**BACKGROUND**
5% children immunized worldwide in 1974

In 2015, children immunized worldwide are 84%

**CURRENT GAP**
22 million children at 12 months of age are incompletely vaccinated

**VACCINE R&D: A LONG AND RISKY JOURNEY**
- 300 vaccines in the R&D pipeline
- 10 years of R&D for each successful vaccine
- 12-18 months for first regulatory approval
- 24 months to manufacture
- 70% of production dedicated to quality control
- 6% of probability of market entry from preclinical
- $200 - 900 million USD cost of development
- $600 million USD cost of building a biological manufacturing site

**VALUE THEY BRING**
- Millions of lives saved
- Health costs reduced
- Society as a whole healthier
- Polio eradication

**MAINTAINING THE VACCINES INNOVATION EDGE**

**WHAT WAS THE Journey LIKE?**
- 1798 First vaccine ever developed for smallpox
- 1885 Rabies vaccine
- 1896 Cholera vaccine
- 1927 Tuberculosis (BCG) vaccine
- 1935 Yellow fever vaccine
- 1948 DTP (Diphtheria, Tetanus and Pertussis) vaccine
- 1963 Measles vaccine, Polio (oral) vaccine
- 1969 Rubella vaccine
- 1986 Hepatitis B vaccine
- 2000 Pneumococcal (heptavalent) vaccine
- 2001 Pentavalent vaccine
- 2006 Rotavirus (attenuated & new reassortants) vaccine
- 2006 Human papillomavirus (HPV) vaccine

**FROM LAB TO REGULATORY APPROVAL**

**OPTIMIZED PRODUCTION TO MEET NEEDS**

**TOWARD SUSTAINABLE ENVIRONMENT**

**WIN-WIN PARTNERSHIPS**

**ADDRESSING UNMET NEEDS**

**OUR KEY TO SUCCESS**

**BUILDING STRATEGIC ALLIANCES**

**COUNTRY OWNERSHIP**

**INNOVATION IN VACCINE PRODUCTION**

**NEEDS-DRIVEN MANUFACTURING**

**FIELD-ADAPTED SOLUTIONS**

**POLICY & REGULATION**

**COMMUNICATIONS**

**TRAVELING THE LAST MILE**

**FROM APPROVAL TO SUSTAINED ACCESS**

Please visit www.ifpma.org for more information.

Ref: 2015 IFPMA Innovation for a Healthier World: How the Research-based Vaccine Manufacturers are contributing to the Decade of Vaccines Global Vaccine Action Plan