

Online Medicine Store-Medical Waste Management System

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Abstract— This article presents a website for the implementation of the medical waste management system. There are many medical supplies that remain unused and go to the trash while many people in need are deprived of those supplies. This project focuses on reduces and possibly eradicating this problem of lack of availability of medicines to people in need. This project introduces a website using which you can donate the medicines which are not useful to the owner anymore and people in need can buy them. The first phase involves a portal where you can upload the medicines details and batch number which you want to donate. The second phase involves a portal which allows the buyer can upload the prescription of the medicines required or the symptoms of the disease they suffer or search for the medicines manually. The medicines can thus be used without being wasted.

Key words: Medicine Waste, Management, Healthcare

I. INTRODUCTION

Healthcare is very important aspect of life for the ever growing population of our developing country. While the healthcare system in India is very efficient and well equipped with the latest technologies, there are still some people who are deprived of the medical facilities. India is one of the largest drug and medicine producing countries but there are still some people in our country with very less or no access to these medicines. A major reason for this problem is the wastage of medicines due to over-prescribed medicines. We often are prescribed with a certain amount of medicines which are not necessarily consumed and those medicines end up reaching their expiry date on the shelves. This leads to a lack of healthcare supplies access to people in the rural and remote areas.

To tackle this problem, a platform where people can donate their unused medicines was required. Our project is exactly the platform needed. Our project lets people donate the medicines which are no longer useful to them and people in need can buy these medicines from the inventory.

The project involves two phases. First, donating the medicines and second, buying the medicines required. First phase includes a portal on our website allows the donors to upload batch number and other details of the medicine. The medicines are then delivered to us via courier system. The second phase involves a search mechanism which lets user to search and buy the medicines they require. For off-the-counter drugs, a manual search is enough to buy the medicines. Also, the user can search for appropriate medicines by the symptoms of the disease. For scheduled drugs (drugs which necessarily require a doctor's prescription), the prescription can be uploaded to buy the particular medicine.

This project intends to reduce and possibly, eradicate the problems such as, lack of medicines in some

remote and rural areas. This project, if embraced, can help people save money on unused medicines and help improve the economy as well.

II. EXISTING SYSTEMS & DRAWBACKS

The Wall Street Journal offered an extensive analysis of health care and the future of care delivery in a special report. It provides a listing of top eHealth sites, including The New England Journal of Medicine, Mayo Clinic, Medline, HealthGate, Health on the Net, RxList, HealthAtoZ and CancerNet, etc. The site is engaged in an "economic" transaction that would result in pricing goods or services which facilitate electronic markets and exchange of medicines. Within the non-revenue generation class, following was noticed

- General information dissemination of health care ailments and symptoms.
- Personal consultation from medically trained doctors and nurses; and
- On-line communications tools, such as email, chat rooms and bulletin boards thereby forming virtual communities.

On the other hand, in the revenue generation class, three additional detected were:

- 1) On-line subscription information and access,
- 2) Product purchasing and
- 3) Links to other e-commerce web sites.

A. Drawbacks

The journal highlights some of the issues related to lack of access to healthcare and proposes systems like on-line tools forming communities but it doesn't really focus on any completely automated system. Rather, the communities are again entitled to help themselves and others.

Lei singer highlighted the constraints of the poor people to get access to medicine and health services in the developing countries, that includes high medicine prices, lack of access, low income etc. to ensure and improve health of the underprivileged people in remotely accessible areas. In this work, he also suggested to make a helpful collaboration among government organization, NGOs and individuals personals to ensure health of the public. In another study, Islam et al. Found that 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC) 21 - 23 Dec 2017, Dhaka, Bangladesh found that rural health complexes did not have sufficient medical equipment's and government's allocation. In another study, Ruxwana et al. found that perceived usefulness and ease of use affecting people's acceptance of the e-health supports in rural clinics in the Eastern Cape Province of South Africa. List of ICT Tools for Medicine Donation Serial Portal Name Objectives

1) Projectc.U.R.E

- 1) Delivers the medical supplies to poor people from the donated money.

- 2) GiveIndia Take money donations to make fund for poor people's medical diagnosis.
- 3) Friendship Donates medicine in different countries including Bangladesh.

2) SIRUM

Distributes medicines bought from the donated money to the eligible safety-net clinic or pharmacy to help the patient who is unable to afford medicine cost.

3) MedShare

Takes medicines and medical equipment from the donors and delivers to the poor.

4) Wyoming Department of Health

Handles a medicine donation program to help people of Wyoming donors under an umbrella to provide more effective health services to the low-income patients in Bangladesh.

B. Drawbacks

The system proposed here acts on the needs of the poor alone by tying up with government organizations and NGOs but has no delivery system to reach the required areas at the real time of need.

1) ADDS

There is ADDS which stands for automated drug distribution systems which are in use today –just like those manufactured by Omni cell, Inc. and Pyxis, Inc. – are predicated on a transformation in medicine distribution originating in the United States in the early 1960's called as unit-of-use packages, or unit-dose systems.

These systems replaced a previous approach to drug distribution known as multiple-dose drug distribution systems (multi dose systems) which meant that nurses had full responsibility for the entire medication system, which involved monitoring hundreds of doses of medicine along with paper-work, inventory control and dose preparation.

C. Drawbacks

There are a number of common issues addressed in both the academic and trade literature. Those most regularly focused on are cost-savings, medical errors and the efficiency of both pharmacy and nursing.

III. SYSTEM IMPLEMENTATION

The system is designed to reduce the wastage of medicine which is the national problem. Many a time a person with a subscription either changes it after a point or reaches a point where the left meds of the subscription is no longer needed. Mostly people in such situations believe that it is a waste to simply discard such useful yet unneeded medicine. The site has various modules to decrease the wastage.

A. Upload

The person who needs the medicine can upload a doctor's prescription or can search the med by its batch number and name online, within moments and can get the quick delivery without any inconvenience.

B. My Doctor

Here, you can directly talk to the pharmacist or physician to discuss over any of the problems related to disease, symptoms, side-effects etc. The patient can get immediate

consultation services at home from our online health experts. We also provide useful information and home remedies about various diseases.

1) Share for Care

One can share their tried out home remedy on the website and can donate the health products for the people who cannot afford.

C. Deals

The site provides various attractive deals to the customers and patients like discounts over the medication with terms & conditions.

D. Business

The site also welcomes the one who wish to connect for business terms and want to sell their product online by partnering.

E. Ayurvedic Medicine

It is one of the oldest whole body healing systems of the world. It incorporates herbal treatment, yogic breathing and lastly diet for curing any disease or symptoms. We have a sizeable storage of ayurvedic medications in our pharmacy with complete assurance of the safety and precautions.

F. Homeopathic Medicine

A huge range of homeopathic medicines ranging from mother tincture to the diluted and potentized medicine. The online services of our pharmacy enable all the patients, those residing in remote areas or those having difficulty to reach, get the medicines at their doorstep and save ample of time.

G. Generic Medicine

Generic drugs are similar or bioequivalent to the branded drugs. These drugs are those which are marketed under their chemical name rather than their brand name and are therefore sold usually at substantial discounted rates from the price of branded drugs. Our medical solution provides generic medicines having the same active ingredient as that of the branded drugs with equivalent dosage regimen, quality, strength, safety and uses. It also sells products like for weight loss, erectile dysfunction, STD's, hair loss, contraceptives (male & female), etc.

H. Manage Your Account

Keeping in mind the convenience of our customers and patient, the site offers you two modes for the payment of money, Cash on Delivery and Online payment through visa card, internet banking or other.

IV. RESULTS & EVALUATION

The website has the login id where the customers using the site can login and upload the medicines description which are not in use with them anymore. The customer uploads the name of the medicine, the quantity of the medicine, the batch number of the medicine, the expiry date of the medicine. Then, the customer sends the left out medicine on the address provided by the website.

The customers which require the medicine can enter their disease, symptoms or prescription. The site will show the medicines to cure the disease. The prescription is first checked whether it is valid or not. According to the

prescription the medicines are assigned to the customer. The customer adds it further details where the medicines are to be delivered and adds the mode of payment. The medicines are delivered on the given address of the customer through courier.

V. FUTURE ENHANCEMENT

In the extension of project, an app would be made of this project so that it is easy accessible by all the users. Delivery will be made in each and every city by the delivery boys. By this process, the medicines can be easily reached to the people who are in need with it.

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