenza A(H3) and Influenza B (Victoria lineage).

<sup>†</sup>Surveillance activities ended at LAMB (Dinajpur) and BBMH (Chittagong) in May 2016.

<sup>γ</sup>Surveillance activities ended at DNMCH (Dhaka), CBMCH (Mymensingh), SZRMCH (Bogra) and JGH (Jessore) in October 2017.

<sup>‡</sup>Surveillance activities reinitiated at Cumilla Medical College Hospital (CuMCH), Cumilla in January 2018.

<sup>†</sup>Surveillance activities reinitiated at Jashore 250 bed General Hospital (JGH), Jashore in December 2018.

<sup>‡</sup>Dinajpur Medical College Hospital (DjMCH) has been renamed as M Abdur Rahim Medical College Hospital (MARMCH).

Note: Surveillance activities extended to the intensive care units (ICU) and coronary care unit (CCU) of the participating hospitals in January 2018.

<sup>φ</sup> Intensive care units (ICU) surveillance discontinued in January 2019.

\*One sample from CuMCH (Cumilla) and two samples from KMCH (Khulna) collected in November 2019 were not true positive for influenza A and were considered as inconclusive result. The result will be confirmed with further test through viral culture.

<sup>‡</sup>Nine samples (one each from JIMCH, JRRMCH and MARMCH and two each from RMCH, KMCH and SBMCH) collected in December 2019 were not true positive for influenza A and were considered as inconclusive result. The result will be confirmed with further test through viral culture.



**Hospital based influenza surveillance**  
**Influenza seasonality graph**  
**Week 10 of 2019 to week 09 of 2020**

