Insights into Editorial: Alarming spread: on H1N1 cases

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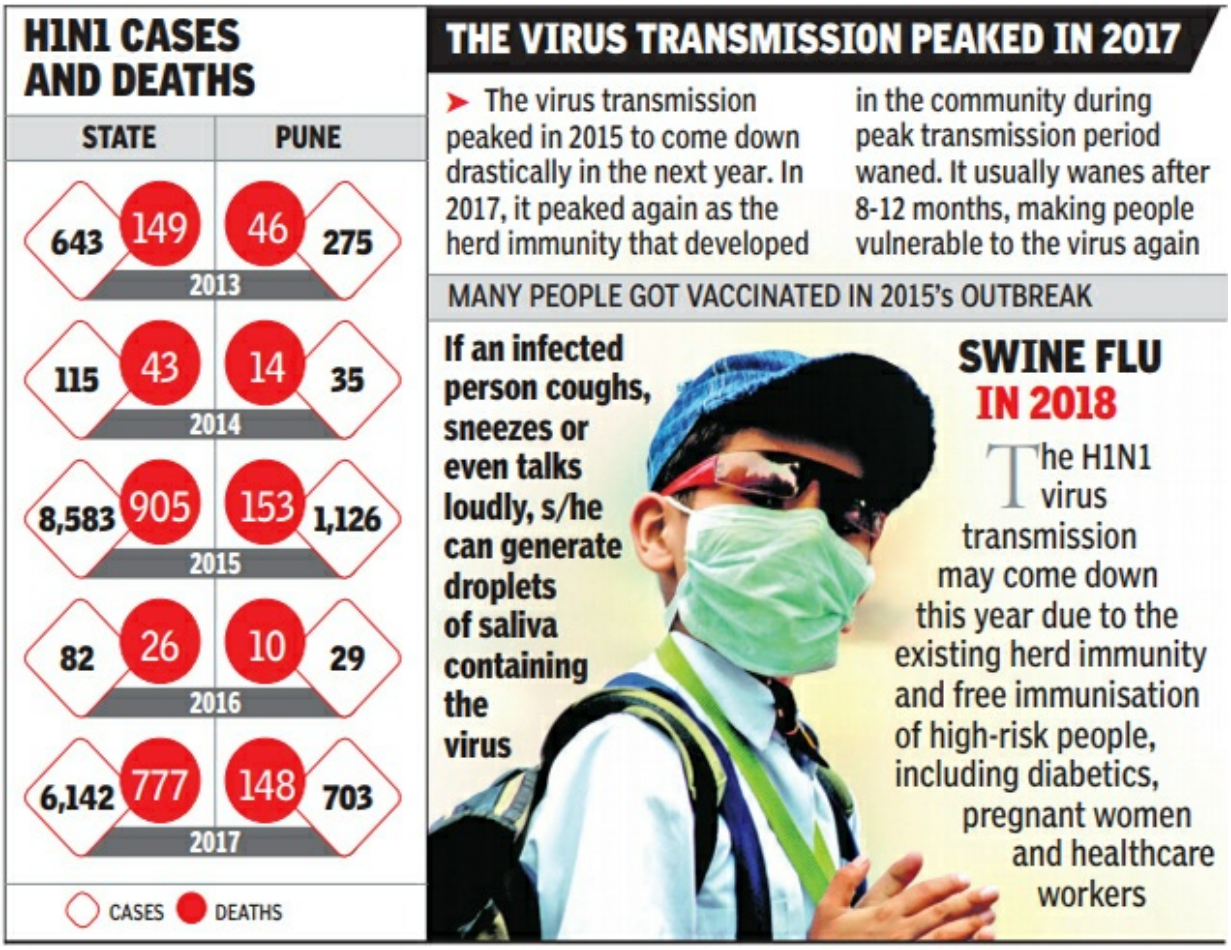

Context:

Swine influenza is a respiratory infection common to pigs worldwide caused by type A influenza viruses, principally subtypes H1N1, H1N2, H2N1, H3N1, H3N2, and H2N3.

In a short span of 55 days till Feb 24, this year, the **number of influenza A (H1N1)** cases and deaths reported from India **reached an alarming** 14,803 and 448, respectively. There appears to be no let-up, with the number of cases and deaths steadily rising.

The highest numbers were from Rajasthan (3,964), Delhi (2,738) and Gujarat (2,726). Uttar Pradesh was next, with 905. While **Rajasthan and Gujarat** had the highest number of deaths, at 137 and 88, respectively.

The *Sporadic H1N1 Swine Influenza virus (SIV) infection* that people can experience has the potential to produce a number of clinical signs and symptoms.

Number of H1N1 Cases has been rapidly rising:

The **H1N1 virus**, which caused a **pandemic in 2009,** has since become a **seasonal flu strain globally,** including in India, and causes fewer deaths.

According to **the WHO,** in 2009 the number of laboratories confirmed deaths **caused by the pandemic strain** was at least 18,500.

But a **2012 paper in Lancet Infectious Diseases** mentioned 2,84,000 deaths, which was 15 times more than the number of laboratories confirmed deaths.

What is more disturbing is that the **number of cases** reported till February 24 is nearly the same as that **recorded in the whole of 2018** (14,992).

The actual number of cases and deaths this year is likely to be higher as West Bengal has not reported the **data to the Integrated Disease Surveillance Programme.**

Moreover, the **IDSP data** are based ***only on laboratory confirmed cases and deaths.***

About H1N1 Virus:

Swine flu is a highly contagious respiratory disease in pigs caused by one of several swine influenza A viruses.

Transmission of **swine influenza viruses** to humans is uncommon. However, the swine influenza virus can be transmitted to humans **via contact with** infected pigs or environments contaminated with swine influenza viruses.

Now, a **new virus emerged** that spread among the people, who had not been near the pigs. Swine-flu symptoms are *cough, fever, soar throat , stuffy or runny nose, headache, body ache etc.*

The sub-types are based on: The host of the origin, Geographical origin, Strain in number, Year of isolation etc.

Spreading of Seasonal Influenza (H1N1)

Seasonal influenza viruses **circulate and cause disease** in humans every year.

In tropical climates, disease tends to occur seasonally as well as regular virus spreading from person-to-person *through sneezing, coughing, or touching contaminated surfaces.*

Seasonal influenza viruses evolve continuously, which means that people can get **infected multiple times** throughout their lives.

Therefore, the components of **seasonal influenza vaccines are reviewed frequently** (currently biannually) and updated periodically to ensure continued effectiveness of the vaccines.

The **Centres for Disease Control and Prevention** recommend **real-time polymerase chain reaction** as the method of choice for diagnosing H1N1.

Antiviral drugs are the mainstay of clinical treatment of swine influenza and can make the illness milder and enable the patient to feel better faster.

Reasons for rapid spreading of Virus:

> Every alternate year, the **virus changes its pattern and comes in a stronger form**.
>
> The next year, it is in a milder form, but in 2017 and 2018, the virus continued to stay strong and recorded not only many positive cases, but also deaths in large numbers.
>
> Blaming **climate change** for the difficulty in controlling the disease is also one of the important factors.
>
> Due to **less rain and more wind,** we saw the **virus spread quickly**. Hence, in recent years, due to **unexpected climate changes**, we still kept seeing a rise in positive cases of this virus.
>
> There are ***41 Virus Research Diagnostic Laboratories in India*** and they can study the nature of infections to provide genetic insights to the peer scientists.
>
> **Upgrading the existing vaccines** is also another aspect, because constantly **viral mutation**s may take place.

Prevention of swine influenza has **3 components**: prevention in swine, prevention of transmission to humans, and prevention of its spread among humans.

Because of **limited treatment options**, high risk for secondary infection, and frequent need for intensive care of individuals with H1N1 pneumonia, environmental control, including vaccination of high-risk populations and public education are critical to control of swine influenza out breaks.

Conclusion: Ways to avoid Spreading and Moving towards Prevention:

With ***H1N1 becoming a seasonal flu virus strain in India*** even during summer, it is advisable that health-care workers and others at risk get themselves **vaccinated.**

Recommendations for **use of antivirals** may **change** as data on antiviral susceptibilities become available.

It is important **to initiate the treatment** as soon as possible after the onset of symptoms.

Confirmed and suspected cases of SIV should be monitored for fever and respiratory symptoms for a period of seven days after their last known exposure to a person with a confirmed case of SIV infection.

Long-term climate change might have an **impact on the spread of H1N1 virus** in a unique way.

Winters are bound to be warmer than usual due to **global warming** like the current season has been predicted to be due to an **ongoing El Nino event** and continuous warming from greenhouse gas emissions.

This will reduce the spread of the virus in these months to some extent. But it will make people **more vulnerable to the virus** just after the cold season ends.

This would require states to be **ready to anticipate and tackle the spread of the disease.**

Availability of **anti-viral drugs such as Oseltamivir** in the Public Health System should be ensured.

Despite the sharp increase in cases and deaths, the vaccine uptake has been low. Besides vaccination, there **needs to be greater awareness** so that people adopt **precautionary measures** such as *frequent handwashing, and cough etiquette.*

Large-scale vaccination covering high-risk groups such as health workers, lung, kidney, liver and heart disease patients is the need of the hour.