Drugs Distribution Ledger

Section 1 Summary

Use Case Summary			
Use Case ID:	HLC-003	**Use Case Type:**	Vertical
Submission Date:	May 28, 2018	**Is Use Case supporting SDGs**	No
Use Case Title:	Drugs Distribution Ledger	**Domain:**	Healthcare
Status of Case	PoC	**Sub-Domain**	Medicine
Contact information of person submitting/ managing the use-case	*Full Name* Vadim Likholetov *Job Title CTO* *E-mail address:* vadikas@setere.com *Telephone number:*+7-921-417-99-55 *Social media: none* *Web site: http://www.setere.com*		
Proposing Organization	*Limited Liability Company "Tech Medical Group", INN 7841019901*		
Short Description	Drug distribution ledger based on DLT can make the distribution process trustworthy and transparent.		
Long description	Main conditions of success scenario: • All the medical centers and pharmacies are connected to DDL • Patients can get treatment reports via the internet • All the necessary drugs distribution reports are being provided by DDL The implementation of DLT solution, which allows tracking medical treatments and provides the necessary reports can reduce paperwork and increase common efficiency.		
SDG in Focus (when applicable)	NA		
Value Transfer:	No value transfer	**Number of Users:**	1000+
Types of Users:	Medical centers, Patients, Federal and Local Government (as auditors)		
Stakeholders	Medical centers, Patients, Federal and Local Government		
Data:	Information about treatment sheets, prescriptions and associated with them drugs distribution should be stored in DLT.		
Identification:	Identification for inserting data to DLT is required. Reports can be provided to anonymous users depending on report type.		
Predicted Outcomes:	Implementation of open DLT for collecting transactions connected with drugs distribution processes will provide transparency of the process. Also every patient can get possibility of tracking their treatment.		

Overview of the Business Problem or Opportunity

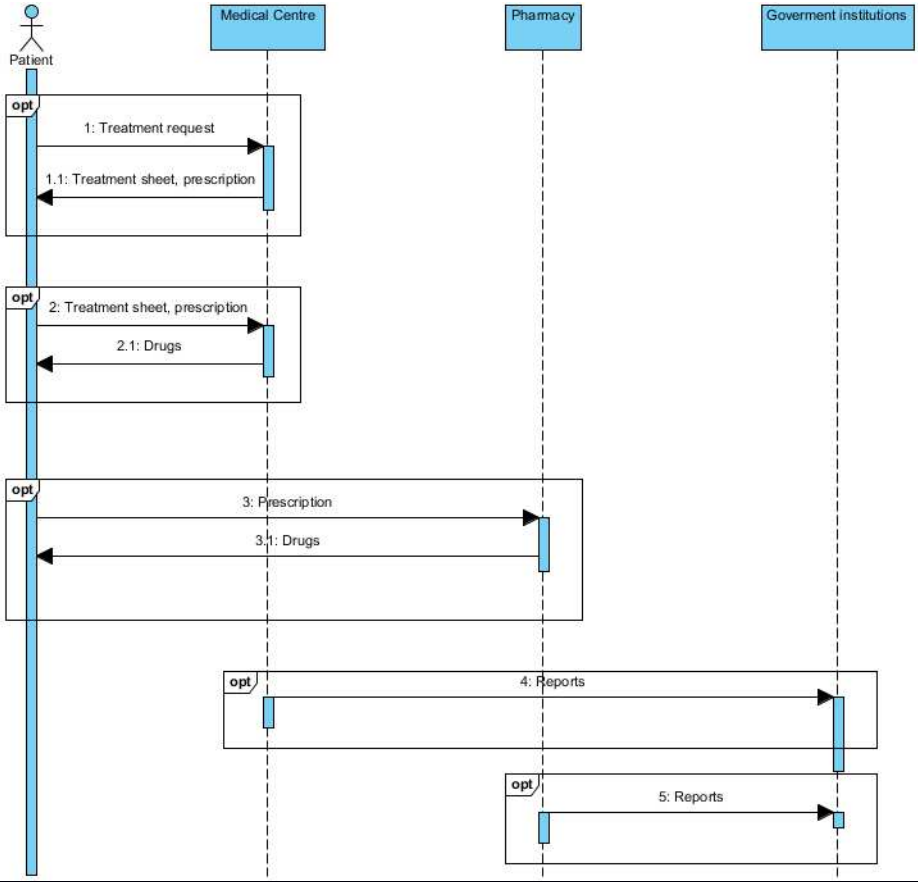
There is no information system for collecting all the treatment sheets, prescriptions and connected with them drugs distribution. Every medical centre makes own reports and then send it to government institutions. Patients cannot track their treatment.
Why Distributed Ledger Technology?
The Blockchain and smart-contracts make this process trustworthy and transparent. The implementation of DLT solution, which allows tracking medical treatments and provides the necessary reports can reduce paperwork and increase common efficiency.

Section 2 Current process

Current Solutions
Medical centres have local Medical Information systems (issuing treatment sheets and prescriptions). Pharmacies have local Drugs distribution systems. Patients cannot track medical treatment. The necessary reports are being provided separately by every organization.

Existing Flow (as-is)		
Step	**User Actions**	**System Actions**
1.	Medical Centre issues treatment sheet or prescription	n/a
2.	Patient get treatment or drugs according the treatment sheet or prescription	n/a
3.	Medical Centre or Pharmacy creates report	n/a

Process scheme (as-is)



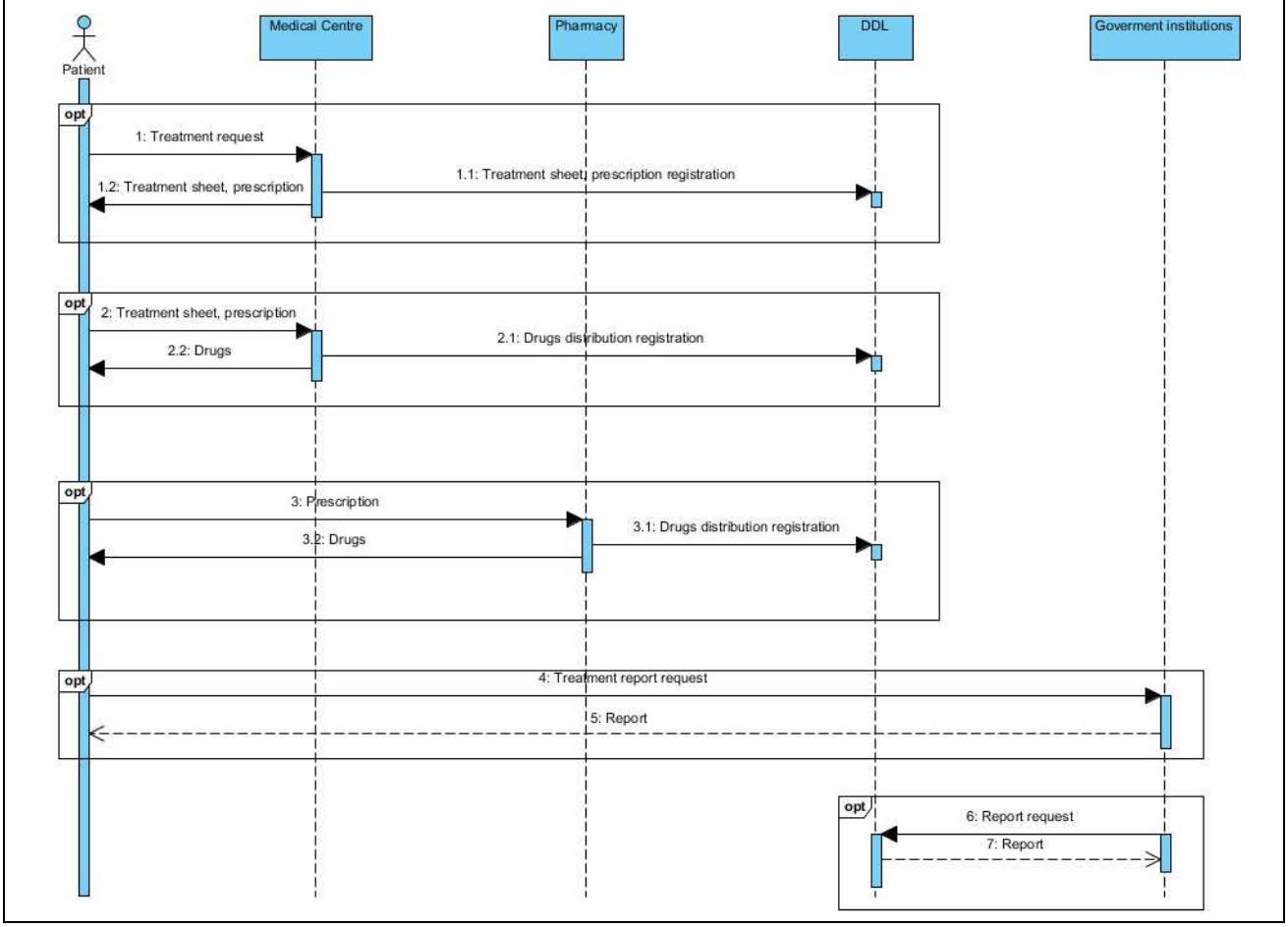
Data and information (as-is)		
Data	**Type**	**Description**
1	Treatment sheet	List of medication and medical procedures
2	Prescription	List of medication
3	Report	Reports of Medical Centers and Pharmacies

Participants and their roles (as-is)		
Actor	**Type/Role**	**Description**
1	Medical Centre	State or private medical centre
2	Pharmacy	State or private pharmacy
3	Patient	Client of medical center or pharmacy
4	Government Institution	Regulatory or audit functions

Section 3 Expected process

Expected Flow (to-be)		
Step	**User Actions**	**System Actions**
1.	Medical Centre issues treatment sheet or prescription	Registration the treatment sheet or the prescription in DDL(DLT)
2.	Patient get treatment or drugs according the treatment sheet or prescription	Registration the drugs distribution event in DDL(DLT)
3.	Patient get a treatment report	DDL(DLT) provides the treatment report
4.	Governmental Institution get drugs distribution report	DDL(DLT) provides the drugs distribution report

Process scheme (to-be)



Participants and their roles		
Actor	**Type/Role**	**Description**
1	Medical Centre	State or private medical centre

Participants and their roles		
Actor	**Type/Role**	**Description**
2	Pharmacy	State or private pharmacy
3	Patient	Client of medical center or pharmacy
4	Government Institution	Regulatory or audit functions

Data and information		
Data	**Type**	**Description**
1	Treatment sheet	List of medication and medical procedures
2	Prescription	List of medication
	Treatment Report	Report for Patient
	Drugs Distribution Report	Report for Government Institution

Security and privacy
Identification for inserting data to DLT is required. Reports can be provided to anonymous users depending on report type.

Main Success Scenario
1. All the medical centers and pharmacies are connected to DDL 2. Patients can get treatment reports via the internet 3. All the necessary drugs distribution reports are being provided by DDL

Conditions (pre- or post-)
1. All the local information systems can interact with DDL 2. All the transactions needed for DDL correct working are being posted by connected information system

Performance needs
Communication channel capacity

Legal considerations
1.

Risks

Legal risks (possibility to avoid connection of a information systems to DDL)

Special Requirements

External References and Miscellaneous

Other Notes

Appendix 1

Domains for use cases categorization

Vertical:

1. Finance
    a. Financial management & accounting
    b. International & interbank payments
    c. Clearing and settlement
    d. Reduction of Fraud
    e. Financial messaging
    f. Asset lifecycles and history
    g. Trade finance
    h. Regulatory compliance & audit
    i. AML/KYC
    j. Insurance
    k. Peer-to-peer transactions
2. Healthcare
    a. Pharma
    b. Biotechnology
    c. Medicine
3. Industries
    a. Manufacturing
    b. Energy
    c. Chemical
    d. Retail
    e. Real estate
    f. IT and telco
    g. Supply chain management
    h. Transportation and logistic
4. Government and public sector
    a. Taxes
    b. Government and non-profit transparency
    c. Legislation, compliance & regulatory oversight
    d. Voting
    e. Taxation and customs
    f. Intellectual property management

Horizontal:

1. Identity Management
2. Security Management
    a. Public Key Infrastructure
3. Internet of Things
4. Data storage (Inter-organizational data management)