Application of medical informatics in online medical database system and international medical card using Single Windows Information Service System IMC-SWISS- A case study of advance architecture of online medical database

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*Abstract-*The medical informatics is a combination of information technology and health care. It deals with the resources, devices, and methods to optimize the acquisition, storage, retrieval and use of information in medical science.It is also known as health informatics.

Keywords- **International medical card, Online Database, Patients, Doctors, Pathology laboratory, Medical tourism, Air ambulance, Mobile medical, Internet medical.**

Introduction

The online medical database system is such a database where all type of health activities will be stored in online database and this can be access by card. In this paper it proposes the how this card uses for access medical related activities. It is just like ATM card but it deals only health issue. The name of the card is International Medical Card (IMC). It is a example of medical informatics in which all detail of health are stored in the online database and can access by International Medical Card (IMC).In this paper it proposed application of medical informatics in online medical database and how International Medical Card (IMC) can access all medical facility using Single Windows Information Service System (SWISS). We also can say IMC- SWISS. We can search any hospital anywhere in the world.

Doctors – It is the first module

IMC Card

P.No
IMA No.
IMC No.
Name

Patients

P.No
IMA No.
IMC No.
Patients name
Disease name
Disease code
Address

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Doctors

P.No
Diagnostics lab no
Name of Doctor
Doctor code no
College code
Hospital code
Therapy
Name
Age
Sex

Hospital

Name of hospital
Hospital code
Director
address/city/country
type-Therapy
Pharma shop in hospital
ATM
Bank blood/organ
Air ambulance facilities
Govt. /Private
distance form Air/rail/ bus

College

Name of College
College code
address/city/country
Department
type-Therapy
type govt./private
UG/PG
Pharma shop in hospital
ATM

NOTE-Time and date are mention on every activities of health. Address is including city, country, phone and e.mail.
UG under graduate and PG Post Graduate
Field of any table can be increase or decrease or update

Case-

Doctors-There are some of person practices like doctors, while they are not doctors because they don't have any formal degree education. Only authentic doctors who have formal degree from authentic college can register in Online Medical

Database can treatment of patients. Even that patient can know education of doctors, which type of education like PG or UG, which therapy like therapy allopathy or Ayurved and where doctors are present working hospital. When doctors write a prescribe there name along with their code is mention on slip so patients can check that doctors is authentic or not. The patient can choose doctors for his or her on global level according to their requirement and directly contact with him.

> Every person of the world must have medical account

Hospital-
There are uncountable hospital are working in all over the world many of them are not fulfill their basic requirement for patients. So Online Medical database provides this facilities every hospital of the world is registered in the database with their unique code and name which fulfills their basic requirement it does not matter that hospital is government or private or how much size of hospital. The patients not only search hospital by name but also search by code. The patients can search hospital on global level and get treatment from their according to requirement. In Online Medical Database it not only show the hospital location on global but also it help to patients check distance from airport, train and bus station ,time and money converter, for calculate time and budget which spent in treatment, daily whether report
type of hospital like Allopathy or Ayurved ATM facilities pharmacy shop in side hospital or not, and govt. or private so patients can safe himself from fake hospital. The online medical database provide e. medical daily report card in which every registered person can fill his or her daily update of health like weight, blood pressure etc.

Medical College-
Some case when students want to get medical education but he or she don't know which college is authentic or not in global level. In Online Medical Database only authorized colleges registered and every college has its one unique code. These facilities to those students who want to get medical education and want choose medical college according to their requirements on global level. The student can choose college according to their requirement like for name college code, UG or PG education, medical or paramedical, department, govt. private and country etc.

> IMC SWISS card provide health services on global level

Note- When doctors write prescribe to patients the name of doctors, doctors code, name of hospital, hospital code where he or she present working mention on slip so patients can check any time doctors and the hospital it is authorized or not.

Advantages-
(1) It is reduce fake doctors, hospitals and colleges.
(2) It help to search about education of doctors, specialization, therapy where he or she working hospitals and country on global level

(3) The patients search hospital, location, distance from airport, train and bus station, type of hospital like
Allopathy or Ayurved ATM facilities pharmacy shop in side hospital or not, and govt. or private so patients can safe himself from fake hospital. So patients can choose hospital according to their requirement, time budget and grading.
(4) It helps to search medical college according to their UG or PG, therapy and budget on global.
(5) It help to person who is searching in the hospital for example if person come from Austria Vienna to Switzerland Zurich and he or she want to need any medical assistance instance in that case he or she can know detail of every authorized hospital from the database by searching.
(6) It not only online directory but authentic database.
(7) Hospitals and colleges must have grading like hotel one star, two stars or three star etc.

Pharma-
The second module has four tables. The patient can get information about Pharma Company, Pharma College, pharmacists and shop.

Pharma Comapny

Company code
name of company
address
Medicine name
Medicine code
Medicine device
Medical device code no
manufacture medicine/device/both
medicine type Therapy
type govt./ private
target male/female
target customer child/adult
Customer care line

Pharmacist

P.No
Pharmacist name
Pharmacist code no
College code
Pshope code
address/city/country

Pharma College

Name of College
College code
Director
address
College Therapy
Pharma shop in hospital
UG/PG/both
Govt. /Private
distance form Air/rail/ bus

Shop

P.No.
P shope code
Pharmacist name
Pharmacist code no
address/city/country
Drug type Therapy
Govt/private
medicine name
medicine code
Device name
Medical device code no
distance form Air/rail/ bus

Pharma Company-
There are so many Pharma companies in the world some of them are fake medicine and equipments and cheat with patient. In online medical database every pharma company registered with name and unique code

which is Pharma company code it help to patients that particular medicine or equipment which he or she buy that is manufacture in authentic company. The company code is mention on the packaging with name of the medicine.

Medicine-
In some case there are so many medicines are made by two or more than two companies in the world for example the headache pain tables very common which are made by so many companies in all over world in that situation doctors has option from all over world by using online medical databases write the best medicine according to requirement of the patients and get update about new medicine. There is every medicine is registered in online medical database with there name unique code size weight color stage like in form tablet or syrup and or both, chemicals contain and bar code. The every medicine has 3-dimensional photo of medicine and its packaging. Some medicine found in tablet as well as in syrup for so in that case doctors can give option to patients to get medicine according to his or her requirement of health.

Pharmacist-
The Online Medical Database helps to patients check pharmacist authentic or not because there in so many case in the world that Pharmacist has not Pharma education or not has drug selling licensing. Because every pharmacists has unique code and it is registered in the Online Medical Database so patients can check from Online Medical Database. The name of Pharmacist and code is mention the bill of medicine print on the bill or medicine.

Pharma college-
There is Online Medical Database help to provide every authorized information of every pharma college or university of the world. So if students who want to get any Pharma education he or she get detail only authorized college. The online medical database also help to students about college or university their UG or PG, therapy like allopathy any Ayurved and govt. or private.

Pharma Shop-
There are so many Pharma shop in the world but there some of them are unauthorized because they are not run by authorized pharmacists or don't have drug selling licensing. So there is facility provides in online medical database that only authorized medicine shops are registered every shop has is unique code are registered which avoid fake Pharma shop. When Patients purchase any medicine there are Name of shop Pharmacist shop and Pharma shop code, name of Pharmacist and Pharma code, medicine name and medicine Code Company and company code mention on bill.

Advantages-
(1) There is only authorized Pharmist, Pharma shop, Pharma Company from database. So It eliminate fake.
(2)   Any person can see medicine which he or she is taking where it manufacture.
(3) The Doctor has option to choose comparison of medicine and in which form patients can get it tablet or syrup.

(4)Doctors and patients can directly interact from the Pharma company in any question.
(5) Comparison of properties of medicine, side effect and price can also check
(6) If need any assistance directly talk with doctor in all over world.

Tests- This is third module It has three table
There are main reasons due to which four different tables made.

Paramedical

Paramedical
Pharmacist name
Paramedical code no
path lab code
address
name of test
test code
hospital
type govt./private

Test

P.No
Pandemic name
Paramedical code no
path lab code
Test name
Test code
Prescribe by doctor/self
Body part involve in test
Time
Address

Path laboratory

P.No
Pharmacist name
Pharmacist code no
P lab code
address
Drug type Therapy
Govt/private
Medicine device
hospital
Medical device code no
Target disease
distance form Air/rail/ bus

Para Medicalcollege

Name of College
College code
Director
address
College Therapy
Pharma shop in hospital
UG/PG/both
Govt. /Private
distance form Air/rail/ bus

Path laboratory-
There are so many path lab in the world some of them are unauthentic they don't fulfill their criteria or without path lab licensing which is fake. So Online Medical Database registered authorized path laboratory. In that case online medical database help to patients to know that which path lab is authentic or not.

Paramedical-
Some of person work like paramedical, or work as assistant with doctors and after some year they work like a paramedical or some person whom do not have training certified of paramedical but they work like paramedical while they don't paramedical degree or certificate. The online medical database help to reduce fake paramedical. There is every paramedical registered and they have code and it is given only trained and authentic paramedical.

Test-When any doctor writes any test to patients in that case patients don't know what test writes by doctors.

In that case every test are registered in online medical database of all over the world and every test assign a unique code so patients can easily know which test doctors mention for his or her and its details. The patients know what type of test he or she prescribe by doctors where it facilities in the world available for example if person come from Austria Vienna to Switzerland Zurich and he or she want to need any medical test instance in that case he or she can know detail of every authorized test and path lab from the database by searching. The patients can get every detail of test and test report on both e.mail and mobile phone. When patients get report there name of paramedical, and code of paramedical, name of path lab and code of path lab name of test and code of test mention.

Pharma college- So many paramedical college are open in world some of them are fake So remove these above this problem one facility by Online Medical Database is given that every authorized paramedical college is registered and every paramedical code which is unique code and student can know authorized college of world.

Paramedical Doctors –There is one table in this module. The paramedical doctors are those person who can work like doctors of allopathy and Ayurved and have enough able to treatment to patients like Acupressure, Medical Informatics, Nature therapy, Dietician Physiotherapist.

Para medical Doctors College

college code
name of the college
principal
type – paramedical
type-Allopathy/homeopathy
type govt. private
UG/PG
Address
distance form Air/rail/ bus

Insurance- This is three modules.

There are three table made.

Company

Company code
Company name
address/city/country
type govt./private
distance form Airport/ railway station/ bus stand
Plane

Agent

P.code
Agent code
Name of Agent
Name of insurance Company
Company code
Name of Plan
Plan code

Plan

P.code
Company code
Company name
Plan code
time period one/two/three year etc
Installment one/two/three month etc
Amount

Insurance- There are so many insurance companies in the world which do insurance for health problem of different disease, time and amount. There are three tables here. There are three tables in this module.

Company-There is online medical database has information about authentic insurance companies in all over world. The patients can comparison health insurance plane on base of company, amount of insurance and time global level and he or she can take insurance plane according to their his or her requirements.

Agent-There is only authorized insurance agent are registered along with their company detail and insurance so no any unauthorized person can cheat patients.

Plans-In some companies give two more than two type of planes which are base on different time and amounts so patients can comparisons on the plans and take any plane according to his or her requirements. The patients can know detail of the insurance companies like address and phone, plane and amount of the plane of the companies.

The patients can also know the agent who make insurance for his or her like name phone and address every detail.

When patients get insurance the name of company and company code, name of plane and plan code and name of agent and agent code mentions on insurance policy document.

Book-There are so many health related books and magazines are available in market and e.book on internet and some of them are unauthorized so there is one single code which can tell customers that this book is authorized or not which mention on the cover of books and magazines.

Research Laboratory- In this there are so many laboratories which are involved in research like new treatment, drug design or new test for human in all over world. So two table book and research laboratory.

Book

Book code
book name
name of company
Code of company
Editor

Research laboratory

Name lab/institution
Institution code
address/city/country
type govt./private
Type of research human/medicine/device/path lab

Air ambulance

-It is aero plane or helicopter which helps fastest patient's transportation to hospital. It provides health facilities at patients spot, seek, emergency and critical care. There are ICU facilities available in ambulance for patients. It has it own doctors, paramedical staff and crew staff of flight. These facilities provide 24*7 in all domestic and international level. It is medical care in flight. It is payment base service.

Air Ambulance

Name of company
Company code
Name of flight
Flight code
type Domestics/International
Address

Medical tourism

- The medical tourism is use for such a treatment which is expensive in home country and cheap in foreign. It is treatment with foreign tour, some test which illegal in home country but allow in foreign where he or she go,

Medical tourism is best option for treatment in foreign

Auto pilot

-The online database provides Auto Medical System. It is smart system which tells to patient's appointment from doctors, when and which medicine he or she takes and precaution by SMS and E.mail. The patients no need to remember every detail about medicine.

It is like Auto pilot system in Aero plane in which pilot can completed depend during flight

Health industry is now online health industry

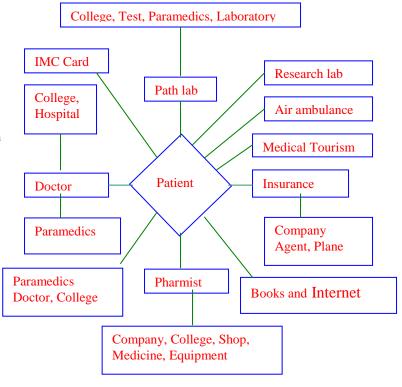| The Plant and Animal is the most vital factors of ecosystem on earth. Every person has one plant at his or her home |
|---|

Diagram- Health Industry

Patients is the axis of health industry.

Advantages Online Medical Database-

(1)It use for further medical research. When all store in single database then it is very easy to study about research in medical science in this there are no manual work information about any doctors, patients , tests and medicine are store in the database so it easy access, fast and accurate. It saves time, paper and money because all information is store in online database.
(2) If paper will save it reduce the tree cutting which save environment. In future the space which use for keep lager number of medical records also can save. It is very user friendly database. It helps to doctors about information of new disease, tests and medicines, Mobile SMS and e.mail of bill and appointment.
(3) It helps to reduce fake person medicines, equipments.
(4)It helps in clinical trial research and drug designing.
(5)This is the network which includes all component of health industry.
(6)It is versatile, reliable, and feasible database.

(7) Hologram, Logo and bar code on every medicines and health equipment so fake can reduce.

(8) Some special case in medical field which study as model case in can be include in online Medical database Health insurance.

(9) International toll free help line 24*7 for patients e.mail facilities.

(10) Online shop of medicine, test kit, e.book of medical, e.manual of medicines and equipments and fitness equipment

(11) Digital X-Ray and e.path lab report on mobile and e.mail.

(12) It helps to reduce hidden charge taken by hospital and insurance companies and commission taken by agent.

(13) International Time and money converter so patient time and budget calculate before going foreign for treatment.

(14) It increases health awareness and computer literacy.

(15) Increase career and economic of health industry.

(16) It useful for research in anthropology and paleontology.

(17) It is global monitoring system of health sectors.

(18) Authorized organ bank so stop unauthentic buying and selling of human organ.

(19) It provides Air ambulance detail available.

(20) It helps to promote Medical tourism- It is the travel of people from one country to another country for medical tourisms. So these facilities provide to patients.

(21) When packing change medicine or medical device SMS alert of packing change to customer.

(22) It gives SMS alert on mobile phone to women whom have new born baby for vaccination time to time.

(23) The Student can compare medical and paramedical college for study on global level according to requirement and budget and save from fake college.

(24) The customer can authorized insurance companies, agent and plane on global. and compare plane according to requirement.

(25) There is only authorized book and e.book is available on internet so customer can get authorized information.

(26) There is no need for paper work. It will not only save time, money, energy and environment but also give accurate results.

Environment
- The environment is the most important factors due to misbalancing of environment and climate it creates several new diseases not only for human and animals but also plants. The plants and animal are the important factors of the environment. So increase plantation and save wild life which save environment and reduce disease.

Future Scope
- In future every hospital pharma shop and path lab has its own website. Medicines and equipments are online sell.

The IMC SWISS is the first step in world towards in the complete paperless and online health industry in which one IMC card using SWISS software and do all works of patients, doctors, pathologists, paramedics pharmacist, colleges and insurances computerized. There is no need for paper work. It will not only save time, money and environment but also give accurate results. It also reduces fake product service and person in health industry.

Summary-
There is one reason about this database that save money, save time and save environment provides authentic, quality health service and products any time any part of the world to patient's and customers .It helps to reduce unauthorized doctors, path laboratories Pharmacist and insurance agent. In this gradually ever thing is going to online so it is one of the steps taken toward this paperless medical.

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