

Influence of Health Information Management on Chronic Patient Care in Selected Public Healthcare Institutions in Rivers State, Nigeria: Using the Lens of Henry Fayol's 14 Management Principles

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ABSTRACT: Delivery of healthcare services for patients with chronic disease is an enduring process of diverse activities that require accurate and quality health information management across different healthcare settings for expertise, collaboration, and informed decision-making and planning. As a result, this study investigated the influence of health information management on chronic patient care in selected healthcare institutions in Rivers State, Nigeria, using the lens of Henri Fayol's 14 management principles. A cross-sectional descriptive survey research design with purposive and simple random sampling techniques was used. A sample of 101 respondents was used, and the collected data were analyzed using descriptive statistical tools like simple percentage frequency. The results of the grand total overall responses revealed that very high extent had 838 (59.3%) as the highest responses, followed by high extent option responses with 501 (35.5%), while very low extent had 23 (1.6), and it connotes that Fayol's 14 managerial principles are fundamental for effective health information management for quality patient care and also established that poor leadership, rigid bureaucratic processes, poor employer-employee relations, and a lack of professional manpower, among others, are crucial factors that would hinder effective implementation of Fayol's 14 principles of management in healthcare institutions. The study recommended that governments at all levels implement Fayol's management principles and also facilitate an enabling environment for quality chronic patient care management.

Keywords: Chronic patient care, Health information management, Henri Fayol's 14 management principles, Lens

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INTRODUCTION

In accordance with approved health policies, enabling laws, reforms, and global best practices, the federal, state, and local governments establish public healthcare facilities (hospitals) to offer timely, equitable, safe, and satisfactory healthcare services to patients and other healthcare beneficiaries, regardless of the severity and nature of their particular health challenges. Studies throughout the years have demonstrated that most of these public healthcare facilities consistently get

complaints from patients about their subpar healthcare services. Healthcare is one of the primary service sectors worldwide, according to Pratama and Bernarto (2022), who also note that the service business is diversified. As a result, a healthcare facility's crucial job involves preserving and enhancing both public health and the general health of the global populace. Obi et al. (2018) contend that a healthcare facility should aim to assist patients in regaining their health, which is described in

the 1946 World Health Organization constitution as a state of total physical, mental, and social well-being and not merely the absence of disease or infirmity.

Africa's healthcare systems are underfunded and neglected, resulting in issues with access, timely, patient-centered, safe, available, and equitable quality. Nigeria's public hospitals have faced criticism for poor infrastructure and unsatisfactory service delivery, with many offering substandard quality (Alkali and Bello, 2019). Patients' engagement with healthcare providers is crucial for patient-centered service delivery, as they recognize their unique needs and the organization's ability to meet them. Comprehensive health care services are preferred by patients for prompt and favorable treatment. According to Kulkarni (2018), Obi et al. (2018) patient satisfaction is now considered a gauge of healthcare service quality at various facilities, with patients, caregivers, and family members being the best sources of information on patient treatment.

Patient interactions reveal hospital system efficiency and help management narrow gaps between operations and management. Patel and Patel (2017) found that public healthcare facilities are often seen as the last resort for patients, with their impression of services beginning at the health information management department. According to Isaruk et al. (2021), information is crucial for strengthening health systems and improving policy-making, planning, implementation, and monitoring of health programs. Evidence-based decision-making should be instilled at all levels and departments of healthcare facilities. The availability of quality information benefits healthcare providers, patients, and stakeholders. Health records store medical data and are essential for managing daily operations in private and public sector companies.

Patient wait times in healthcare systems persist despite advancements in technology and information management. Patients often experience negative experiences while waiting for treatment, leading to delays in receiving services and poor quality of care. Chronic diseases, which have a prolonged course and slow progression, are a significant challenge for health systems (Brillard et al., 2018). These diseases are the primary cause of disease burden and mortality globally, with the attributable fraction of the overall global burden rising from 44% in 1990 to 61% in 2016, according to Muscat et al. (2020). According to Lear et al. (2021), chronic illnesses are the main reason for hospital admissions and fatalities globally. Patients with multiple chronic conditions also have lower self-reported health status, despair, and diminished functional ability. Proper management of health information is crucial for early intervention and communication between medical professionals and patients. Health information serves as the basis for accurate and traceable records of patients' medical histories, ensuring the effective delivery of healthcare.

Houtum et al. (2016) emphasize the importance of self-management in chronic illness treatment. Healthcare providers should provide accurate, creditable, reliable, current, and attributable information to patients, enhancing their ability to contribute to reducing their illnesses and promoting long-term improvement. The researchers found a paucity of studies on health information management and service delivery, patient waiting time, and satisfaction with service delivery, but not on the application of Henri Fayol's 14 management principles, particularly in Rivers State. Hence, the study titled "Influence of health information management on chronic patients' care in selected healthcare facilities in Rivers State using the lens of Henry Fayol's 14 administration (management) principles" was motivated by the numerous findings and discussions discussed above as well as researchers' own years of experience in order to produce a solid result that would be used to contribute to the body of knowledge both in terms of concepts and empirical theories.

Concept of chronic diseases

Chronic disease, according to Raghupathi and Raghupathi (2018), is a physical or mental health condition that has prolonged for a long time. In most of the world, including the United States, chronic illnesses predominate in terms of healthcare service provision. Control of a disease's impact depends heavily on patient management. Patient management plays a crucial role in controlling the disease's impact. Interventions that help patients manage their conditions can lead to improved condition monitoring, fewer symptoms, improved physical and psychosocial functioning, and decreased use of medical services. Theorem-based programs and self-regulation frameworks have shown promise in creating interventions. However, there are gaps in understanding and improving disease management by patients due to a focus on clinical settings, disregarding factors beyond patient behavior, limitations of study designs, reliance on short-term assessments, and failure to evaluate the independent contribution of program components, according to Nwosu et al. (2013).

Controlling chronic diseases remains a priority for healthcare systems, but it is challenging to implement secondary and primary prevention. Access to health information and medical facilities remains a problem in developing, transitional, and emerging nations. Chronic diseases include heart disease, diabetes, cardiovascular disease, cerebrovascular disease, hypertension, kidney disease, liver disease, Alzheimer's disease, arthritis, cancer, chronic obstructive pulmonary disease, epilepsy, hereditary hemochromatosis, iron overload, oral diseases, and osteoporosis (Samal et al., 2021). Chronic illnesses are terminal and require complete health information for effective management. A study by Muscat et al. (2020) found that chronic diseases account for 84–

88 % of the overall illness burden in Australia, and they require treatment over time due to their unresolved nature. The findings further revealed that chronic disease self-management programs significantly improved health literacy among participants over the age of 16.

A qualitative study by Braillard et al. (2018) found that primary care doctors in Switzerland are emotionally burdened by their powerlessness, working environment, and empathy for their patients' situations. The study also found that managing chronic diseases and multi-morbidity is difficult for healthcare professionals due to patient characteristics, the health system, and the healthcare professionals themselves. Houtum et al. (2016) found that healthcare professionals are increasingly expected to assist chronically ill patients in understanding their central role in managing their illness. Patients with chronic illnesses generally felt their care was of high caliber, and patients who interacted with a practice nurse or specialized nurse thought their care was of higher caliber. However, contact with a working nurse or specialized nurse was not associated with patients' opinions of the quality of treatment. Reed et al. (2019) study on patients with complicated chronic diseases found that access to a patient portal can increase outpatient visits and decrease downstream health events, especially among patients with multiple complex conditions. Access to a patient portal was found to be substantially related to increased rates of outpatient office visits, fewer emergency room visits, and avoidable hospital stays in patients with multiple complicated chronic diseases.

Concept of health information management

Health information management is the practice that involves the application of all processes, methods, systems, and relevant resources, including manpower, in ensuring the quality creation, usage, maintenance, retention, and disposal of patient clinical and related health information in order to achieve seemingly quality healthcare services that meet beneficiaries' satisfactions (Isaruk, et al., 2021). A good health information management practice is crucial for providing quality care for patients by ensuring accurate and timely retrieval of their health records. It ensures confidentiality, authenticity, and adequate security of patients' information, according to Chanyalew et al. (2021). However, there is a low level of satisfaction with the health information management services provided, and long waiting times can negatively impact the quality of care (Awogbami et al., 2020). Healthcare institutions must ensure proper filing, archiving, storage, disposal, and retrievability of health records, as well as appropriate security measures.

In sub-Saharan Africa, healthcare practitioners require quality and accurate patient healthcare information to provide quality services (Marutha, 2020).

A records management policy guides the organization's records management, ensuring accessibility, controlling record growth, minimizing litigation risk, and safeguarding vital records. Health information management is the basis of the healthcare system and the key to making evidence-based health policy decisions globally. The availability of information enables healthcare providers to use it for better policy-making, planning, implementation, monitoring, and evaluation of health programs and activities for the benefit of all stakeholders, including patients and their caregivers (Alegbeleye and Chilaka, 2019). Despite the growing literature on health information technology treatments or multi-component interventions for managing chronic diseases, there is currently no support for using health information technology solutions to enhance care for people living with multiple chronic conditions, according to Samal et al. (2021).

Orang'i et al. (2019) study on healthcare information systems' impact on service delivery in private hospitals in Nairobi County, Kenya, found that hospitals are using health information systems and implementing interoperability policies. However, more is needed to improve communication and patient monitoring. Nwosu et al. (2013) found that health professionals in Nigeria have limited access to health information and medical facilities, causing concerns about patients and medical professionals' awareness of the availability of health information. Samal et al. (2021) assessed the use of health information technology to enhance care for patients with multiple chronic conditions, finding that there is currently no support for using health IT solutions to enhance care for people living with multiple chronic conditions.

Objective of the study

The main objective is to use Henry Fayol's 14 management principles to investigate influence of health information management on chronic patient care in selected healthcare facilities in Rivers State, Nigeria. The specific objective is to:

- i). Find out what extent will the application of Henri Fayol's 14 managerial principles influence health information management for chronic patients care in the select public healthcare facilities in Rivers State, Nigeria.
- ii). Investigate factors that can hinder effective implementation of Henri Fayol's 14 management principle in health information management for chronic patient care in the selected public health healthcare facilities in Rivers State, Nigeria.

Research question

- i). To what extent will the application of Henri Fayol's 14 management principles influence health information

management for chronic patient care in the selected public healthcare facilities in Rivers State, Nigeria?

ii). What factors can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patient care in the selected public healthcare facilities in Rivers State, Nigeria?

METHODOLOGY

This study employs a cross-sectional descriptive research approach to examine Henry Fayol's management ideas for managing health information for chronic patients in healthcare facilities in Rivers State, Nigeria. The target population was 506 health information management professionals working in various public healthcare facilities in Rivers State and identified with the state chapter of the Association of Health Records and Information Management Practitioners of Nigeria (AHRIMPN). The study uses a purposive and simple random sampling approach, incorporating all professionals working in public healthcare facilities and on the AHRIMPN Rivers State Chapter WhatsApp platform. Total enumeration was adopted. The primary source for gathering data was a self-constructed questionnaire that was reviewed for worthiness by other experts in academic research and related fields. Data was collected through a self-constructed questionnaire administered online through the Rivers State Chapter of AHRIMPN's WhatsApp platform. The questionnaire was composed of three sections: A–C. Section A contained four items used to determine the respondents' demographic data. Section B was made up of 14 items used to determine research question 1, and it consisted of a 4-point Likert rating of very high extent (VHE = 4), high extent (HE = 3), low extent (LE = 2), and very low extent (VLE = 1), respectively. Section C consists of 10 items used to determine research question 2, and it was arranged based on a 4-point Likert rating of strongly agree (SA = 4), agree (A = 3), disagree (D = 2), and strongly disagree (SD = 1), respectively. Ethical approval was obtained from the officers in charge of the AHRIMPN Rivers State Chapter WhatsApp platform, and consents from health information professionals on the WhatsApp platform were also sought.

RESULTS

Out of over 506 health information management professionals currently practicing in Rivers State who have identified themselves with the state chapter of AHRIMPN and are linked with the association state chapter WhatsApp platform, 501 responded to the survey, and after collection, sorting, and finding that their responses were correctly filled, this sample figure (i.e.,

501) was used for the analysis of the study and presented in tables 1–3 according to sections A, B, and C, respectively.

Section A: Respondents' demographic data

Table 1 reveals that health information management professionals (HIMPs) at Rivers State University Teaching Hospital (RSUTH) are the major respondents, with 17 (16.83%) of them. The majority of HIMPs in the state are not proactive in contributing to issues affecting their practices for efficiency. Most primary healthcare departments do not use the Rivers State Chapter of AHRIMPN's WhatsApp platform for communication, knowledge sharing, and problem-solving. Results established that respondents aged 36–45 years had the highest number of HIMPs (46.5%), followed by those aged 46–55 years (30.7%) and those aged 20–35 years (23.8%). Female HIMPs were more numerous than male HIMPs, resulting in a shortage of manpower for managing chronic patients' medical records and information. Findings showed that Technician/National Diploma educational attainment was the highest educational attainment for HIMPs (46.54%), followed by those with HND or BSc (34.65%). The least number of respondents had postgraduate degrees (18.82%). The results suggest that health information management professionals in Rivers State need advanced training to acquire skills and knowledge to effectively collaborate and carry out health information management practices that provide timely and accurate information for chronic patient care.

Section B: Respondents' responses to items for determination of research question 1

Research question 1: To what extent will the application of Henri Fayol's 14 management principles influence the management of health information for chronic patient care in the selected public healthcare facilities in Port Harcourt Metropolis, Nigeria?

Please tick the option that suits your knowledge and understanding of the extent that application of Henri Fayol's 14 management principles will influence the management of health information for chronic patient care in public healthcare facilities in Nigeria. Likert-type ranking scale: 4 = very high extent (VHE), 3 = high extent (HE), 2 = low extent (LE), and 1 = very low extent (VLE), respectively.

Table 2 showed that the grand total of overall respondents' responses for very high extent was 838 (59.35), high extent was 502 (35.5%), low extent was 51 (3.6%), and very low extent was 23 (1.6%), respectively. The study found that Henri Fayol's 14 management principles significantly enhance health information management for chronic patient care.

Table 1: Respondents' responses based on demographic data that were analyzed using percentage frequency table.

S/N	ITEMS	FREQUENCY	PERCENTAGE
	Name of health institution/department		
1	Primary Health Care Department (PHCD) Abua/Odua LGA	5	4.951
2	PHCD Ahoada East LGA	5	4.951
3	PHCD Akuku-Toru LGA	3	2.970
4	PHCD Andoni LGA	7	6.931
5	PHCD Asari-Toru LGA	4	3.960
6	PHCD Bonny LGA	3	2.970
7	PHCD Degema LGA	5	4.951
8	PHCD Eleme LGA	2	1.980
10	PHCD Obio/Akpor LGA	6	5.941
11	PHCD Ogu/Bulo LGA	3	2.970
12	PHCD Okirika LGA	8	7.921
13	PHCD Omuma LGA	1	0.990
14	Rivers State College of Health Science and Management Technology (RSCHSMT) Primary Health Care Centre	6	5.941
15	General Hospital Abua (GHA)	2	1.980
16	Zonal Hospital Bori (ZHB)	2	1.980
18	Zonal Hospital Okirika (ZHO)	3	2.970
19	Neuropsychiatric Hospital Rumuigbo (HHR)	5	4.951
20	Rivers State University Teaching Hospital (RSUTH)	17	16.832
21	University of Port Harcourt Teaching Hospital (UPTH)	14	13.861
	AGE		
22	20-35Years	24	23.8
23	36-45Years	47	46.5
24	36-55Years	30	29.7
	gender		
25	Male	42	41.58
26	Female	59	58.42
	Highest educational qualification attainment		
27	Technician/National Diploma	47	46.54
28	HND/BSC	35	34.65
29	PG/Master/PhD	19	18.81

The highest response was 59 (35%), for remuneration, division of labor, and esprit de corps. Initiatives, subordination of individual interest to group interest, and centralization were the fourth and fifth highest responses, respectively. Author, responsibility, and order were the fifth and sixth highest responses, respectively. Discipline, scalar chain, stability of tenure, and unity of direction were the seventh and eighth highest responses, respectively. The implementation of these principles in health information management is expected to significantly improve the quality of chronic patient care across all healthcare institutions.

Section C: Respondents' Responses to items used to determine research question 2

Research Question 2: What factors can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patient care in Rivers State, Nigeria?

Please, tick the correction option based on your understanding and knowledge of the items stated in the table. The section is organized into 4 point Likert rating of strongly agree (SA = 4), agree (A = 3), disagree (D = 2), and strongly disagree (SD = 1) respectively. Table 3

indicated the grand total of overall respondents' responses to factors that can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patients: strongly agree with the figure of 708 (70.10%) as the highest responses; agree option had 249 (24.65%) responses; disagree option had 40 (3.96%); and strongly disagree option was the least with 13 (1.29%). Results further show that poor employer-employee relations, perpetual corruption indices, inadequate professional manpower, a lack of an enabling work environment, rigid bureaucratic processes, and poor leadership are the factors that hinder the effective implementation of Henri Fayol's 14 management principles in health information management for chronic patients. Strongly agreeing respondents had 708 responses, while strongly disagreeing respondents had 40 and 13 responses, respectively.

DISCUSSION

Research Question 1: Findings showed that the grand total of overall respondents' responses for very high extent was 838 (59.35), high extent was 502 (35.5%), low

Table 2: Respondents' responses on the extent that application of Henri Fayol's 14 management principles will influence the management of health information for chronic patient care in the selected public healthcare facilities in Port Harcourt Metropolis, Nigeria.

S/N	14 Principles of Henry Fayol's	Managerial of Henry	ITEMS	Very High Extent (VHE = 4) %	High Extent (HE =3) %	Low Extent (LE = 2) %	Very Low Extent (VLE = 1) %
10	Division of labor		Assigning tasks to employees based on their area of specialization will improve health information management for quality care of chronic patients.	64 63.37	33 32.67	4 3.96	0 0
11	Authority responsibility	and	Leaders carrying out authority with sufficient responsibility will sway proper management of health information for quality care of chronic patients.	59 58.42	35 34.65	5 4.95	2 1.98
12	Discipline		Implementing policies that guide against misconduct will improve health information management for quality care of chronic patients.	58 57.43	35 34.65	5 4.95	3 2.97
13	Unity of command		Putting in place a clear instruction indicating individual employees will be working under it will promote health information management for quality care of chronic patients.	55 54.46	40 39.60	3 2.97	3 2.97
14	Unity of direction		Working in harmony without task conflict will enhance health information management for quality care of chronic patients.	57 56.44	39 38.61	4 3.96	1 0.995
15	Subordination individual interest	of	Ensuring that group or organization interests supersede individual goals will reinforcement standard management of health information for quality care of chronic patients	60 59.41	28 27.72	8 7.92	5 4.95
16	Remuneration		Good employee reward packages will influence health information management for quality care of chronic patients.	75 74.26	20 19.80	4 3.96	2 1.98
17	The degree centralization	of	A stable work relationship between superior and subordinate employees will influence good practice of health information management for quality care of chronic patients.	60 59.41	39 38.61	2 1.98	0 0
18	Scalar chain		A clear pathway of communication between superiors and subordinates will influence health information management for proper care of chronic patients.	58 57.43	41 40.69	1 0.99	1 0.99
19	Order		Proper use of available resources in a structured way will influence health information management for quality care of chronic patients.	59 58.42	36 35.64	3 2.97	3 2.97
20	Equity		Treating everyone with kindness and justice will influence standard health information management for quality care of chronic patients.	54 53.47	42 41.58	4 3.96	1 0.99
21	Stability of tenure of personnel		A clear and effective method of handling vacancies when the need arises will systematically influence health information management for quality care of chronic patients.	57 56.41	40 39.60	2 1.98	2 1.98
22	Initiatives		Allowing every employee to take initiative in doing his or her job will influence health information management for quality care of chronic patients.	60 59.41	38 37.62	3 2.97	0 0
23	Esprit de corps		Building team spirit will influence health information management for standard care of chronic patients.	62 61.39	36 35.64	3 2.97	0 0
GRAND TOTAL				838 59.26%	502 35.50%	51 3.61%	23 1.63%

Table 3: Respondents' responses to factors that can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patient care in public healthcare facilities in Rivers State, Nigeria.

S/N	The following factors can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patient cares in public healthcare facilities in Rivers State, Nigeria:	Strongly Agree (SA = 4) %	Agree (A = 3) %	Disagree (D = 2) %	Strongly Disagree (SD = 1) %
1	Lack of political willpower	60 59.41	25 24.75	10 9.90	6 5.94
2	Inadequate professional manpower in the service units	78 77.23	20 19.80	3 2.97	0 0
3	Poor budget implementation	66 65.35	28 27.72	5 4.95	2 1.98
4	Lack of expertise and collaboration	62 61.39	36 35.64	3 2.97	0 0
5	Poor leadership	70 69.31	30 29.70	1 0.99	0 0
6	Poor employer-employee relationship	81 80.20	17 16.83	2 1.98	1 0.99
7	Perpetual corruption indices	80 79.21	19 18.81	2 1.98	0 0
8	Lack of an enabling work environment	75 74.26	22 21.78	3 2.97	1 0.99
9	Poor goal-oriented philosophy among employees	63 62.38	32 31.68	6 5.94	0 0
10	Rigid bureaucratic processes	73 72.28	20 19.80	5 4.95	3 2.97
Grand Total		708 70.10	249 24.65	40 3.96	13 1.29

extent was 51 (3.6%), and very low extent was 23 (1.6%), respectively. The outcomes of the analysis imply that implementation of Henri Fayol's 14 management principles in health information management will significantly influence quality chronic patient care in healthcare institutions. Implementing these principles can enhance standard records management practices for quality service delivery. The findings support previous studies such as Alegebeye and Chilaka's (2019), Chanyalew et al. (2021), Marutha (2020), and Orang'i et al. (2019) highlighting the importance of policy implementation in healthcare institutions for patients with multiple chronic cases.

Additionally, the study supports Brailard et al. (2018) study on the impact of managing chronic diseases on primary care doctors in Switzerland, which found that primary care providers are emotionally burdened by their powerlessness, working environment, and lack of empathy for patients' situations. Applying Fayol's 14 management principles in health information management can reduce this emotional burden and improve quality chronic patient care across all healthcare settings.

Research Question 2: Results established that the grand total of overall respondents' responses to factors that can hinder effective implementation of Henri Fayol's 14 management principles in health information management for chronic patients is strongly agree (708 (70.10%) as the highest responses); agree option had 249 (24.65%) responses; disagree option had 40 (3.96%); and strongly disagree option was the least with 13 (1.29%). The research found that poor employer-employee relations, corruption indices, inadequate professional manpower, a lack of an enabling work environment, rigid bureaucratic processes, and poor leadership hinder the effective implementation of Henri Fayol's 14 management principles in health information management for chronic patients. These factors, along with Samal et al. (2021) assessment of health information technology, support the use of IT in treating patients with multiple chronic conditions. The findings support Isaruk et al. (2021) survey results, which emphasize the importance of adequate professional manpower, good relationships, an enabling work environment, and proper resource utilization for quality patient care at diverse healthcare levels.

Conclusion

Healthcare delivery is a complex service, and a variety of providers rely on timely, accurate, and high-quality patient health information for planning, decision-making, and assessing therapeutic approaches to identify potential solutions for patients' healthcare challenges, particularly those who have chronic illnesses. Therefore, Henri Fayol's 14 management principles must be applied in order to achieve high-quality management of chronic patients, especially in this era of ongoing corruption indices, problems with poor leadership, and poor budget implementation in healthcare settings across the different levels of care. This will bring sanity and equity, reduce harm, lower the high rate of preventable mortality, and have a positive impact on high-quality in the system.

Recommendation

The study advised that the government at all levels use Henri Fayol's 14 management principles across all tiers of healthcare institutions or sectors in order to manage patients with a variety of health issues effectively and efficiently. This was done based on the study's extensive findings. Second, in order to consistently give high-quality care, every healthcare institution should promote positive employer-employee relations, abhor corruption, value professionalism, and value teamwork. Thirdly, since everyone depends on patient information as the buzzword of industries, leaders or management of healthcare institutions should offer a supportive work environment and proper budget implementation for health information management practices to drive quality in all areas of care.

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