

# Value Based Care

Can Indonesian Healthcare and Life Science's leverage  
Digital Transformation and "Leap Frog" the Developed Economies

# Developed Economies

## What's shaping Indonesia Healthcare and Life Sciences



Government  
Funding

Increasing %  
of GDP



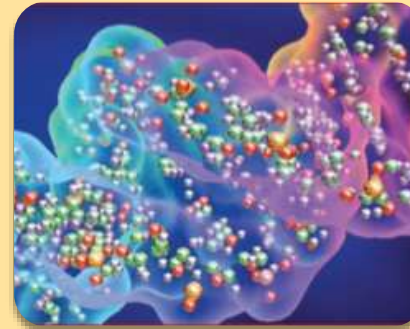
Grey Tsunami

Age bubble  
starting in  
SEA



Life Style  
Diseases  
increasing

Middle class  
growing



Increasing  
Regulatory  
Pressure

Serialisation  
and Barcoding

Sustainability



Personalised  
Medicine

Build a  
Genomic  
Database for  
Indonesia

# Developed Countries

## What have they learned

- Healthcare cost increasing
  - Failure to control rapid rising healthcare cost
  - Many different systems,
  - Based on various different data sets
  - landline infrastructure
- Patient Outcomes vary
  - different doctors
  - Different facilities
  - different Clinical Approaches



Life Expendancy by Healthcare Expenditure per Capita

Source: Boston Consulting Group

# Can Indonesia “Leap Frog”

## Opportunity for Indonesia

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World Economic Forum defined Leap Frogging as less developed countries to use Innovation “to accelerate development and achieve results equal to or better than those of a mature economy, in less time”

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Opportunity for Policy Makers, Providers and Life Science companies to “Leap Frog” to Value Based Care

Emerging Markets don’t have burden of legacy applications an massively complex integration of different data sets



Three types of Innovation are critical for successful “leap Frogging”

1. New Technologies
2. New Operational Model
3. New Behavior Patterns



# Can Indonesia “Leap Frog” Opportunity for Indonesia

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## EarlySense



## eCare PillBox



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- New Focus on VALUE BASED CARE
  - Systematic measurement of Healthcare Outcomes
  - Identify best practice by disease, by procedure, by segment
  - Share best across to deliver improved value

Avavind Eye Care System global leader in tracking health outcomes in Cataract Surgery creating Innovative models delivering High Quality care at Loss Cost to the masses

- High volumes surgeons become experts
- Standardised procedures for latest innovation adopted universally
- 1/10 cost US at same quality
- Mc Donald’s approach to healthcare



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- Diabetes
- Health Checks
  - Children Check ups
  - Remote Care
- Pandemics
- Medication Errors
- Counterfeiting Drugs
- Personalised Medicine

# Diabetes

“plague” of the mature Countries

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- Type 2 Diabetes triggered by an unhealthy lifestyle
  - Poor Diet
  - Lack of Exercise
- Worldwide 350 million diabetes at cost 500 billion
- 1 in 3 in Singapore
- 10 years ago 1% of China – now at 10% of population

## Affects of Diabetes

- Heart Disease
- Strokes
- Retinopathy – Eye Damage
- Nephropathy – Kidney Damage
- Neuropathy – Nerve Damage
- Amputations
- Blindness



# Diabetes

## Help to manage or better PREVENT!

- Diabetes and Pre Diabetic Programs
- Apps to track activity and diet
- Feedback with encouragement and alerts
- Patient Engagement
- Doctor, Nurse and team involved



New Technology, New Approach achieving changed behavior  
Leap Frogging to Value Based Care

# Health Checks

## Remote Care or Child Care



- Easier to use than Paper
- Reduces workload as entered only once
- Does not get lost
- Continually updated
- Start of longitudinal health record
- Population Health : Analytics to identify trends in diseases and plan resources

New Technology, New Approach achieving changed behavior  
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# Pandemic Field enablement and Real Time Responses

Rural Health Workers Reporting

Ministry of Health

Field Enablement



Real Time  
Monitoring

Training Video



Old Phone Message



Supervisors,  
Coordinators  
State Officials,  
Epidemiologists

User Guides

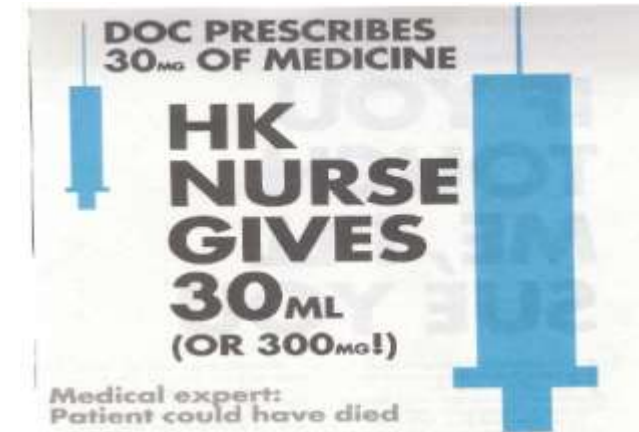


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# Medication Errors

In the United States,  
medical errors kill more  
than 1,000 people each  
day

Source: Patient Safety America



The dosage was 30mg, but she mistook it for 30ml, which is 10 times more than what the doctor prescribed.

admetrasent is an anti-coagulant, reported South China Morning Post. The patient had an operation on his blood vessels. The massive dosage could have led to a stroke or blood pressure, or

for cancer and undergoing an operation to remove his larynx and pharynx on 5 Jul in United Christian Hospital. Doctors were unaware of the error until X-rays were taken on Thursday.

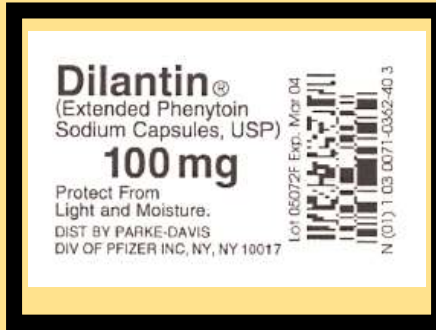
In another recent incident, a 21-year-old cancer patient died at Prince of Wales Hospital after receiving a chemotherapeutic agent by a spinal route instead of intravenously – prompting a global alert from the World Health Organisation.

\*Regular reminders to front-line

medical incidents in public hospitals.



# Patient Safety



## "The 5 RIGHTS"

Identify the **RIGHT Patient**  
Confirm the **RIGHT Medication**  
Confirm the **RIGHT Dosage**  
Confirm the **RIGHT Route**  
And the **RIGHT Time**



### Benefits:

- Reduced errors
- Reduced costs associated with errors
- More rapid and accurate documentation



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## Counterfeit drugs

### The Jakarta Post

Based on research in the respective areas, the distribution of fake drugs in both **Greater Jakarta and East Java reached 50 percent**, while Medan and Bandung recorded 20 percent and 18 percent respectively.



#### **Over 42 Million Fake Pills Seized worth 30 Billion Rupiah**

Authorities have raided 5 factories in Balaraja, Banten, allegedly involved in producing and distributing fake medicines.



“The agency has submitted a list of 214 websites selling these illegal products to the Communication and Information Ministry, which will take those websites down,” the statement said.

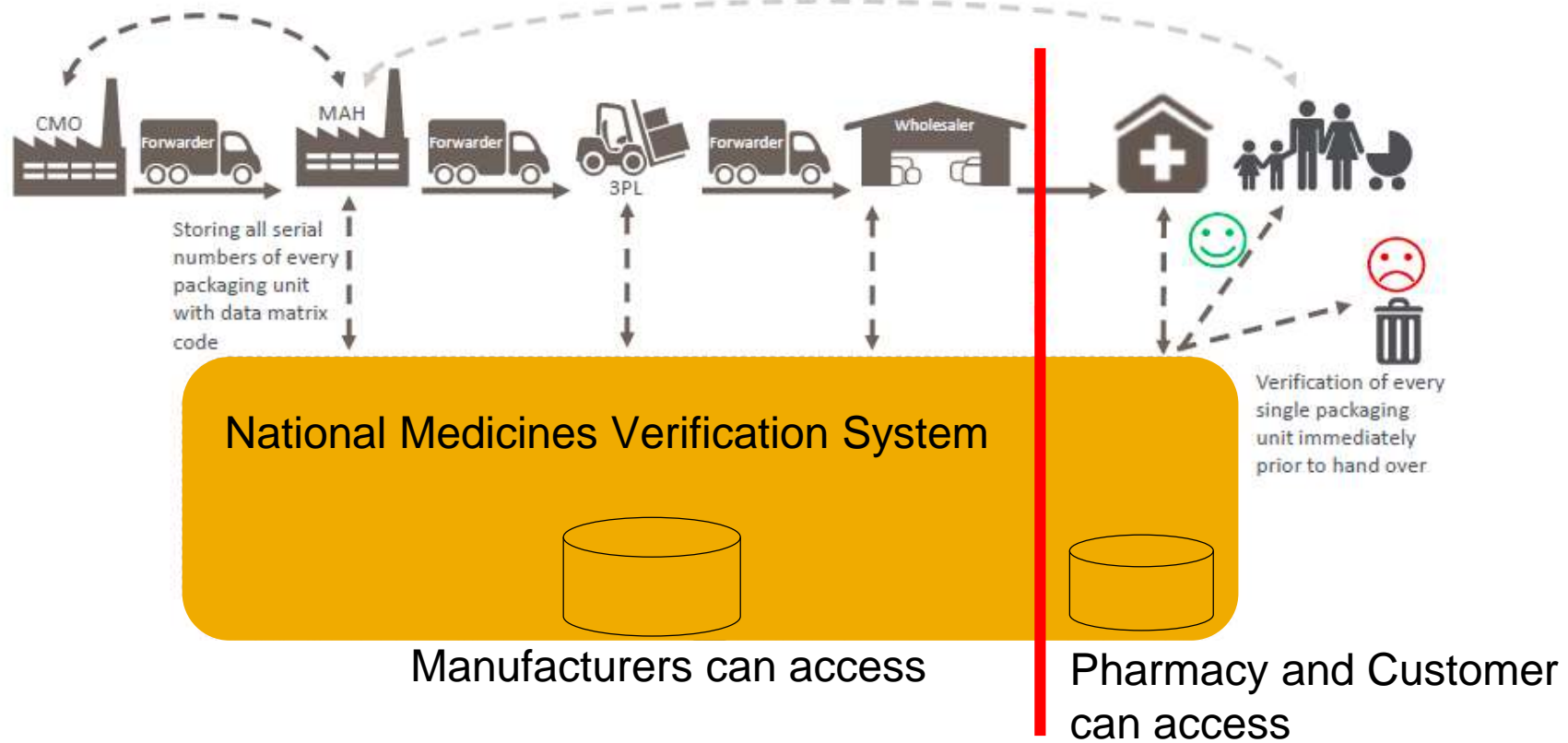
“We urge the public to avoid buying medicines and food supplements from online shops. If they do so, customers must check the packages, make sure they are printed with the official distribution permit and expiry date,” the statement said.



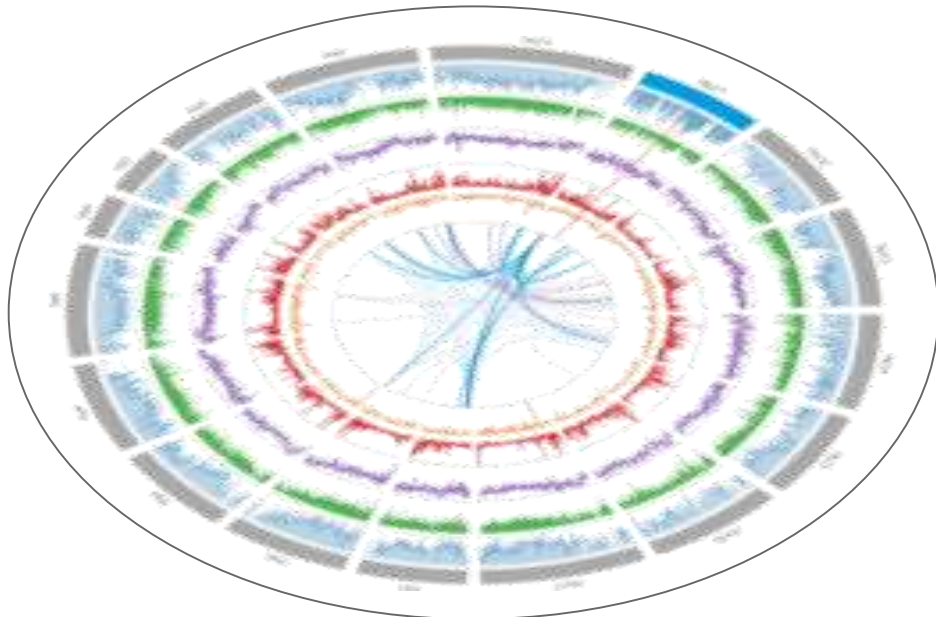
# Serialisation

## National Database

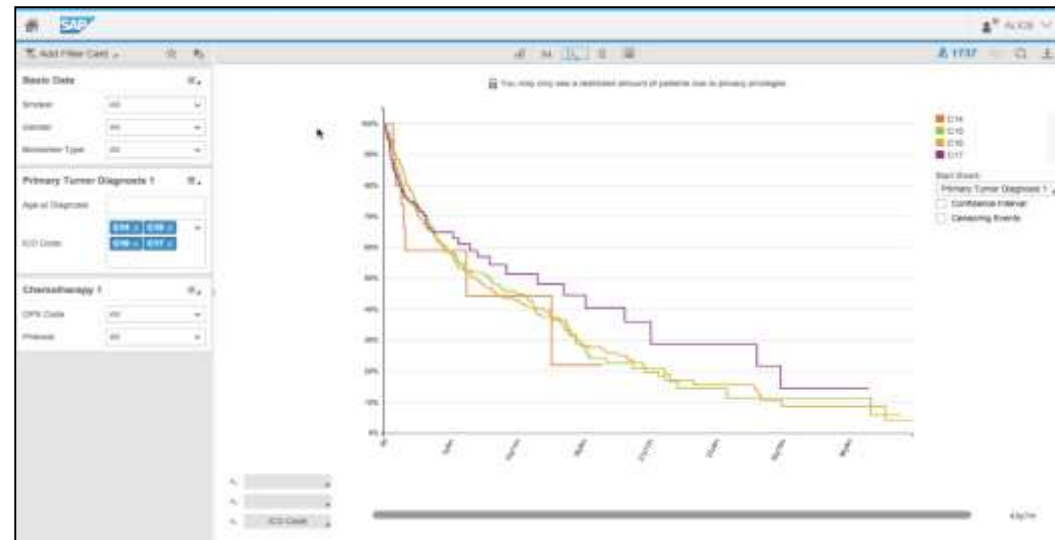
The EU serialization process: An end-to-end verification system



## Personalised Medicine based on Indonesian Database of Clinical Outcomes based on Patient Attributes and Gene Analysis



Genomic variant browser – get a visual impression of a human genome sequence



Kaplan-Meier analysis – explore survival probability of different patient populations per cancer type or therapy

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# Thank you

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