

**HUMAN CAPITAL DEVELOPMENT AS PREDICTOR OF SERVICE DELIVERY OF HEALTH  
INFORMATION MANAGEMENT PROFESSIONALS IN GOVERNMENT TEACHING  
HOSPITALS IN NIGERIA**

**PROF. ALEGBELEYE, O. GABRIEL**  
Department of Information Resources Management,  
Babcock University, Ilishan Remo,  
Ogun State, Nigeria  
alegbeleyeg@babcock.edu.ng

&

**AYILEGBE, BABATUNDE KAYODE**  
Department of Information Resources Management,  
Babcock University, Ilishan Remo,  
Ogun State, Nigeria  
alegbeleyeg@babcock.edu.ng

&

**E. MADUKOMA (PhD)**  
Department of Information Resources Management,  
Babcock University, Ilishan Remo,  
Ogun State, Nigeria  
madukomae@babcock.edu.ng

**Abstract**

*The study aims at investigating whether human capital development is one of the predictors of service delivery by health information management (HIM) professionals in government teaching hospitals in Nigeria. Some patients are not getting the desired outcome in the level of their care from healthcare professionals in the hospitals. The study therefore examined whether human capital development which was applied through various means is a predictor of service delivery, and to come up with strategies for improved health services. Thus, descriptive and inferential statistics were used in the analysis of the data with Statistical Product and Service Solution (SPSS) version 22. Relevant literature including theories were reviewed. During the analysis of the data, it was discovered that human capital development which comprises manpower training and career development had high positive and significant influence on service delivery of HIM professionals in government teaching hospital in Nigeria. The study further revealed that some factors can militate against effective service delivery, and strategies through which these can be ameliorated or prevented were highlighted and elucidated. The study recommended sponsorship of HIM professionals for the acquisition of higher degrees in various universities, in-house training, job rotation, knowledge sharing, on-the-job training and enforcement of institutional policies on human capital development by the government in order to enhance the capacity of HIM professionals for the achievement of quality service delivery in healthcare facilities.*

**Keywords:** Service delivery, patients, healthcare facility, human capital development, health information management professionals

### **Introduction**

Service delivery refers to the outcome of various activities being carried out by the employees in order to achieve organizational objectives and goals. It deals with the discharge of certain obligations or tasks necessary to achieve the core purpose for which an organization is set up. In healthcare facilities, service delivery refers to the outcome of tasks, actions or activities rendered by various healthcare professionals aimed at reducing the pain of patients, preventing or curing illness, reducing morbidity and mortality, improving patient satisfaction and ensuring healthy population (Mogli, 2016). Services are rendered by health information management (HIM) professionals, medical doctors, nurses, medical laboratory scientists, pharmacists, physiotherapists, radiographers, medical social workers, clinical psychologists and other healthcare personnel in the hospitals (American Health Information Management Association, 2017). Service delivery to different category of patients is one of the goals of government in the developed and developing countries. This is highly required to improve quality of life, which in turn can contribute significantly towards improved economy.

Healthcare services are delivered by the medical doctors in collaboration with other healthcare professionals which include HIM professionals. Every category of patient has legal right to be treated effectively and efficiently by healthcare professionals in the hospitals. The way and manner in which services are rendered to a patient will determine the outcome of his care. Significant improvement in health service delivery has been achieved in some developed countries such as the United States of America, United Kingdom, Switzerland, France, Spain and Germany (American Medical Association, 2014). This may also accounts for improved life expectancy of individuals in these countries, unlike in Africa, and specifically, Nigeria. Improved service delivery by healthcare professionals in the developed countries is attributed to some factors such as computerization of patient health records, conducive work environment, quality working tools, training of healthcare personnel and government supports among other factors (Mogli, 2016). Access to healthcare facilities should not be trivialized in order to achieve efficacious service delivery. Healthcare costs and access to healthcare remain the top main issues in the US (Riffkin, 2015).

Service delivery in Nigerian healthcare facilities is adjudged by some scholars to be below par when compared with what obtains in other developed and developing countries (Ephraim-Emmanuel, Adigwe, Oyeghe & Ogaji, 2018). Health information management (HIM) professionals are the first-port-of call in service delivery in the hospitals. They are the first point of contact as every new and follow-up patient needs to be attended to by them before other healthcare professionals will continue with their professional health service discharge. HIM professionals engage in series of services in conjunction with other healthcare professionals in the hospitals. They engage in documentation of new patient bio-data, documentation of patient follow-up activities, patient education, prompt retrieval and filing of patients' health records, patient appointment scheduling in the specialty clinics, clinical coding of diagnoses and procedure, collection and management of daily ward statement on daily basis and ensuring security of patient health records at various satellite and central records libraries.

However, service delivery by HIM professionals cannot be easily achieved without training and retraining of HIM professionals which is an integral part of human capital development. Human capital development is seen as one of the major factors that may affect service delivery of health information management professionals in healthcare facilities. Eletu, Ukoha and Nwuche (2017) viewed human capital development as the process of enhancing employees' knowledge, skills and competencies through continuous training (on-the-job and off-the-job) and development in order to ensure they contribute maximally to the goals of the organization. Human capital development can also be defined as the process of acquiring and increasing the number of persons who have the skills, education and experience that are critical for economic growth and development of a country's economy. It is a set of skills which an employee acquires on the job through training and experience which can contribute to effective services in healthcare facilities. Afrah (2016) sees human capital as an important economic growth factor. It has to do with the capacity to develop talent, the capacity to deploy talent, and the capacity to draw talent from elsewhere (Boztosun, Aksoyly & Ulucak, 2016).

Charlwood and Stuart (2017) explain that human capital is an arrangement of practices identified with individual asset management, particularly in the classification of workforce securing, management and advancement. Human capital development would improve patient communication and education. Failure in patient communication and patient education can cause service failure (Johns Hopkins Medicine, 2014). Institutional policies will play a significant role in human capacity development. Health policy refers to decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. It outlines priorities and the expected roles of different groups, and builds consensus and informs the people (WHO, 2018). With good policy in place, every action that can lead to the capacity enhancement of healthcare professionals such as health information management (HIM) professionals should be critically explored. On the job training policy should be inculcated in every healthcare facility by the top management. This will enable young HIM professionals to be more skillful and proficient in the discharge of their duties. Education should be made more accessible to employees, which will eventually bring about growth and development (Oluwatobi, Olurinola & Taiwo, 2016). Experienced and more qualified professionals ought to groom newly employed personnel with various techniques needed for effective performance on every task.

It is believed that when qualified HIM professionals are employed in health records department, and there is room for regular training, exposure and advancement then, an efficacious service delivery can easily be attained. Hence, Halidu (2015), Ludivine and Ulyen (2015) posit that training and development has great impact on workers' productivity. Relevant and current professional training of staff will accelerate their morals in discharging high quality services. Avoidable errors would be drastically reduced when employees are heavily invested upon by the management of every healthcare institution (Donate, Pena & Sanchez, 2016). The quality of training and development received by HIM professionals through monthly staff meeting, job instructions, orientation, job rotation, seminars, workshops, sponsorship to formal education in the universities and other higher institutions, promotion exercise, and various skills and experience received within healthcare facilities would in turn impact service delivery. Human capital development is perceived to be one of the major factors for the realization of quality health service delivery, not only in Nigeria, but in other developing and developed countries (Eigbiremolen & Anaduaka, 2014).

Consequently, from the foregoing, human capital development may have significant impact on service delivery by HIM professionals. Based on this assumption, the study intends to investigate human capital development as predictor for service delivery by health information management professionals in teaching hospitals in Nigeria.

### **Statement of the Problem**

Health information management (HIM) professionals are the first-port-of-call of patients in every healthcare facility as accurate registration and documentation is expedient in achieving efficacious service delivery (Mogli, 2016). Every category of patient deserves the best services from healthcare professionals in the hospitals in order to ameliorate their pains and achieve a desired level of satisfaction. For service delivery to be achieved there is need for synergy and exhibition of professionalism among healthcare personnel, especially HIM professionals who usually have contact with every category of patient before other healthcare staff (American Medical Association, 2014). However, experience has shown that patients are not getting the best services from HIM professionals in some hospitals in Nigeria which has been causing negative impact on health service delivery.

Thus, the researcher discovered from literature that lack of manpower training and career development which are core components of human capital development of HIM professionals are capable of thwarting service delivery in the hospitals. However, the extent to which these factors affect service delivery has not been empirically determined which is a serious gap the researcher decides to fill. Based on this premise, the researcher intends to investigate human capital development as a predictor of service delivery by health information management professionals in government teaching hospitals in Nigeria.

### **Objective of the Study**

The general objective of this study is to find out the influence of human capital development on service delivery by health information management (HIM) professionals in government teaching hospitals in Nigeria. The specific objectives are to:

1. examine the level of human capital development of health information management professionals in government teaching hospitals in Nigeria
2. determine the extent of service delivery by health information management professionals in government teaching hospitals in Nigeria.
3. ascertain the influence of human capital development on service delivery by health information management professionals in government teaching hospitals in Nigeria.

### **Scope**

The study is limited to health information management professionals in the selected computerized government teaching hospitals in Nigeria.

### **Review of Related Literature**

#### **Human Capital Development and Service Delivery**

There is a growing body of evidence in the literature that human capital development can play an important role in improving service delivery in health care organization, which includes financial performance, quality patient care, reduction in mortality, reduction in patient waiting time, prompt retrieval of patient health information, improved patient satisfaction, provider satisfaction and key operational outcomes. Training, which is the major component of human capital development, has particular objectives of enhancing healthcare professionals' ability, limit and performance. It frames the center of apprenticeship and gives the foundation of substance at establishments of innovation (Mbah, Aga & Onyia, 2018).

Series of studies conducted by various researchers in different countries concluded that human capital development had great positive influence on service delivery in organizations. Hansson (2005) in his study conducted in twenty-six countries (primarily in Europe, and a small number of non-Europe countries), analyzed data of about 6000 organizations and concluded that the most important factor associated with service delivery was how much was invested in staff training intensity, suggesting that the benefits of training outweigh the cost of staff turnover in an organization. The study concluded that training has positive influence on service delivery. This finding is supported by studies conducted by Bapnar, Langer, Mehra, Gopal, and Gupta (2013); Arshad, and Ab-Malik (2015); Benos and Karagiannis (2016); Aryees, Walmba, Seidu, and Otaye (2016). They all found positive significant influence of human capital development on service delivery.

However, the finding of Bartel (1995) contradicts the outcome of the study conducted by Hansson (2005). He found that the impact of training of skilled workers did not have statistically significant impact on service delivery. Nevertheless, there is a growing body of evidence in the literature that support the findings of Hansson (2005); Arshad and Ab-Malik (2015); Benos and Karagiannis (2016). Other empirical review on human capital development and service delivery are shown below:

### **Summary of Empirical Review**

S/N	Author (year) and Title of Article	Study Area	Methodology	Findings	Research Gap
1.	Hansson (2005).  The impact of investment on human capital development in an organization	United Kingdom	Survey design	The study finds that training of staff generates substantial gains for employers. It also found that investment in training of staff brings about productivity and profitability in health care facilities.	The study did not include electronic health records use in an organization, which may have significant impact on service delivery. Further research may explore this area.
2	Low, J. & Kelafut, P.C. (2002);  Pfau, B. & Ira, K. (2002);  Buckingham, M., & Coffin, C. (1999)  Relationship between human capital development and organization's performance.	United States of America (USA)	Longitudinal survey design	The study concludes that the best human development practices are directly related to an organization's present and future performances, employee retention, customer satisfaction and productivity.	The study was conducted in the US. There is need for its replication in other environment especially in Nigeria in further research work.
3	Hansson (2005)  Influence of training on organization profitability (service delivery).	26 European countries	Descriptive and correlational survey design	The study concludes that training of staff is associated with profitability or service delivery in an organization.	The study was not specific on those engaged in training. Health information management professionals need to be included in further study.
4	Fugar, F.D.K., Ashibue-Mensah, N.A. & Adinyira, E. (2013).  The effect of human capital development on profitability and service delivery of organizations	Kumasi, Ghana	Survey research design	The study reveals that there is a strong positive correlation between human capital development and organization's operational outcomes (service delivery)	The effects of electronic health records use was not included in the study, which may give room for a more detailed analysis.
5	Mbah, P.C., Aga, C. C. & Onyia, E. (2018)  Effect of human capital development on organizational performance.	South-East, Nigeria.	Survey research design	The findings indicated that knowledge has positive significant effect on organization's service delivery.  The study also conclude that any organization that does not learn continuously will not be able to compete effectively in the global market.	The study was conducted only in South-East, Nigeria. There is need to extend the scope of the study to all the geopolitical zones in Nigeria in further research work which may increase level of precision.
6	Garavan, T.N. (2001)  The effect of employee training on organisation's goal attainment.	United Kingdom (UK)	Descriptive survey design	The study found that training has significant positive changes in employee mentalities and practices thereby, making him to achieve organizational goal (service delivery).	The study did not specify whether it was carried out in government hospitals as this may have different outcome entirely.
7	Afrah, N.A. (2016)  Examination on the part of human capital development on organizational performance	Bernadir University, Mogadishu, Somalia	Survey design	The study found that the part of human capital on organizational performance or outcome is essential for advancing the organization's benefit.	Electronic health records use was not included in the study and also it was only conducted in the university environment.

S/N	Author (year) and Title of Article	Study Area	Methodology	Findings	Research Gap
8	Ojokuku, R.M., & Sajuyigbe, A.S. (2015)  An investigation on the impact of human capital development on the performance of some organisations in Nigeria.	South-west, Nigeria.	Survey research design	The study found that human capital development factors have critical impact on organisation's performance. The coefficient of relationship (R)=0.941; the coefficient of assurance (R <sup>2</sup> )=0.849	There is need for further research work to be conducted in government teaching hospitals for proper evaluation of the outcome.
9	Steve, U., Ngozi, I., Anionwu, C., & Olise, M.C. (2010).  Effect of investment in human capital development on organizational performance	Awka City, Nigeria	Observational study	A key finding of this investigation is that, training and expertise are more grounded indicators of human capital adequacy which have positive influence on organisation's outcome.	The methodology of this study was observational. Further research work needs to be carried out using cross-sectional survey design.
10	Ajisefe, O.E., Orifa, A.O., & Balogun, J.A (2015)  Influence of human capital development on organizational performance	Ondo Town, Nigeria	Survey design	The findings from the investigation demonstrated that human capital development affects organizational performance and that training and development projects ought to be well organized to achieve intended delivery	Other states in the remaining geopolitical zones were not included in the scope of the study. Further study on this area should be investigated.
11	Ludivine, M., & Uyei, T. N. (2015)  Connection among employee advancement, ICT use and service delivery.	Luxembourg City, Luxembourg.	Cross-sectional survey design	The study reveals that staff development and ICT use enhances organizational performance. There is positive connection among staff development, ICT use and service delivery (work efficiency).	The study was conducted in Luxembourg. There is need for similar study to be carried out in Nigerian government teaching hospitals for generalization
12	Abdul, H., & Aamer, W. (2011).  Employee development and its effect on employee performance	Islamabad, Pakistan	Descriptive research method	The success or failure of the organization depends on how much training and education an organization gives to its employees.	EHR use was excluded in the scope of the study which can add to the value of the study.
13	Halidu, S.G. (2015)  An empirical review on the impact of training and development on workers' productivity.	Nigeria	Survey research method	The findings of the study reveal that training and development programmes improve employees' skills and performance at work place, enhances their technical knowhow.	There is need for the inclusion of EHR use and HIM professionals as part of further research.
14	Black, S.E., & Lynch, L.M. (1996)  Influence of education on service delivery (productivity)	Harvard University	Descriptive research design	The study found that formal education has a positive impact on service delivery (productivity)	The use of EHR was not included in the scope of the study which may be significant in further research activity
15	Annabi, N. (2017).  Relationship between investment in staff higher education and service delivery.	Canada	Survey design	The study found that investment in higher education enhances productivity or service delivery in an organization.	Further research work is needed in EHR use for an holistic outcome since the study was just on human capital development and service delivery.

## **Theoretical Framework**

### **Donabedian Model**

The Donabedian model was developed by Avedis Donabedian in 1966 which helps in assessing the quality of care in healthcare facilities (Frank, 2000). This model is being used to explain the dependent variable of this study which is service delivery. The Donabedian model is a conceptual model that produces a framework for examining health services and evaluating quality of healthcare (McDonald, Sunderem & Braveta, 2001). According to the model, information about quality of care can be drawn from three categories: “Structure”, “process” and “outcomes” (Donabedian, 1988). Structure describes the context in which care is delivered, including hospital buildings, staff, financing and equipment. Process denotes the transaction between patients and healthcare professionals throughout the delivery of healthcare. It deals with how services are rendered in healthcare facilities. Outcomes refer to the effects of healthcare on the health status of patients and populations (Donabedian, 1988).

### **Human Capital Theory**

The theory of human capital was propounded majorly by Becker (1964). This model is being used to explain the independent variable which is human capital development of HIM professionals in this study.

Human capital theory suggests that individuals who invest in education and training will increase their skill level and be more productive than those less skilled, and so can justify higher earnings as a result of their investment in human capital. As Becker (1993) suggests, schooling raises earning and productivity mainly by providing knowledge, skills and a way of analyzing problems. Thus in healthcare facilities, it can be argued that when the management provides an enabling environment whereby health information management professionals are given necessary training on-the-job and off-the-job, coupled with career development, this might significantly influence service delivery.

### **Research Methodology**

The research design for this study is the survey research design. A survey is crucial in obtaining thorough and factual information that elucidates thoughts of the respondent on variables to be studied (Silva, 2017). The population of this study is 695 HIM professionals from twelve (12) computerized government teaching hospitals in Nigeria. Multistage sampling technique was used. Stage one involved distribution of twenty-seven (27) government teaching hospitals in Nigeria. Stage two involved purposive selection of twelve (12) computerized government teaching hospitals out of 27 government teaching hospitals. Stage three involved categorization of all the twelve (12) computerized teaching hospitals into 6 geopolitical zones of Nigeria. Stage four was proportionate selection of seven (7) out of the twelve (12) computerized teaching hospitals with a total number of five-hundred and twelve (512) HIM professionals as sample size. The instrument used for data collection was questionnaire which was adapted. A total number of 512 copies of questionnaire were distributed and 470 were returned. Out of the 470 returned questionnaire, 3 copies were unsuitable for use. Hence, only 467 copies of questionnaire which were properly completed by the respondents were used in this study.

## **Results and Discussion**

**Table 1: Level of human capital development of health information management professionals**

Statements	Very Low Level	Low Level	Moderate Level	High Level	Very High Level	Mean	SD
<b>Career development</b>							
My desire to acquire more academic qualification can be considered as	01(0.2)	04(0.9)	42(9.2)	115(25.1)	297(64.6)	4.53	0.72
The benefit of career development to me can be considered as	01(0.2)	05(1.1)	61(13.2)	179(38.6)	217(46.9)	4.31	0.75
The quality of my output after my career development program can be considered as		08(1.7)	65(14.0)	183(39.5)	208(44.8)	4.27	0.76
The quality of my input through career development can be viewed as		01(0.2)	82(17.6)	188(40.4)	195(41.8)	4.24	0.74
The expectation of my superior officers from me after my career program can be regarded as	01(0.2)	04(0.9)	68(14.7)	204(44.0)	187(40.2)	4.23	0.74
Expectation of the management from me after career advancement can be regarded as	01(0.2)	15(3.2)	68(14.6)	184(39.5)	198(42.5)	4.21	0.82
My confidence for an improved service as a result of career development can be rated as	01(0.2)	09(1.9)	65(14.1)	205(44.4)	182(39.4)	4.21	0.77
Encouragement by my superior officers for me to acquire more academic knowledge in my career line can be considered as	04(0.9)	11(2.4)	75(16.1)	179(38.3)	197(42.3)	4.19	0.85
My chances of gaining promotion at work after every career program is	01(0.2)	15(3.2)	80(17.3)	175(37.7)	193(41.6)	4.17	0.84
The quality of my career development program can be rated as		13(2.8)	87(18.9)	186(40.3)	175(38.0)	4.13	0.82
Encouragement by my co-workers towards career development can be regarded as	03(0.6)	10(2.2)	79(17.1)	210(45.5)	160(34.6)	4.11	0.81
Management support for me to acquire more theoretical knowledge in my career line can be viewed as	07(1.5)	25(5.4)	88(18.8)	177(37.9)	170(36.4)	4.02	0.95
<b>Group Mean = 4.21</b>							
<b>Manpower training</b>							
The quality of my performance at work through various training can be considered as	02(0.4)	07(1.5)	73(15.9)	183(39.6)	197(42.6)	4.23	0.80
The benefit of on-the-job training given to me by my superior officer at work is		06(1.3)	85(18.3)	207(44.6)	166(35.8)	4.15	0.76
The experience which I have received from on-the-job training can be regarded as	01(0.2)	12(2.6)	79(17.0)	210(45.3)	162(34.9)	4.12	0.79
The value of job rotation given to me in the hospital to enhance my training can be rated as	01(0.2)	08(1.7)	92(19.8)	201(43.2)	163(35.1)	4.11	0.79
The level of my skill acquisition at work through training can be viewed as	03(0.6)	08(1.7)	87(18.6)	209(44.8)	160(34.3)	4.10	0.80
The level of knowledge sharing as part of training in my organization can be considered as	01(0.2)	14(3.0)	97(21.0)	197(42.6)	153(33.2)	4.05	0.82
The quality of training policy in my hospital can be regarded as		17(3.6)	100(21.4)	200(42.8)	150(32.2)	4.03	0.83
Need for my training and retraining for service delivery is	01(0.2)	28(6.0)	92(19.9)	195(42.0)	148(31.9)	3.99	0.88



The quality of training given to every new HIM professional in my department can be rated as	04(0.9)	23(5.0)	96(20.7)	206(44.3)	135(29.1)	3.96	0.88
The benefit of off-the-job training given to me by my superior officer at work	02(0.4)	19(4.1)	118(25.5)	189(40.7)	136(29.3)	3.94	0.87
The benefit of various training programs I have received through management sponsorship can be rated as	06(1.3)	34(7.3)	111(23.9)	172(37.0)	142(30.5)	3.88	0.97
Management's level of support for in-house workshops in my department can be rated as	02(0.4)	52(11.3)	104(22.6)	186(40.3)	117(25.4)	3.79	0.96
<b>Group Mean = 4.03</b>							
<b>Human capital development (Grand Mean =4.12)</b>							

**Decision rule:** 1-1.49 = very low level; 1.5-2.49 = low level; 2.5-3.49 = moderate level; 3.5-4.49 = high level; 4.5-5.0 = very high level.

The result of Table 4.4 revealed that career development and manpower training of health information management professionals had group mean scores of 4.21 and 4.03 respectively. This finding indicates that career development and manpower training of health information management professionals were high and hence, must be given attention by the management.

**Table 2: Level of service delivery by health information management professionals**

Statements To what level do you agree that...	Very Low Level	Low Level	Moderate Level	High Level	Very High Level	Mean	SD
<b>Health Statistical Input</b>							
accurate statistical report by HIM professionals has been contributing to service delivery?		04(0.9)	37(7.9)	153(32.8)	173(58.5)	4.49	0.67
the quality of health statistical input has been helping the management in informed decision making?		04(0.9)	38(8.2)	150(32.3)	273(58.7)	4.49	0.68
outpatient statistical data by HIM professionals has been contributing to service delivery		01(0.2)	40(8.6)	156(33.5)	269(57.7)	4.49	0.65
inpatient statistical data has been enhancing service delivery in this hospital?		04(0.9)	30(6.5)	178(38.3)	253(54.4)	4.46	0.66
<b>Group Mean = 4.49</b>							
<b>Ease of Health Information Access</b>							
the numbering system being used in this department has been facilitating easy retrieval of patient health information?		03(0.6)	42 (0.9)	127(27.2)	295 (63.3)	4.53	0.68
the tracer card being adopted in this department has been assisting in getting patient health records in this hospital?		09 (1.9)	51(11.0)	125(26.9)	279 (60.2)	4.45	0.76
health information is accessed by Health Information Manager (HIM) professionals in this hospital?		05(1.1)	63(13.4)	139(29.8)	260(55.7)	4.40	0.76

My knowledge of good record practices aimed at enhancing ease of health information access for service delivery can be rated as	01(0.2 )	04(0.9 )	48(10.2 )	184(39.4 )	230(49.3 )	4.37	0.72
on easy retrieval of patient health information by HIM professionals in this hospital?	01(0.2)	11(2.4)	46(9.8 )	179(38.3 )	230(49.3 )	4.34	0.77
<b>Group Mean = 4.42</b>							
<b>Patient Information Confidentiality</b>							
good health information security by HIM professionals has been boosting service delivery in this hospital?	02(0.4)	04(0.9)	45(9.6)	176(37.7)	240(51.4)	4.39	0.73
the vigilance of HIM professionals on custody of patient health records has been contributing to patient information confidentiality in this hospital?	01(0.2)	07(1.5)	56(12.0)	167(35.8)	236(50.5)	4.35	0.76
relevant information record safety being given to the patient by HIM professionals has been enhancing patient information confidentiality in this hospital?		02(0.4)	66(14.1)	200(42.8)	199(42.6)	4.28	0.71
<b>Group Mean = 4.37</b>							
<b>Quality health information documentation</b>							
the quality of health information documentation by HIM professionals has been contributing to service delivery in this hospital?		05(1.1)	42(0.9)	166(35.8)	252(54.2)	4.43	0.70
the quality of services of HIM professionals has been boosting quality clinical research activity in this hospital?	01(0.2)	10(2.1)	51(10.9)	153(32.8)	252(54.0)	4.38	0.78
the quality of clinical coding of diagnoses by HIM professionals has been enhancing service delivery in this hospital?	04(0.9)	21(4.5)	57(12.2)	163(34.9)	222(47.5)	4.24	0.89
the services of HIM professionals has been contributing to reduction in mortality in this hospital?	02(0.4)	07(1.5)	77(16.5)	194(41.5)	187(40.1)	4.19	0.79
there is reduction in patient complaint as per health information documentation by HIM professionals in this hospital?		22(4.7)	101(21.6)	188(40.3)	156(33.4)	4.02	0.86
<b>Group Mean = 4.23</b>							
<b>Reduction in Patient Length of Stay</b>							
the quality of services by HIM professionals has been reducing clinic congestions in this hospital?		04(0.9)	61(13.1)	189(40.5)	213(45.5)	4.31	0.73
the quality of outpatient appointment services by HIM professionals has been boosting service delivery In this hospital?	02(0.4)	06(1.3)	58(12.4)	191(40.9)	210(45.0)	4.29	0.76

the supportive services by HIM professionals in clinical research has been assisting in reduction of patient length of stay in this hospital?	01(0.2)	12(2.6)	86(18.4)	183(39.2)	185(39.6)	4.15	0.82
inpatient record services of HIM professionals has been contributing to reduction in patient length of stay in this hospital?	01(0.2)	12(2.6)	96(20.6)	186(39.9)	171(36.7)	4.10	0.83
<b>Group Mean = 4.21</b>							
<b>Service delivery (Grand Mean =4.45)</b>							

**Decision rule:** 1-1.49 = Very low level; 1.5-2.49 = Low level; 2.5-3.49 = Moderate level; 3.5-4.49 = High level; 4.5-5.0 = Very high level.

The result shows that health information management professionals in government teaching hospitals in Nigeria considered their level of service delivery to be high (grand mean score = 4.45). This finding implied that the indicators of service delivery of HIM professionals in government teaching hospitals in Nigeria must be enhanced.

**Table 3: Influence of human capital development on service delivery**

Model	Beta (β)	T	Sig.	R <sup>2</sup>	Adj. R <sup>2</sup>	F	ANOVA (Sig.)
(Constant)		15.929	.000	0.298	0.296	175.606	0.000
Human capital development	.546	13.252	.000				

Dependent Variable: Service delivery  
 Predictor: Human capital development  
 DF (F-Statistic) = 1, 414  
 DF (T-Statistic) = 413

**Source: Field Survey Results, 2020**

The result revealed that human capital development ( $\beta=0.546$ ,  $t(413) = 13.252$ ,  $p < 0.05$ ) has large, positive and significant influence on service delivery by health information management professionals in government teaching hospitals in Nigeria. The F-test (1, 414) is 175.606. This shows that there is sufficient evidence (significant at  $p < 0.05$ ) to substantiate the model's usefulness in predicting service delivery.

### Discussion

Research question one sought to find out the level of human capital development of health information management professionals in government teaching hospital in Nigeria. The result revealed a high level of human capital development of health information management professionals in government teaching hospital in Nigeria. The findings disagreed with that of Okumoko, Omeje and Udoh (2018). Okumoko, Omeje and Udoh (2018) found that Nigeria has performed abysmally on the United Nations human development indicators over the years.

Research question two sought to find out the level of service delivery by health information management professionals in government teaching hospitals in Nigeria. The result showed that the level of service delivery was high. However, this finding is inconsistent with earlier studies by Adebola (2013), Bloom, et al. (2004), and Avidime (2013).

The results of hypothesis revealed that human capital development had a small, positive and significant influence on service delivery by health information management professionals in government teaching hospitals in Nigeria. The study concluded that training has positive influence on service delivery. This finding is supported by studies conducted by Bapnar, Langer, Mehra, Gopal, and Gupta (2013); Arshad, and Ab-Malik (2015); Benos and Karagiannis (2016).

### **Conclusion**

The results obtained from this study have shown that human capital development is one of the predictors of service delivery of health information management professionals in government teaching hospitals in Nigeria. There was high level of service delivery due to quality manpower training and career development which HIM professionals were exposed to in their various healthcare facilities. However, much improvement can still be realized in the level of skill and knowledge acquisition which can significantly contribute to quality service delivery. Every patient deserves high quality care for increased satisfaction which also depends largely on the level of human capital development of health information management professionals in various healthcare facilities.

### **Recommendations**

The findings in this study necessitate some recommendations that are considered to be appropriate. Thus, this study recommends as follows:

1. Even though this study found that majority of health information management professionals who participated in this study in Nigeria had National Diploma in Health Information Management, the management of every healthcare facility should endeavor to encourage staff in this category and other health records staff who are not professionals to acquire higher degrees in order to enhance their capacity for greater service delivery or productivity.
2. The in-house training, job rotation, knowledge sharing, on-the-job and off-the-job training of staff should be encouraged by every Head of Department (HOD) of both government and private hospitals in Nigeria. This will foster team work and motivate Health Information Management professionals to be operating at installed capacity towards the achievement of service delivery.
3. Institutional policies on human capital development in Nigerian healthcare facilities should be enforced, reviewed and strengthened by the government to facilitate service delivery by health information management professionals in Nigeria.

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