

Study and Analyze the Factors Related to Services of Health Department using Data Mining Tools

Dr. Pardeep Mittal¹, Jatinderpal Singh², Amandeep Kaur³

¹Professor Department of Computer Science, ^{2,3}M. Phil Research Scholar

^{1,2,3}Guru Kashi University, Talwandi Sabo, Punjab, India

¹Pardeep_mittal@yahoo.com, ²jatinderssidhu89@gmail.com,

³amandeeep_sh188@yahoo.com

Abstract - Health is the basic need of everyone. Rich people avail the health facilities at their own level by paying in private hospitals but on the other hand poor people prefers government hospitals due to free or less expensive treatment. Now a days, patients have to face many difficulties in government hospital due to less number of facilities. This paper analyze the factors related to services of health department. It also includes a survey questionnaire which takes all the factors into count and before starting actual survey a pilot study for this questionnaire was done which conforms its acceptance.

Keywords - Primary hospitals, Facilities, Diseases, Emergency, OPD, Paramedical, Authorities

I. Introduction

In India most of the population lives in rural area and related to middle or poor families. About 70% families live in rural area and about 30% population is categorized as poor because they come under poverty line (BPL) and depends on government hospitals run by health department. People related to rural area or poor people cannot take health treatments from private costly hospitals. So the effective and less costly treatments need to be provided for poor people by government as well as private hospitals. The goal of providing effective health services to every citizen by the government can be achieved if all the problems related to health and health department are resolved. In this survey, problems related to government hospitals are collected and made them in form of a questionnaire.

II. Factor Categories

This questionnaire considers all the factors affecting the services of health department and most probably all these factors are taken according to their suitable priority. It includes major factors and all these factors are taken as questions which can be answered in five different ways (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree) according to which we can take better services and treatments from government as well as private hospitals.

III. Classifiers

According to the factors in the questionnaire the respondents can be classified in broad four classifiers, these are following.

- A. Patients
- B. Doctors
- C. General Public
- D. Hospital Staff other than Doctors

IV. Category Factor Variables

Facilities	F3 (Ambulance facilities are not in primary hospitals)
	F6 (Less staff available in government hospitals)
	F7 (Emergency wards in govt. hospitals are sufficient)
	F11 (New technologies for treatment in govt. hospitals)
	F12 (No Installation of latest machines in government hospitals)
	F21 (Is there delivery cases are free for women in govt. hospitals)
	F28 (There should be a control room in hospital)
	F29 (Enough buildings in every hospital)
	F34 (Insufficient lab facilities including work equipments)
	F37 (Late admission of patient in a ward/hospital due to limited number of beds)
	F48 (Mobile van hospital services also provided in every village and town)
Medical Products	F4 (Stock of medicine in government hospitals is complete)

	F14 (Rates of medicines are very high)		F49 (Government should conduct seminars about major diseases like cancer, HIV etc.)
	F16 (Free medicines are not given to the patients in government hospitals)		F51 (National programs for control of blindness should be conducted)
	F17 (Doctors are not taking commission from the manufacturer of medical products)		
	F18 (More medicines given to the patients for a single disease)	Awareness	F15 (People preferred govt. hospitals rather than private hospitals)
Responsibilities of Hospital Staff	F5 (Doctors are irresponsible in government hospitals)		F19 (Is health became a business)
	F8 (Should doctors give treatment at home)		F25 (We are taking hygienic food)
	F20 (Doctors go for long time holidays in govt. hospitals)		F26 (Our drinking water resources are pure)
	F22 (Government doctors make private business at home and take more fees in private business)		F27 (Numbers of accident cases are increases day by day because we have not provided enough knowledge about driving)
	F24 (Good doctors are going to foreign rather than serve in our country)		F30 (Private hospitals are get more charges than government hospitals)
	F32 (There are many doctors run their private hospitals without any license)		F31 (A single ward is provided to number of patients having different diseases)
	F36 (Lack of supervision of doctors and other staff by higher authority)		F33 (Lack of instructions to patients to locate beds, wards, OPD's in government hospital)
	F38 (Inadequate measure for sterilization to prevent hospital acquired infection)		F42 (Non-compliance by the patient and family to follow doctor's advice)
	F40 (Absence of on-duty doctors and paramedical staff members)		F43 (Illiteracy and poverty of patients Are factors that create problems for them in government hospital)
	F44 (Dual diagnosis in mental health in patient and day hospital)		F45 (Towards cleaner hospitals and lower rates of infection)
	F46 (Care management for older people with serious mental health problems)	Goal and Objectives	F9 (Should be a specialist of every disease in every government hospital)
	F50 (Doctors received their training as a part of their pre service training)		F10 (Should be some major hospitals to treat some major diseases like cancer)
	F52 (Hospital management provides work that promotes patients)		F13 (There should be minimum one govt. hospitals in every village and towns)
	F54 (Important patient care is often lost during shift changes)		F23 (Health is treated as wealth)
	F55 (Problems often occur in the exchange of information across hospital units)		F35 (Doctors are lacking the facilities and security)
	F56 (The actions of hospital management show the patient safety is top priority)		F53 (Good co-operation among hospitals that need to work together)
Responsibilities of Government	F1 (Not sufficient number of primary hospitals)		
	F2 (Sufficient number of doctors in primary hospitals)		
	F39 (Inadequate salary to doctors and other staff in government hospital)		
	F41 (Inadequacy to health personals to give health education to patient)		

V. Conclusion

Improvement in health related services or treatment is the need of hour. This questionnaire helps to find the factors responsible for quality of treatments provided by government hospital and also the reasons why people preferred private hospitals. These factors must be considered for improvement in the present state of government hospitals as well as private hospitals. According to the survey results the priority of factor variables can be set and actions must be taken accordingly.

References

[1] WHO. World report on knowledge for better health. 2004.
http://www.who.int/rpc/meetings/world_report_on_knowledge_for_better_health.pdf

[2] WHO. The global burden of disease: 2004 update. 2008.
http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf

[3] Ministry of Health and Family Welfare, Government of India. National health policy. 2002.
http://mohfw.nic.in/np2002.htm

[4] Dandona L, Raban MZ, Guggilla RK, Bhatnagar A, Dandona R. Trends of public health research output from India during 2001–2008. *BMC Med* 2009; 7: 59.

[5] Health Metrics Network. Framework and standards for country health information systems. 2008.
http://www.who.int/healthmetrics/documents/hmn_framework200803.pdf

[6] Raban MZ, Dandona R, Dandona L. Essential health information available for India in the public domain on the internet. *BMC Public Health* 2009;9: 208.

[7] Dandona L, Raban MZ, Dandona R. Composite analysis of evaluations of health system/policy interventions in India: 2001–2008. First Global Symposium on Health Systems Research; Montreux, Switzerland;

[8] Department of Health Research, Ministry of Health and Family Welfare, Government of India. Mandate.
http://www.dhr.gov.in/madate.htm

[9] Reddy KS. Boosting public health capacity in India. *Natl Med J India* 2006; 19: 122–25.

[10] Wellcome Trust–DBT India Alliance. Biomedical Research Career Programme for India.
http://www.wellcomedbt.org

[11] Canadian Institutes of Health Research. Charting the course: apan-Canadian consultation on population and public health priorities. 2002.
http://www.cihrrisc.gc.ca/e/documents/charting_the_course_e.pdf

[12] National Health and Medical Research Council, Australian Government. Report of the review of public health research funding in Australia. 2009.
http://www.nhmrc.gov.au/files/nhmrc/files/research/phr/Nutbeam.pdf

Annexure

A questionnaire on survey of distance education
Please take few minutes to fill out the survey. We welcome your feedback and your answer will be kept confidential.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
F1 (Not sufficient number of primary hospitals)					
F2 (Sufficient number of doctors in primary hospitals)					
F3 (Ambulance facilities are not in primary hospitals)					
F4 (Stock of medicines in government hospital is complete)					
F5 (Doctors are irresponsible in government hospitals)					
F6 (Less staff available in government hospital)					
F7 (Emergency wards in government hospital are sufficient)					
F8 (Should doctors give treatment at home)					
F9 (Should be a specialist of every disease in every government hospital)					
F10 (Should be some major hospitals to treat some major diseases like cancer)					
F11 (New technologies for treatment in government hospitals)					
F12 (No installation of latest machines in government hospitals)					
F13 (There should be minimum one government hospital in every village and town)					
F14 (Rates of medicine are very high)					

F15 (people prefer government hospitals rather than private hospitals)					
F16 (Free medicines are not given to patient in government hospital)					
F17 (Doctors are not taking commission from the manufacturer of medical products)					
F18 (More medicines are given to the patient for a single disease)					
F19 (Is health become a business)					
F20 (Doctors go for long time holidays in government hospitals)					
F21 (Is delivery cases are free for women in government hospitals)					
F22 (Government doctors make private business at home and take more fees in private business)					
F23 (Health is treated as wealth)					
F24 (Good doctors are going to foreign rather than serve in our country)					
F25 (We are taking hygienic food)					
F26 (Our drinking water resources are pure)					
F27 (Number of accident cases are increases day by day because we have not provided enough knowledge about driving)					
F28 (There should be a control room in hospital)					
F29 (Enough beds in every hospital)					
F30 (Private hospitals are get more charges than government hospitals)					
F31 (A single ward is provided to number of patients having different diseases)					
F32 (There are many doctors run their private hospitals without any license)					
F33 (Lack of instructions to patients to locate beds, wards, OPD's in government hospital)					
F34 (Insufficient lab facilities including work equipments)					
F35 (Doctors are lacking the facilities and security)					
F36 (Lack of supervision of doctors and other staff by higher authority)					
F37 (Late admission of patients in a ward/hospital due to limited number of beds)					
F38 (Inadequate measure for sterilization to prevent hospitals acquired infection)					
F39 (Inadequate salary to doctors and other staff in government hospital)					
F40 (Absence of on-duty doctors and paramedical staff)					
F41 (Inadequacy of health personals to give health education to patients)					
F42 (Non-compliance by the patient and family to follow doctor's advice)					

F43 (Illiteracy and poverty of patients are factors that create problems for them in government hospitals)					
F44 (Dual diagnosis in mental health patient and day hospital)					
F45 (Towards cleaner hospitals and lower rate of infection)					
F46 (Care management for older people with serious mental health problems)					
F47 (Friends and family test aims to improve patient care and identify best performing hospitals)					
F48 (mobile van hospital service also provided in every village and town)					
F49 (Government should conduct seminars about major diseases like cancer, HIV etc.)					
F50 (Doctors received their training as a part of their pre service training)					
F51 (National programs for control of blindness should be conducted)					
F52 (Hospital management provides work that promotes patients)					
F53 (Good co-operation among hospitals that need to work together)					
F54 (Important patient care is often lost during shift change)					
F55 (Problems often occur in exchange of information across hospital units)					
F56 (The actions of hospital management show the patient safety is top priority)					

PERSONAL INFORMATION

By Patients

Gender..... Age..... City..... Name of Disease.....
Name (optional)..... Contact Number (optional).....

By Doctors

Name of Hospital.....
City..... Specialized in
Name (optional)..... Gender..... Age.....
Contact Number (Optional).....

By General Public

Name (optional)..... Age..... Gender.....
Class
High Middle Below Middle
Have any Problem(Please Mention).....
No. of Time Government Hospital Visited.....

By Staff

Name of Hospital.....
City..... Designation
Name (optional)..... Gender..... Age.....
Contact Number (Optional).....