THE COMPLEX JOURNEY OF A VACCINE

The manufacturing chain, regulatory requirements and vaccine availability

1. RAW MATERIAL RECEIPTION
   Incoming raw materials are checked for conformance with the quality specifications.

2. BULK ANTIGEN MANUFACTURING
   The active ingredient of the vaccine is manufactured. This is the most critical step in the production of high quality, safe and efficacious vaccines.

3. FORMULATION
   The active ingredient is mixed with other ingredients to enhance the immune response and ensure product stability.

4. FILLING
   The vaccine is filled into the final container. This could be a vial or a pre-filled syringe.

5. PACKAGING
   The vaccine in the final container is labeled in accordance with regulatory requirements and packed, ready for shipping to the customer.

6. LOT RELEASE
   Quality assurance confirms that the product has been manufactured and tested in accordance with the correct procedures. The national regulatory authority gives the final authorization to release the product for distribution.

Testing done by the manufacturer
Testing done by the exporting country
Testing done by the importing country

Quality Control represents up to 70% of manufacturing time.

A vaccine typically travels through several different sites before being ready for shipment.

A vaccine undergoes up to several hundred Quality Control tests during its manufacturing journey.

VACCINE OF CONSISTENT QUALITY