

# Introduction to DHIS2 Design Principles



# DHIS 2 - generic platform and local systems

- A generic open source software platform supporting a wide range of use cases
- Highly configurable and allows for tailored local systems addressing local needs
- Each implementation of DHIS 2 in a country is fully owned and governed by the country (or organization)
- Each country/organization has a different «system» built on the platform
  - variations in indicators, disaggregations, reports, analytical outputs

# DHIS 2 customisation - designing a local system

You can set up a system without being a programmer:

- Add in facilities
- Specify any kind of data to be collected
- Define any type of indicator to be calculated
- Manage User Access
- Configure many types of outputs, including charts, tables, maps and dashboards
- Define analysis and reports along any number of categories and dimensions

# Key principles of DHIS 2 design

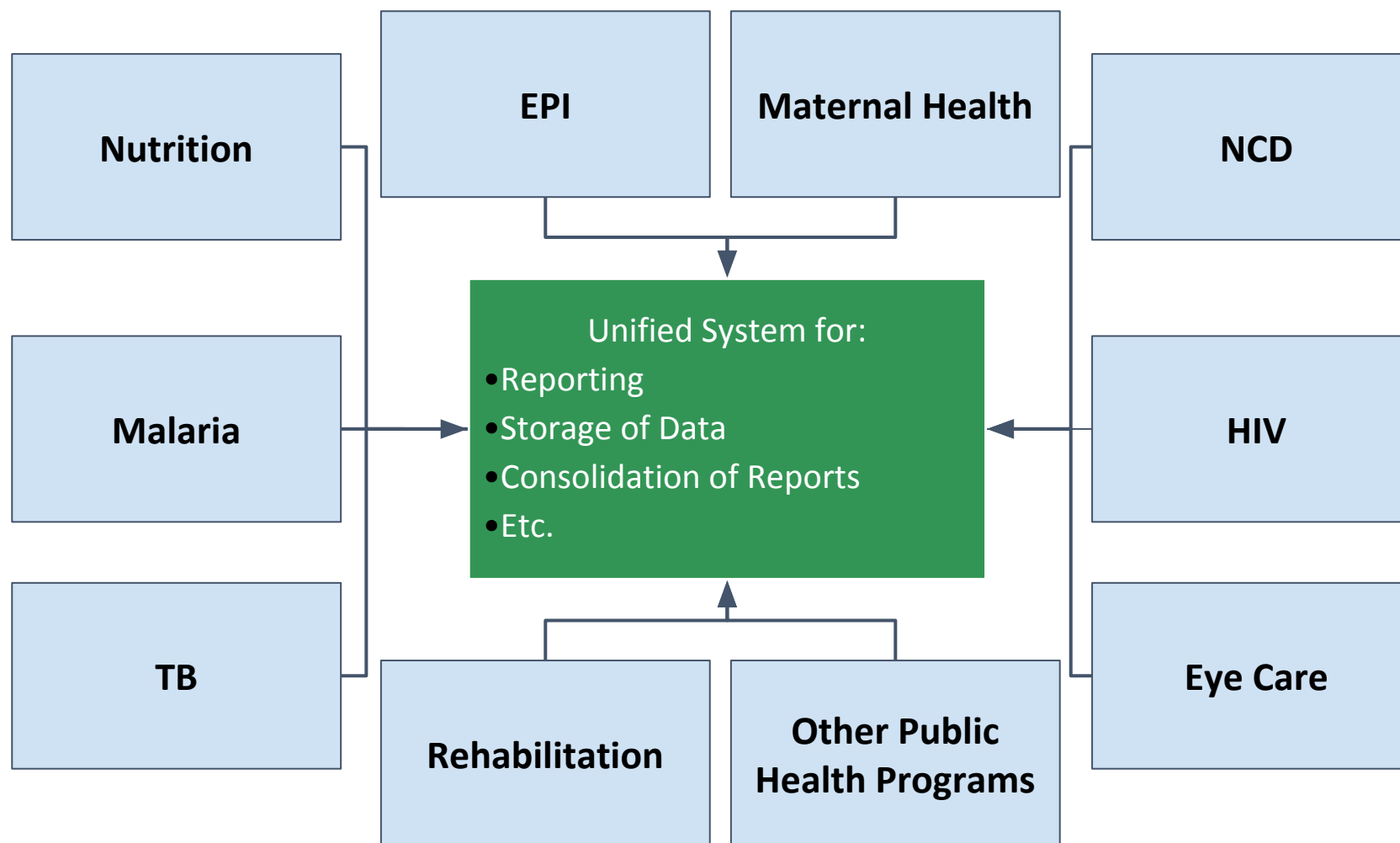
1. All meta data can be added and modified through the user interface
2. A flexible data model supports different data sources to be integrated in one single data repository
3. Data Input  $\neq$  Data Output - data collection forms detached from flexible data visualisation options
4. Indicator-driven data analysis and reporting - calculated indicators on top of the raw data for more powerful analysis

# 1. All meta data can be added and modified through the user interface

- Think of DHIS 2 as a skeleton, a generic tool supporting HIS
- What, when, who and how to collect information, which indicators to calculate and required reports may need to be added to the system in each new context of use - called design of a local DHIS database
- Provides flexibility to cater for local needs and interaction with local domain experts
- Provides flexibility to make changes over time and maintain usefulness in a changing environment
- Empowers in-country administrators and superusers to take ownership of the system, no programming needed

## 2. A flexible data model supports one single data repository

- Not an application tailored or fixed to one health program or reporting silo - rather a tool to support an integrated information system - one repository for all related data
- Flexible data model and the ability to add new data sets through the UI enable new areas of use and support for a wide range of integrated 'subsystems'
- Data collection is facilitated through online web apps, mobile apps, sms, manual file import, or through automated imports (interoperability) from external systems
- Enables analysis and correlation of data across the typical vertical structures of the information system



### 3. Data Input $\neq$ Data Output

- Reports and data analysis (incl. indicators) are made up of data elements, not data entry forms
- Think of forms/datasets as a way to organise how you collect data elements, not as your report outputs
- Data elements can be combined into indicators or groups, and compared across programs and forms in feedback reports, charts, maps, and pivot tables
- Reports can be assembled in many different formats and are by no means limited to the design of the collection forms



Form A

DE1	DE2	DE3
DE4	DE5	DE6
DE7	DE8	DE9

Form B

DE5	DE6	DE10
DE11	DE12	DE6
D14	DE15	DE16

Form C

DE7	DE8	DE11
DE12	DE17	DE18
D19	DE20	DE21

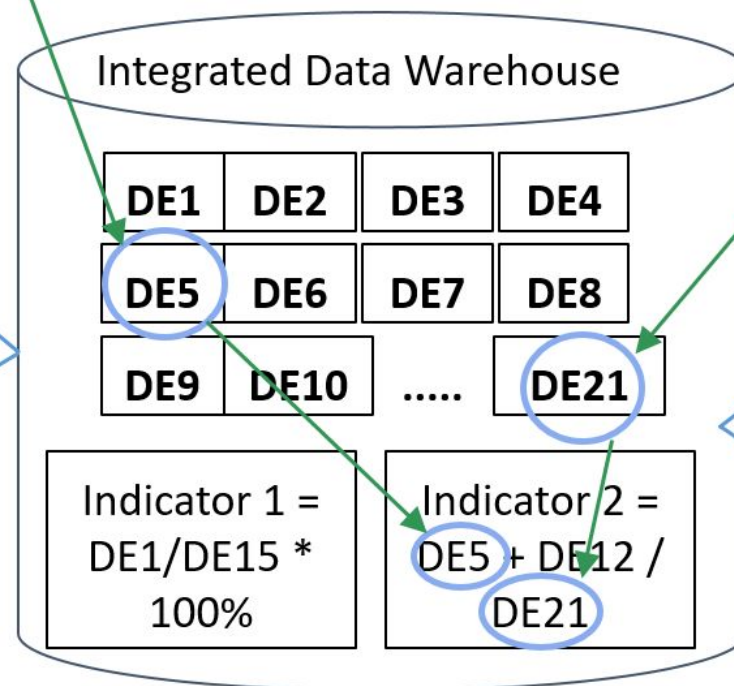
## DATA ANALYSIS



Reports



GIS



## DATA ANALYSIS



Data Visualizer



Pivot Table

## 4. Indicator-driven data analysis and reporting

- Data elements describe the raw data (counts) being collected
- Indicators are formulas based on data elements that are more powerful in data analysis, e.g. coverage or incidence rates
- Indicator formulas are defined through the user interface
- Indicators allow comparisons of areas with different populations using target populations as denominators
- Indicators are supported in all the data analysis and reporting tools