IT concept and protection of data privacy of the new Thuringian blood culture registry AlertsNet

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Background

Within the Thuringia-wide blood culture (BC) registry AlertsNet, microbiological reports from

- ~316,000 BC sets per year from
- patients out of 2.2 million inhabitants
- delivered from about 19 microbiological labs
- clinical data from about 36 hospitals will be collected and analyzed.

Objectives

Installation of an automated **electronic blood culture (BC)** registry which accounts for data economy and current privacy policy of patients and participating partners.

Methods

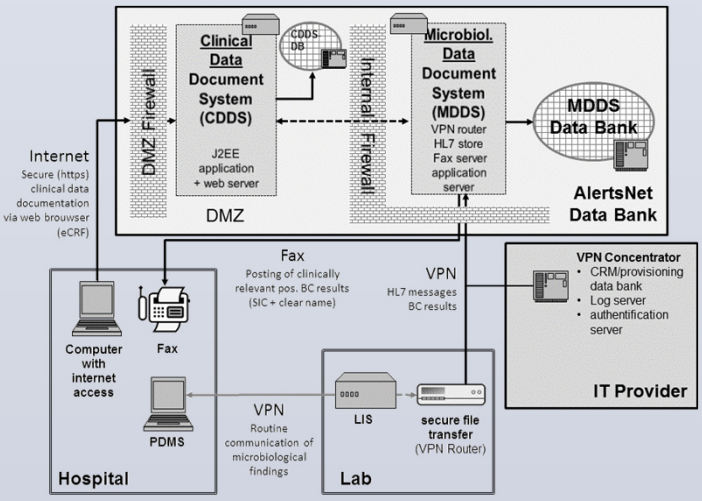
The **IT structure** is divided in two main parts:

The Microbiological Data Document System (MDDS)

- is connected to the laboratory information systems (LIS) of the lab via a virtual private network (VPN) located in a separate DMZ (perimeter network).
- Information on pathogens and resistance patterns are obtained from the microbiological reports sent to the BC registry.
- The findings are transmitted via HL7 files, imported into the MDDS, and overwritten and deleted after import.
- Each imported result is registered by a subject identifier code (SIC) while each patient is represented by a hash code. This allows for recognition of the patient in further clinical facilities.
- The clear name will be immediately overwritten if finding is negative.
- Patient clear name will be deleted immediately after documentation, but latest after the period of 60 days.
- If positive BC findings are defined as clinically relevant by algorithm (according to MiQ), the BC sending clinic will be contacted per personalized fax incl. the finding's SIC and clear name of patient to conduct documentation of data in …

the Clinical Data Document System (CDDS)

- accessible via https from internet.
- The responsible documentation specialist completes an electronic case report form (eCRF) which is only accessible via personalized login within 60 days after drawal of BC. Every documentation specialist may only view and edit data from his/her medical facility.
- Parameters include information on source and site of infection, risk factors, predispositions, antibiotic regimen, and outcome.
- No clear names in this system; only pseudonyms.

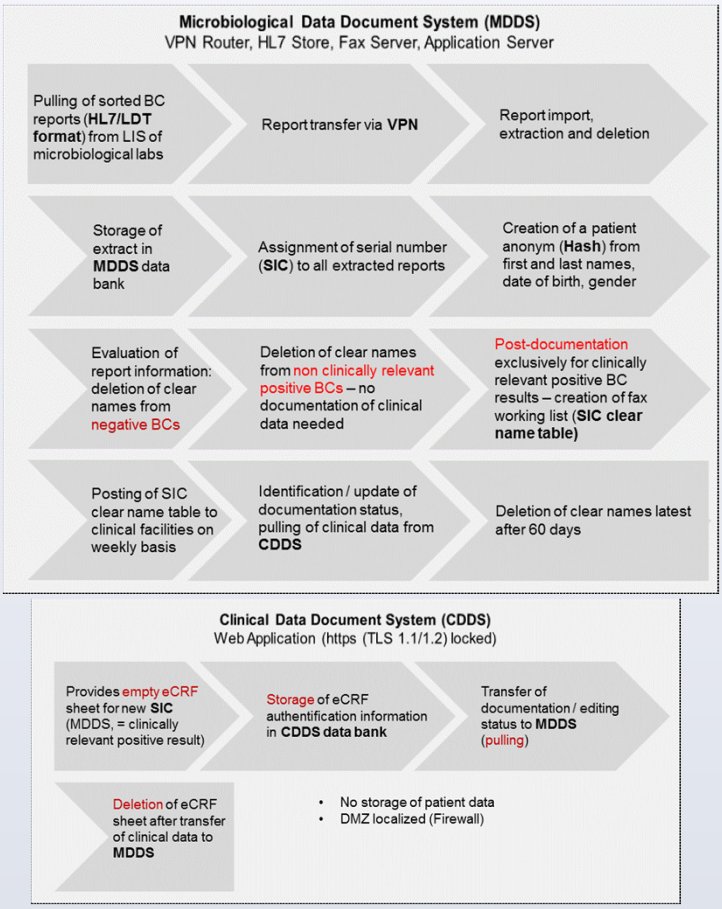


AlertsNet 2.0 IT concept

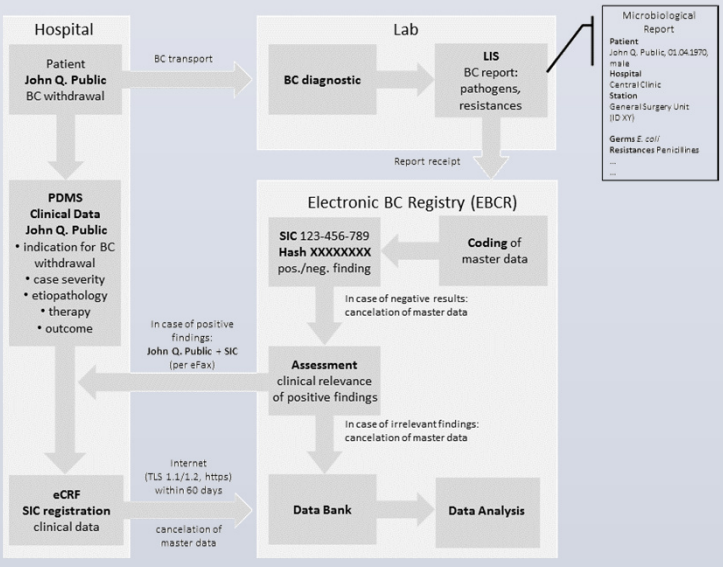
Results

All data within AlertsNet will be fully anonymized and both data sources (BC registry & eCRF) will be merged for epidemiological analysis.

Processing of Microbiological an Clinical Data



Protection of Data Privacy



Acknowledgements

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