The Cold Chain is 40 years old!

The Expanded Program on Immunization was initiated by WHO in May 1974 with the objective to vaccinate children throughout the world.

Let’s take a look back at the cold chain over last four decades.
EPI
Expanded Programme on Immunization

May 1974

WHO
UNICEF
CDC, Atlanta

Technet launched 1989: 1st Technet meeting
Cyprus 1990

No. of International Organisations Participating


3

75
The first decade: Development of equipment & training

- **Cold chain equipment developed**
  - Existing equipment adapted / new products developed
  - Kerosene & gas refrigerators, ILRs, cold-boxes
  - Portable steam sterilizers + sterilizable plastic syringes
- **Training materials prepared & tested**
  - Refrigerator repair, logistics, vaccine handling
- **Scale-up not achieved... but research begun**
  - Strong collaboration between WHO, UNICEF, laboratories and manufacturers
The second decade: Implementation of cold chain infrastructure

Implementation driven by UNICEF / UCI
- Establishment and use of regional training centers
- Certified independent test laboratories
- Introduction of managerial tools
Scale-up of equipment supply to large countries

Operations research
- Incidence of freezing by cold chain monitor surveys
- Discovery of contamination with jet-guns
- Adaptation of motorcycles for outreach & vaccine supply in Africa
- Solar refrigerators; UNESCO summit + 'community' trials

First TechNet Consultation held in 1990

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Year
The third decade: 'Supply chain' management & quality

- EPI coverage 'slowdown', focus on PEI then GAVI / ISS
- NUVI debate of 1998 recognized issue of unsafe injections
  - Acceleration of the introduction of auto-disable syringes
  - Avocacy (African declaration against unsafe injections)
  - Disposal systems and field incineration testing & scale-up
- Operations research and development/trials
  - Acceleration of solar direct-drive technology
  - Uniject for MNT and CTC for better 'outreach'

TECHNET MEETINGS:

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The fourth decade: Supply chain system performance

- **Accelerated introduction of new vaccines facilitated by many new partners**
  - Project Optimize resetting norms and questioning dogma
  - Managerial tools VSST and VSSM to enable store sizing up, more cold rooms

- **Optimization of vaccine distribution systems**
  - Reset 'cold chain' norms & streamline PQS
  - Evolution of EVSM to EVM multi-country assessment
  - Starting with model-assisted country system re-assessment
  - Growing focus on LMIS and Data for Management action
  - An integrated approach to vaccine & medicines

**TECHNET MEETINGS: 1993 Entirely executed on-line using UNICEF list-server**

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1976 - 1985

Lessons learned

✓ **Power of collaboration and participation – an opportunity and a necessity**
  - More participants for technical assistance, more transparency and mutual trust
  - TechNet and 'Hub' to share global technical resources

✓ **Pragmatism in leadership**
  - We must strive to build more evidence, but act on the evidence available
  - Challenge to retain programmatic control, integrate supply chain

❖ **Missing elements?**
  - Syringe/needle waste management – a part of the supply chain
  - Transport management – shared throughout medical supply system
  - Delivery systems R&D too fragmented to transform supply chain?
“By 2020, state of the art immunization supply chains meet the changing needs of a changing world in order to achieve the 6 rights”

Six 'Rights' of an excellent supply chain

1. Right products
2. Right quantities
3. Right place
4. Right time
5. Right condition
6. Right cost