

# THE EXCITING JOURNEY FROM FLU VIRUS TO VACCINE



START OF THE FLU VACCINE PRODUCTION  
 NORTH: FEBRUARY  
 SOUTH: SEPTEMBER

**INFLUENZA**

5-10% ADULTS AND 20-30% CHILDREN WORLD-WIDE ARE AFFECTED.<sup>1</sup>

VIRUSES CHANGE CONSTANTLY

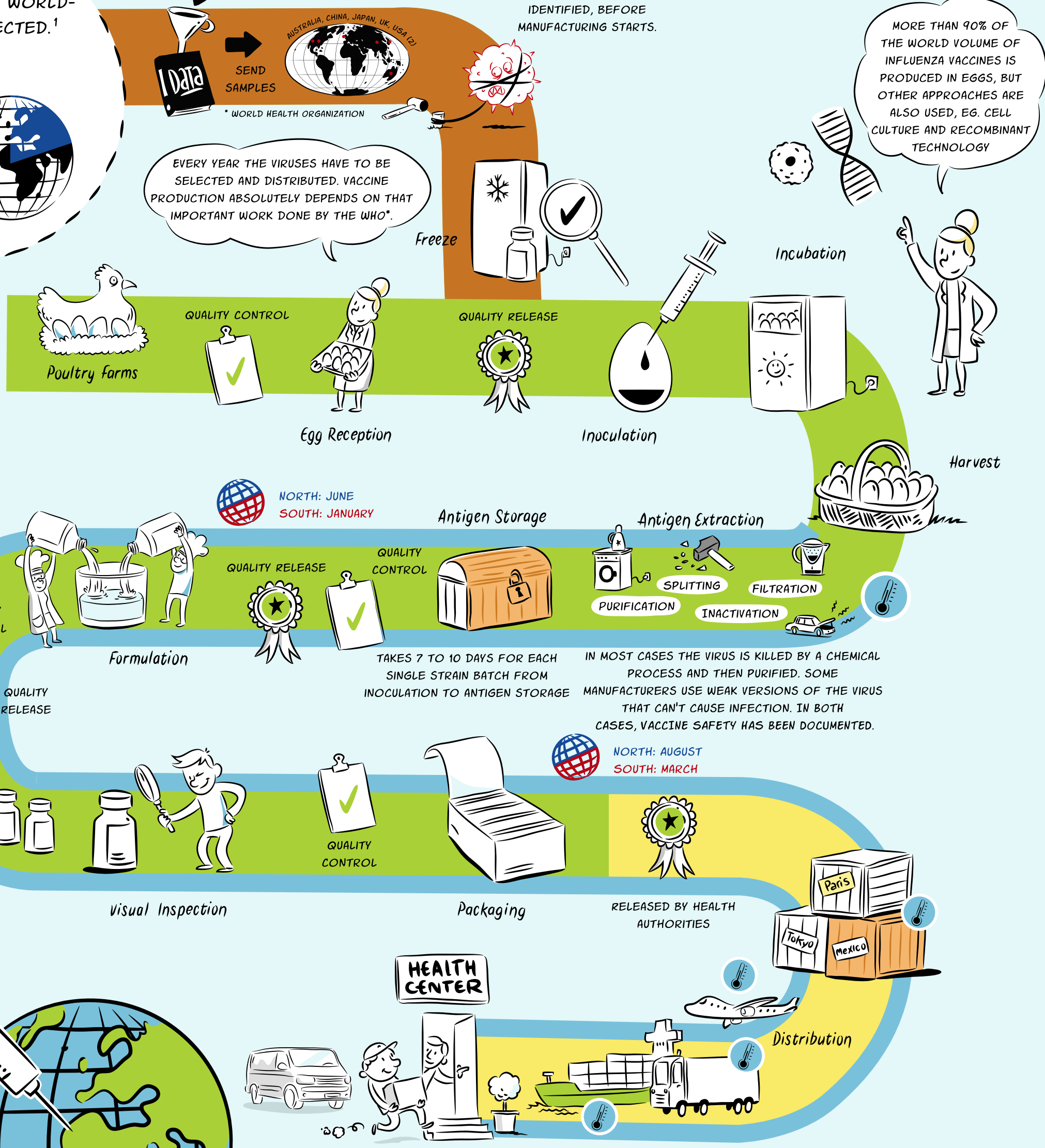
NATIONAL INFLUENZA CENTERS FROM OVER 100 COUNTRIES SEND VIRUS SAMPLES TO SIX WHO\* COLLABORATING CENTERS.

A STRAIN FROM A HUMAN PATHOGEN IS IDENTIFIED, BEFORE MANUFACTURING STARTS.

EVERY YEAR THE VIRUSES HAVE TO BE SELECTED AND DISTRIBUTED. VACCINE PRODUCTION ABSOLUTELY DEPENDS ON THAT IMPORTANT WORK DONE BY THE WHO\*.

MORE THAN 90% OF THE WORLD VOLUME OF INFLUENZA VACCINES IS PRODUCED IN EGGS, BUT OTHER APPROACHES ARE ALSO USED, EG. CELL CULTURE AND RECOMBINANT TECHNOLOGY

- WHO GLOBAL INFLUENZA SURVEILLANCE AND RESPONSE SYSTEM (GISRS)
- FLU VACCINE MANUFACTURERS
- COLD CHAIN WITH 4° C
- MANUFACTURERS, GOVERNMENTS, INTERNATIONAL ORGANIZATIONS, AND CIVIL SOCIETY



NORTH: JUNE  
 SOUTH: JANUARY

NORTH: AUGUST  
 SOUTH: MARCH

START OF THE FLU SEASON  
 NORTH: CIRCA OCTOBER  
 SOUTH: CIRCA MAY

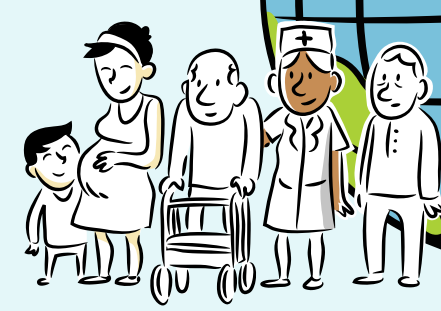
TIMELINES ARE TIGHT THROUGHOUT THE PRODUCTION IN ORDER TO HAVE THE VACCINE AVAILABLE FOR THE FLU SEASON

TAKES 7 TO 10 DAYS FOR EACH SINGLE STRAIN BATCH FROM INOCULATION TO ANTIGEN STORAGE

IN MOST CASES THE VIRUS IS KILLED BY A CHEMICAL PROCESS AND THEN PURIFIED. SOME MANUFACTURERS USE WEAK VERSIONS OF THE VIRUS THAT CAN'T CAUSE INFECTION. IN BOTH CASES, VACCINE SAFETY HAS BEEN DOCUMENTED.

World Health Organization

PHARMA



HIGH PRIORITY GROUPS FOR FLU VACCINATION:  
 CHILDREN AGED 6-59 MONTHS - PREGNANT WOMEN - ELDERLY - HEALTH-CARE WORKERS - INDIVIDUALS WITH SPECIFIC CHRONIC MEDICAL CONDITIONS<sup>1</sup>

<sup>1</sup> WHO SAGE POSITION PAPER ON INFLUENZA VACCINES, NOVEMBER 2012