



JustDrive

Powered by: GHSC Data Exchange







COLOFON

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Guestimate: 20-40% of the medicines **don't** reach the targeted patients in many countries in for instance Africa

An "act local- think global" coordination and data sharing approach to increase access to affordable and quality health products in an accountable and predictable manner.

Managing & optimising the Global Health Supply Chain (GHSC) requires full **end-to-end** visibility. From up- to down stream including health facilities and patients demand. Without **quality data from the last mile** in the country we cannot achieve this goal. Aiming for country self-reliance requires: encouragement instead of forcing stakeholders, focus on local adoption, simple solutions and capability to coordinate supply chains both central and decentral. Therefore we aim to enable an **open and scalable data sharing eco system** by focusing on four topics; affordable, simple to connect to, locally produced and open to all. The solution that is presented in this animation adds value to the last mile and makes use of a federative data infrastructure and is **currently being field tested** in Burundi. All stakeholders involved want to **build on its success** and expand to other districts and countries connecting local with Global.

Ed Monchen, CEO i+solutions, Woerden, The Netherlands



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De basisprincipes

Principles:

- Retrieving data from the source, machine-to-machine, 1. as much as possible.
- The Data Owner determines who can access the data 2. (Data Sovereignty), even if it is hosted by a delegated party (Data Holder).

Agreements:

- Applying the agreed semantic model, either explicitly 3. or implicitly, with specific variations and expansions being possible depending on the use case.
- Applying an API and/ or SPARQL end point as an 4. access point for the source.
- Applying Identity & Authentication in the prescribed 5. manner.
- Applying Authorisation with permissions in the 6. prescribed manner if the Data Owner requires Authorisation.





This infographic describes the data flow and the physical process. The data flow uses modern IT like a trust network and linked data to achieve an elegant low-cost solution that can work in local circumstances, with mobile technology.





Medexis LMIS: Please send a shipment notification message to all eglible drivers for clinic. **GHSC Data Exchange:** The request coming from Medexis is legitimate an is coming from a trusted source. Can you show this notification in the JustDrive App on the eligible driver phone?



GHSC Data Exchange:

Please find an overview of all drivers that have received shipment notification messages.

Driver apps: The request is coming from a trusted source. I will show the notification and let Medexis know I did so.







Accreditation of drivers is done locally



ID Card

Navigation Test

Governance: Participant Administration

NGO: assigns the warehouse

Warehouse: selects eligible drivers

MOH: assigns clinics

Clinics: assigns clinic workers and accredit drivers

Clinic workers: accept shipments (proof of delivery) and evaluate drivers.

All data exchange is subject to authorizations and data policies for specific identities

Driver app: Are there any shipments/ rides available for driver A?

GHSC Data Exchange: The request from driver A is legitimate and is coming from a trusted source. Can you show me all shipments/ rides for the corresponding clinic accredited profiles ?



GHSC Data Exchange:

Please find shipments/ rides that you can select for pick up should you want to.

Medexis:

The request is coming from a trusted source. I will provide an overview of available shipments/ rides for this specific profile





Driver a:

Checks in at the warehouse. Takes the order and scans the QR Code, 'proof of transaction'.





Proof of transaction

- Works without internet connectivity
- The camera of a cheap smartphone
 - can take a picture from a QR code.
- The smartphone transforms this
 - into encrypted code.
- The phone can upload this code to the other
 - relevant systems via the GHSC data exchange,

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whenever there is connectivity.





Driver a:

Drives to destination with the order on the back of his ride.



Driver app: I am driver A and I have come to pick up the shipment for clinic. **GHSC Data Exchange:** The request from driver A is legitimate and is coming from a trusted source. Can you show me the relevant shipment for transport to clinic B?



GHSC Data Exchange:

Your pick up is confirmed, the shipments are hereby under your responsibility, please find a proof of transaction.

Medexis:

The request is coming from a trusted source, I will confirm the pick up and change the shipment status to "in transit".

Clinic Worker :

Authorised Clinic Worker accepts delivery of medicine and evaluates driver who gets paid with proof of transaction

Driver a delivery:

Checks in at the clinic. Delivers the medication. Scans the QR Code, 'proof of transaction'.



Please note that data exchange can take place without internet connectivity through use of encrypted file and key transfer via QR/Camera. Whichever app gets internet access first will transfer all data sharing updates to the other relevant systems via the GHSC data exchange.



DATAFLOW

Driver app:

I am driver a and I have come to deliver the shipment for clinic.

GHSC Data Exchange: The request from driver A is legitimate and is coming from a trusted source. Can you accept this shipment?



GHSC Data Exchange:

Your delivery is comfirmed, the shipments are herby no longer under your responsibility, please find proof of transaction to be able to get paid for the ride.

Clinic App:

The request is coming from a trusted source. I will confirm delivery and change the shipment status to 'delivered'.





Coordination Tower:

Coordination as a service: facilitating supply chains across actors

- End to end visibility
- Supports information sharing and collaboration
- Enhances management oversight
- Enables data-driven decision making



Coordination tower:

I am the coordination tower A, can I receive an overview of all transactions in district B of the past 24 hours.

GHSC Data Exchange: The request from coordination tower A is legitimate and is coming from a trusted source. Can you provide relevant transactions please?



GHSC Data Exchange:

Please find an overview of all transactions you have requested.

All relevant apps:

The request is coming from a trusted source. I will provide the relevant transactions.

Cost efficient, fine mesh medicine distribution by strengthening and connecting local communities. End2end visibility: giving every actor in the chain the control it needs to fulfill its role at best.



Medicines: do reach targeted patients



Patients: significant improvement of availability of medicines



Clinics: hassle free, repetative replenishment of medicines



Warehouse: more efficient distribution and better customer service



Supply chain partners:

controlled flexibility and additional logistics options



Countries:

better governance of in country medicine forecasting and demand, distribution and availability of medicine



Drivers: new business opportunity and community service



Donors: proof of effective spending and increased availability of affordable medicine

