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Digital Health Landscape in Pakistan: A Comprehensive Evaluation of Public and Private Sector Web Services

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ABSTRACT

As internet technologies continue to transform organizational workflows, the delivery of health services has increasingly shifted toward digital platforms. This study evaluates the content, design, and accessibility of 15 major health-related websites in Pakistan, ranging from federal ministries to private organizations like the World Health Organization (WHO). Using a multi-stage search methodology via Google, the research assesses these platforms based on established criteria including content depth, aesthetic appeal, authority of source, and currency of information. Findings reveal that while all selected websites offer free access and provide critical public service information, their user experience varies significantly. Many government portals lack mobile responsiveness and consistent updates, though some platforms, such as the KPK Health Department, have successfully integrated interactive features like "Citizen's Corners". The study concludes that while Pakistan has established a foundational digital health presence, there is an urgent need for enhanced interactivity, regular content maintenance, and improved user-centric design to better serve the general public, patients, and caregivers.



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Introduction

Due to the emergence and growth of internet technologies, every walk of life is transformed its way of working. Before the advent of internet, organizations and institutions tend to work manually but now manual system are being taken over by technology. The provision of services electronically not only has enhanced the effectiveness and efficiency of services.

As this study is evaluating the contents and services provided by websites, we can say that the main aim is to evaluate the websites related to health domain. This includes the website of ministry, provincial health departments, privately working organizations, health councils and major hospitals websites as well.

Background of the Study

The emergence and growth of internet technologies have fundamentally transformed every aspect of modern life. Before the advent of the internet, institutions operated primarily through manual systems; however, these are rapidly being superseded by digital technology. In the health sector, the provision of services electronically has significantly enhanced the effectiveness and efficiency of service delivery.

The primary aim of this study is to evaluate the contents and digital services provided by key health domain websites in Pakistan. This assessment is critical because the quality of health information online directly impacts public awareness and the efficacy of government health initiatives. The scope of this evaluation encompasses the Ministry of National Health

List of Websites

The websites which were selected for this study are given in the table below;

Sr.	Name	Link
1	Ministry of National Health Services, Regulations and Coordination, Government of Pakistan	http://www.nhsrc.gov.pk
2	Health Department, Punjab	http://health.punjab.gov.pk/HCP
3	Primary and Secondary Healthcare Department, Punjab	http://www.pshealth.punjab.gov.pk/index.aspx

Services, provincial health departments, health councils, private health organizations, and major hospital websites. By analyzing these platforms, the study seeks to identify major health resources and assess how effectively they communicate vital information to their intended audience.

Objectives of the Study

The objectives of this study is not only to identify the major health related websites but also to evaluate those websites with a specific criterion as explained below. This study will also help in identifying and assessing the initiatives taken by the government in health sector to promote awareness.

Delimitations of the Study

This study will only be limited to the websites working for health services in Pakistan.

Methodology/Selection Criteria

The domain was selected during a class discussion; websites were searched through Google. At the first stage ministry's website was selected and then provincial health department's websites. A second search was made with major health related organizations of Pakistan and a certain numbers of websites were selected again. A third search was performed for identifying the councils of health related websites.

Inclusion/Exclusion Criteria

There was a very limited number of website regarding health domain. There was only one website working under the ministry of health that was selected, provincial health websites. Private health organizations like WHO.

4	Health Department / Government of KPK	http://www.healthkp.gov.pk/
5	Health Department, Ministry of Sindh	http://sindhhealth.gov.pk/Introduction
6	AJ&K Portal: Online Guide to Government of AJ&K	http://www.ajk.gov.pk/dptHealth.php
7	Government of Gilgit Baltistan's webpage	http://www.gilgitbaltistan.gov.pk/Departments.aspx
8	Health Department, Baluchistan	http://www.balochistan.gov.pk/health/
9	Pakistan Health Research Council (PHRC)	http://www.phrc.org.pk/downloads.html
10	Integrated Health Services	http://www.ihspakistan.com/index.php
11	National Institute of Health, Islamic Republic of Pakistan	http://www.nih.org.pk/Default.asp
12	National Aids Control Program	http://www.nacp.gov.pk/
13	WHO Pakistan	http://www.who.int/countries/pak/en/
14	Commonwealth Health Online	http://www.commonwealthhealth.org/asia/pakistan/
15	Health Net pro, Pakistan	http://www.healthnetpro.org/en/1419/pakistan.html

Analysis

For the evaluation of websites, I have selected the criteria by 1.

Explicit criteria for evaluation of health related web sites by criteria groups*

Content of site (includes quality, reliability, accuracy, scope, depth)

Design and aesthetics (includes layout, interactivity, presentation, appeal)

Disclosure of authors, sponsors, developers (includes identification of origin)

Currency of information (includes frequency of update, freshness, maintenance of site)

Authority of source (includes reputation of source, credibility, trustworthiness)

Ease of use (includes usability, navigability, and functionality)

Accessibility and availability (includes ease of access, fee for access, stability)

Links (includes quality of links, links to other sources)

Attribution and documentation (includes presentation of clear references, balanced evidence)

Intended audience (includes nature of intended users, appropriateness for intended users)

Contact addresses or feedback mechanism (includes availability of contact information, contact address)

User support (includes availability of support, documentation for users)

Miscellaneous (includes criterion that lacked specificity or were unique)

The websites which are working to promote the health related services in Pakistan either by government or other organization were selected for the evaluation purposes. The selected criteria were applied in the discussion section. And the discussion is made according to the websites, at the end of the document a tabulated bird eye view of all the websites is provided.

Content of site

The content of the site or webpage includes quality, reliability, accuracy, scope, depth of the data provided.

Design and Aesthetics

The second evaluative point is related to the aesthetic and designing of the website. The design of any webpage always affect the user who is

visiting the page. Layout, interactivity, presentation, appeal of the webpage plays an effective role in convincing the user to visit the webpage.

Disclosure of Authors, Sponsors, Developers

For ensuring the authenticity of the content provided at the webpages, it is important to identify the sponsors, authors and developers. The identification of origin helps in determining that who is actually responsible for publishing the content, and it also helps in understanding the reliability of the content. The selected website related to health domain were developed by government of Pakistan, provincial governments,

Another relevant point to this is the authority of source which includes reputation of source, credibility, trustworthiness of the source.

Currency of information

The information provided by webpages should be current and updated. During evaluation, the frequency of update, freshness, maintenance of

site was noticed. Most of sites were

Ease of use (includes usability, navigability, and functionality)

Accessibility and Availability

All the fifteen websites are easy to access and are providing services/information without charging any amount. The webpages are stable, latest updated and easily accessible. The webpages are providing links where needed.

Intended Audience

Knowing who is the intended audience and the nature of indented audience helps in providing the appropriate content on the webpages. The selected webpages were mostly focusing the general public of Pakistan. Relevant information was provided on the webpages for patients, care takers and other concerned persons.

Website Name	Ministry of National Health Services, Regulations and Coordination, Government of Pakistan
URL	http://www.nhsrc.gov.pk/
Powered by	NITB
Copyright/ Last updated	
Description	Ministry of National Health Services, Regulations and Coordination is committed for helping the people of Pakistan to maintain and improve their health and to make our population among the healthier in the region.
Responsive /User Friendly	No/ a bit
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Health Department, Punjab
URL	http://health.punjab.gov.pk/HCP
Powered by	Punjab Information Technology Board
Copyright/ Last updated	2012/22 nd April 2017
Description	<p>Health Department delivers quality healthcare services to the community through an efficient and effective service delivery system that is accessible, equitable, culturally acceptable, affordable and sustainable. Health Department aims to improve the health and quality of life of all, particularly women and children, through access to essential health services.</p> <p>This website provides details of notifications, seniority lists, and functions of health department, services and reports of different events.</p>
Responsive /User Friendly	No/Yes
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Primary and Secondary Healthcare Department
URL	http://www.pshealth.punjab.gov.pk/index.aspx
Powered by	Health Information of service Delivery unit (HISDU)
Copyright/ Last updated	2016
Description	<p>Primary and Secondary Healthcare Department (P&SHD) delivers quality healthcare services to the community through an efficient and effective service delivery system that is accessible, equitable, culturally acceptable, affordable and sustainable. P&SHD aims to improve the health and quality of life of all, particularly women and children, through access to essential health services.</p> <p>The website provides details about the special campaigns health facilities, resources centers, different nonfictions (pdf available), transfer and posting orders, seniority lists, SOPs and guidelines, Rules and regulations. Patient rights, patient obligations, governing laws and services rules.</p>
Responsive /User Friendly	No/Yes
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Health Department / Government of KPK
URL	http://www.healthkp.gov.pk/
Powered by	
Copyright/ Last updated	2016-2017
Description	This website provides details of health related rules regulations, facilities, campaigns, programs and events arranged by government of KPK. The most interesting feature of this website was “citizen’s corner” which allow citizens to ask questions, to check frequently asked questions and to register complaints.
Responsive /User Friendly	Yes/ Yes
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Health Department, Ministry of Sindh
URL	http://sindhhealth.gov.pk/Introduction
Powered by	SCS
Copyright/ Last updated	2017
Description	The overall vision is based on “Health for All “the new Health Policy aims to implement this strategy of protecting peoples against Hazardous Diseases, promoting public health, upgrading curative health facilities, enhancing equity, efficiency and effectiveness in health sector. The website provides the details of Primary Healthcare Facilities, health related projects of Sindh, funded projects, and contact details.
Responsive /User Friendly	No/ Yes
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Integrated Health Services
URL	http://www.ihspakistan.com/index.php
Powered by	NA
Copyright/ Last updated	NA
Description	Integrated Health Services (IHS) is a national healthcare organization, working with the objective of integrating health services in one system to provide healthcare that is not just quality based but reliable, affordable and

	covers all spectrums of the society.
	Details of their project under the category of school health, public health, and clinical care, occupational and corporate health are given on the website.
Responsive /User Friendly	No/ Yes
Authorship Clues	.com
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	National Aids Control Program
URL	http://www.nacp.gov.pk/
Powered by	National Aids Control Program
Copyright/ Last updated	2016
Description	<p>National AIDS Control Program was established in 1986-87 with a focus on diagnosis of cases that came to hospitals, but progressively began to shift towards a community focus.</p> <p>The website provides the details of stories, success stories, statistics, project details, overview</p> <p>Objectives & goals, people & structure, strategies, technical guidelines, publications</p> <p>Standard operating procedures, partners etc. Through this program, helps in treatment</p> <p>HIV testing & counselling, parent to child transmission and care & support services are provided.</p>
Responsive /User Friendly	No/ yes
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	AJ&K Portal Online Guide to Government of AJ&K
URL	http://www.ajk.gov.pk/dptHealth.php
Powered by	Govt of Aj&k
Copyright/ Last updated	2016
Description	A healthy state in which all citizen benefit from a better working health care delivery system, particularly the poorest.
Responsive /User Friendly	No/ No
Authorship Clues	Gov.pk
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details

of activities they perform.

Website Name	WHO Pakistan
URL	http://www.who.int/countries/pak/en/
Powered by	who
Copyright/ Last updated	2017
Description	Our goal is to build a better, healthier future for people all over the world. Working through offices in more than 150 countries, WHO staff work side by side with governments and other partners to ensure the highest attainable level of health for all people.
Responsive /User Friendly	No/ No
Authorship Clues	who
Purpose of the Web Page	A forum for public service information/Feedback/ also providing the details of activities they perform.

Website Name	Health Department, Baluchistan
URL	http://www.balochistan.gov.pk/health/
Powered by	Government Baluchistan
Copyright/ Last updated	2017
Description	The webpage is very statically designed. Just providing information about department, its major functions and contact numbers of four authorities. No other information or details are available.
Responsive /User Friendly	No/ yes, its design is simple and easy to understand.
Authorship Clues	Government of Baluchistan
Purpose of the Web Page	A forum for public service information

Website Name	Government of Gilgit Baltistan's webpage
URL	http://www.gilgitbaltistan.gov.pk/Departments.aspx
Powered by	CS Monitoring Cell
Copyright/ Last updated	2014
Description	
Responsive /User Friendly	No/ No, It is poorly designed. Too much information, very bright colors.
Authorship Clues	Government of Gilgit Baltistan
Purpose of the Web Page	Provision of information to the general public

Website Name	Pakistan Health Research Council (PHRC)
URL	http://www.phrc.org.pk/downloads.html
Powered by	NA
Copyright/ Last updated	NA
Description	The webpage is very statically designed. Just providing information about department, its major functions and contact numbers of four authorities. No other information or details are available.
Responsive /User Friendly	Yes, yes
Authorship Clues	NA
Purpose of the Web Page	

Website Name	National Institute of Health, Islamic Republic of Pakistan
URL	http://www.nih.org.pk/Default.asp
Powered by	Riz
Copyright/ Last updated	2014
Description	The webpage is very statically designed. Just providing information about department, its major functions and contact numbers of four authorities. No other information or details are available.
Responsive /User Friendly	No/ yes, a bit
Authorship Clues	NIH
Purpose of the Web Page	

Website Name	Commonwealth Health Online
URL	http://www.commonwealthhealth.org/asia/pakistan/
Powered by	Commonwealth
Copyright/ Last updated	2017
Description	The webpage is very statically designed. Just providing information about department, its major functions and contact numbers of four authorities. No other information or details are available.
Responsive /User Friendly	Yes, yes, this page is user friendly.
Authorship Clues	Commonwealth
Purpose of the Web Page	

Website Name	Health Net pro, Pakistan
URL	http://www.healthnettpo.org/en/1419/pakistan.html
Powered by	OZOQO
Copyright/ Last updated	2017
Description	
Responsive /User Friendly	Yes, yes,
Authorship Clues	IHS
Purpose of the Web Page	

Discussion

The evaluation of 15 health-related websites in Pakistan highlights a transition toward digital governance, though significant disparities in quality remain. Analysis shows that most websites serve as forums for public service information and feedback. However, key evaluative criteria such as "Design and Aesthetics" and "Currency of Information" revealed weaknesses. For instance, while the Ministry of National Health Services provides essential details on public activities, it lacks full mobile responsiveness. Similarly, the Health Department of Balochistan and Gilgit Baltistan are noted for having static or poorly designed layouts that may hinder user engagement.

Conversely, some platforms demonstrate high functionality. The KPK Health Department website is notable for its "Citizen's Corner," allowing for interactivity through FAQ sections and complaint registrations. Furthermore, international or private-sector affiliated sites like WHO Pakistan and Commonwealth Health Online generally maintain higher standards of user-friendliness and accessibility. Authenticity is generally high across the board, as most sites have clear authorship clues (such as .gov.pk domains), ensuring the reputation and trustworthiness of the source.

Conclusion and Recommendations

Conclusion The study demonstrates that digital health platforms in Pakistan are easily accessible

and provide services without financial cost to the user. Most sites are stable and successfully target the general public, patients, and caregivers with relevant information. However, there is a clear divide between the availability of information and the quality of the user experience. Many provincial and federal sites suffer from outdated copyright dates, lack of mobile responsiveness, and cluttered designs that do not meet modern aesthetic standards.

Recommendations

- **Enhance Mobile Responsiveness:** Government departments should prioritize redesigning portals to be fully responsive, as a significant portion of the Pakistani public accesses the internet via mobile devices.
- **Regular Content Updates:** Systems must be put in place to ensure "Currency of Information," as some sites currently show data that has not been refreshed for several years.
- **Improve Interactivity:** Following the model of the KPK Health Department, other provincial sites should implement interactive features such as feedback mechanisms and complaint portals to increase user engagement.
- **Standardize Aesthetics:** Utilizing modern layouts with balanced color schemes will improve the "appeal" of the sites, making them more inviting for users seeking critical health information.

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