Overview of Drug Tracking System (ITS) in the Pharmacies of Ankara: Preliminary Research

Yildirim, Fikri (1); Kockaya, Guvenc (1); Yildirim Ocal, Julide (2);
Yildirim, Melek (1); Akbulat, Akif (1); Ozbek, Hanefi (1); Kerman, Saim (1)
guvenckockaya@yahoo.com

1: General Directorate of Pharmaceuticals and Pharmacy, Turkey;
2: Gazi University, Turkey

Abstract

- **Problem statement:** WHO has reported that counterfeit drugs are involved in 6-10% of all the drug sales. The use of counterfeit drugs has reached 50% in undeveloped countries. Although the percentage of counterfeit drugs in Turkey is unknown, police often find fake labels and counterfeit drugs during raids. Gangs use fake labels to get reimbursement without selling real drugs. The Drug Tracking System (ITS) is a unique system based on a square code; the Turkish Ministry of Health, General Directorate of Pharmaceuticals and Pharmacy, gives each box of medicine a square code to lessen the chances of counterfeit medicines being sold. This way it is easy to know and follow any box of medicine at any pharmacy in the country.

- **Objective:** The aims of our preliminary study are to show the possible problems with ITS, to obtain pharmacists' opinions about ITS, and to provide a basis for further studies.

Abstract

- **Methods:** From April 24 to May 5, 2010, 20 pharmacists who are running pharmacies in Ankara were surveyed and the results were evaluated with the programme 'SPSS 16' for Windows and Windows Excel.

- **Results:** Although 65% of participiants confirmed that ITS can work in Turkey, nearly all mentioned that ITS increased the workload in pharmacies; 75% and 100% of participants mentioned that they already have the equipment for ITS and square coded pharmaceuticals, respectively; 90% of participants mentioned that the authorities haven't given enough education about ITS to pharmacists. It was reported that ITS may prevent fake labels and counterfeit drugs by the 75% and 60% of participants, respectively, and may be useful for pharmacists, patients, and society. In addition, 95% of the participiants mentioned that ITS will also be used for controling and tracking pharmacy revenues.

Abstract

- **Conclusion:** Although most of the participants believe that ITS will be effective for preventing counterfeit drugs, there are several misunderstandings caused by a lack of sufficient information about ITS and the lack of education. It was concluded that education is needed for all stakeholders of ITS, especially for pharmacists because they are the main users of ITS. The lack of infrastructure for ITS and the longer processing times are the most common complaints. There will be resistance to ITS unless processing times are shortened and the necessary education is provided.

- **Funding source:** There was not any funding source or conflict of interest for the manuscript

Introduction & Objectives

- The Turkish "Pharmaceuticals Track and Trace System" defines the infrastructure for units belonging to each pharmaceutical product in Turkey. The abbreviation for this term is ITS.

- The ITS operates on the principle of providing track and tracing with the help of a secondary identifier and reporting the information to the system center, along with the formerly used barcode.

- This operating system is being worked on by a specific group of specialists for a long period of time; and, following many of meetings to which representatives from The Ministry of Health, The Ministry of Finance, The Social Security Association, non-governmental organizations on behalf of the pharmaceutical sector, The Turkish Pharmacists Association, other non-governmental organizations and consultants giving support and providing solutions to pharmaceutical companies, the establishment of the system and the barcode type to be "Datamatrix" were adopted.
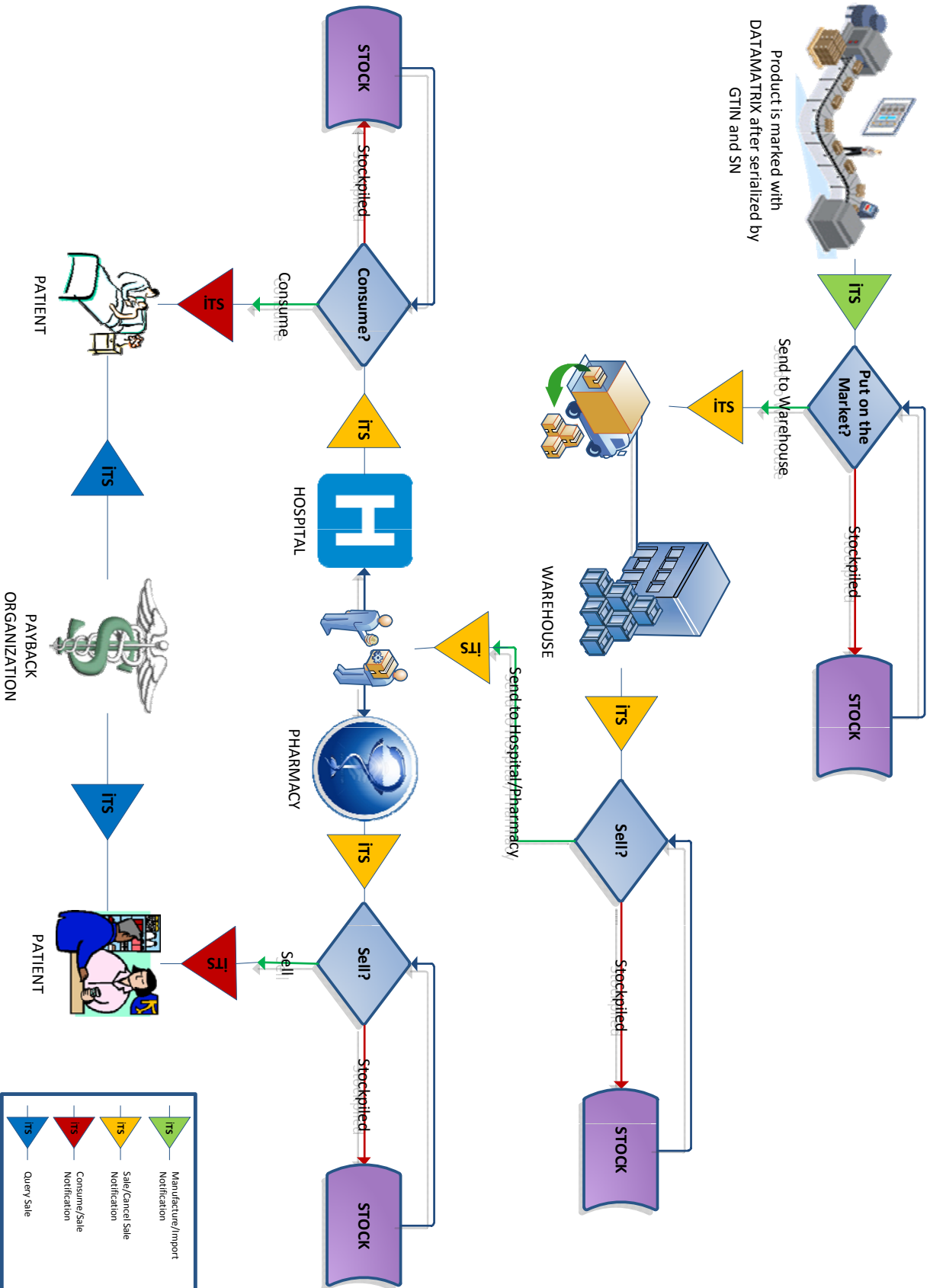
Introduction & Objectives

- This system shall be operated by The Ministry of Health.

- The works of the system shall be appraised in two stages:

  1.   Providing traceability of products;

  2.   Data collection and assessment for the track and tracing of products.

- Works performed at the first stage may be gathered under two topics such as re-determination of identifiers to be located on product packagings, and determination of standards with regard to data transfer for track and tracing. At the second stage, data collection shall be provided.

- The aims of our preliminary study are to show the possible problems with ITS, to obtain pharmacists' opinions about ITS, and to provide a basis for further studies.
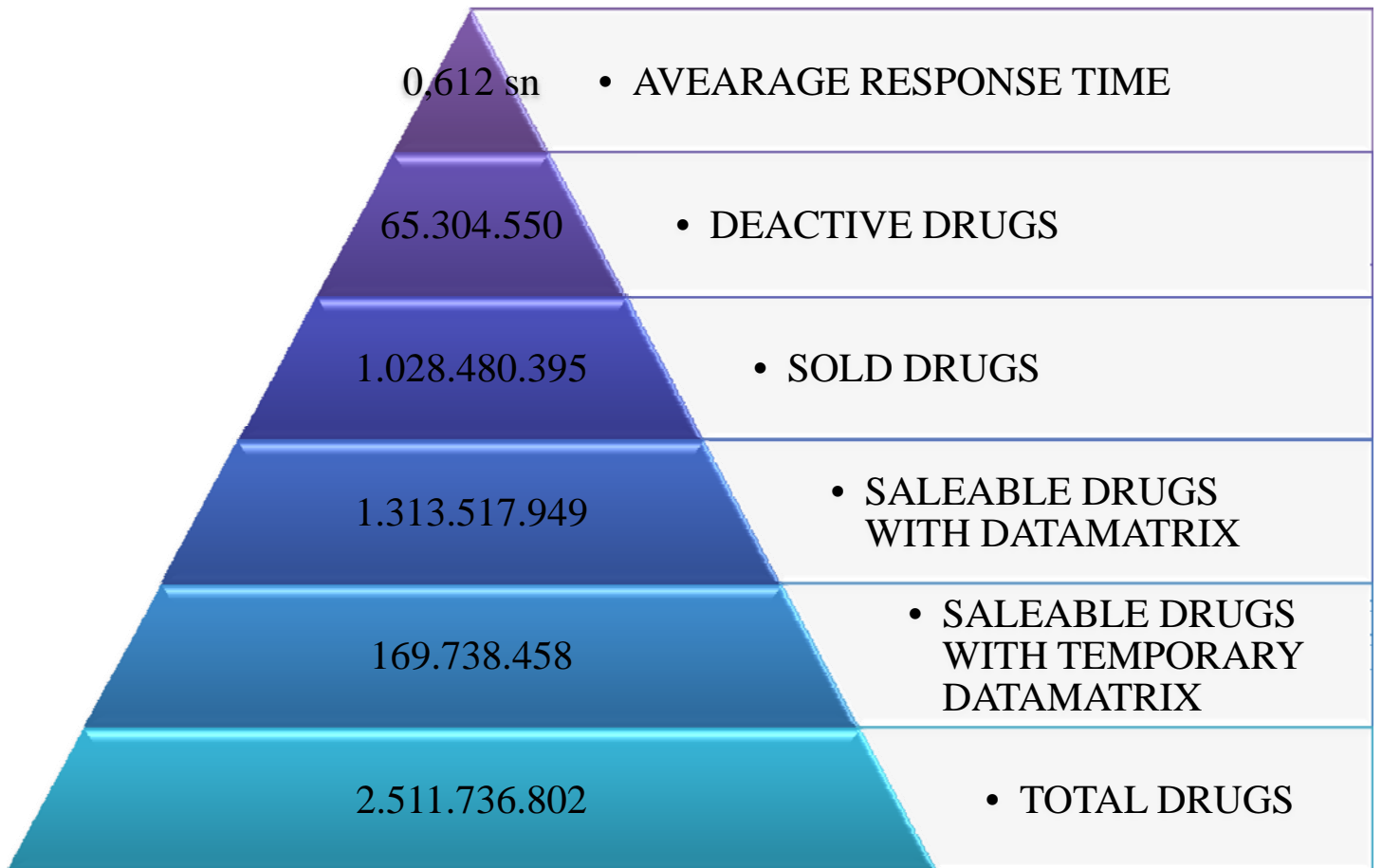
Workflow Diagram

Product is marked with DATAMATRIX after serialized by GTIN and SN

İTS

Put on the Market?

Send to Warehouse

İTS

Stockpiled

STOCK

WAREHOUSE

Sell?

Send to Hospital/Pharmacy

İTS

İTS

Stockpiled

STOCK

STOCK

Stockpiled

Consume?

Consume

İTS

PATIENT

İTS

HOSPITAL

PHARMACY

İTS

Sell?

Sell

İTS

PATIENT

Stockpiled

STOCK

PAYBACK ORGANIZATION

İTS

İTS

Legend

İTS	Query Sale
İTS	Consume/Sale Notification
İTS	Sale/Cancel Sale Notification
İTS	Manufacture/Import Notification

Additional Data

0,612 sn	• AVEARAGE RESPONSE TIME
65.304.550	• DEACTIVE DRUGS
1.028.480.395	• SOLD DRUGS
1.313.517.949	• SALEABLE DRUGS WITH DATAMATRIX
169.738.458	• SALEABLE DRUGS WITH TEMPORARY DATAMATRIX
2.511.736.802	• TOTAL DRUGS

*Numbers are for box.
** Data was retrieved from ITS Database

Methods

- From April 24 to May 5, 2010, 20 pharmacists who are running pharmacies in Ankara were surveyed and the results were evaluated with the programme 'SPSS 16' for Windows and Windows Excel.

Results

- Although 65% of participiants confirmed that ITS can work in Turkey, nearly all mentioned that ITS increased the workload in pharmacies; 75% and 100% of participants mentioned that they already have the equipment for ITS and square coded pharmaceuticals, respectively; 90% of participants mentioned that the authorities haven't given enough education about ITS to pharmacists.

- It was reported that ITS may prevent fake labels and fake drugs by the 75% and 60% of participants, respectively, and may be useful for pharmacists, patients, and society. In addition, 95% of the participiants mentioned that ITS will also be used for controling and tracking pharmacy revenues.

Questions&Answers

	Yes %	No %
Can ITS work in Turkey?	65,0	35,0
Did you register your pharmacy to ITS?	75,0	25,0
Did your pharmacy receive Global Location Number (Gln) from IEGM?	90,0	10,0
Did you get ITS compatable computer program (software)?	80,0	20,0
Did you get hardware for ITS (carecode reader, etc)?	95,0	5,0
Are there any carecoded pharmaceuticals in your pharmacy?	100,0	0,0
Are carecoded pharmaceuticals sold easily to SGK or patients?	75,0	25,0
Did ITS increase workload of your pharmacy workers?	95,0	5,0
Did ITS prolong time of operations in your pharmacy?	100,0	0,0

Conclusion

- Although most of the participants believe that ITS will be effective for preventing counterfeit drugs, there are several misunderstandings caused by a lack of sufficient information about ITS and the lack of education.

- It was concluded that education is needed for all stakeholders of ITS, especially for pharmacists because they are the main users of ITS.

- The lack of infrastructure for ITS and the longer processing times are the most common complaints.

- There will be resistance to ITS unless processing times are shortened and the necessary education is provided.