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Research and Development Strategic Initiatives on Sustainable financing of Universal Health Coverage in Kenya

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ABSTRACT: Universal health coverage (UHC) has been observed to positively impact on the financial protection and health status of residents of countries where it is implemented. However, the concept and possibilities of UHC remains underexplored in several low resource settings globally owing to little research and development efforts, thus, limiting the implementation of UHC. This paper, therefore, sought to establish the impact of research and development strategic initiatives at the institutional level on sustainable healthcare financing of UHC in Kenya. The study adopted a descriptive research design targeting UHC stakeholder organizations including the Ministry of Health, public and private social health insurers, donor fund agencies, as well as public and private healthcare providers in the country. From these, a sample size of 234 organizations were selected using mixed sampling techniques to participate in the study. Data was collected through questionnaires and interview schedules. Data was analyzed using descriptive statistics and inferential statistics, that is, bivariate correlation and multivariate regression analysis. The study found that research and development strategic initiatives significantly influenced the sustainable financing of universal Health Coverage in Kenya. Technological Integration of medical Systems was the most influential R&D strategic initiative in predicting Sustainable Financing of UHC. This was followed by Public support for and trust in healthcare research and Potential for medical Work-Flow Process Reengineering. The study recommends that more research should be conducted at the institutional level rather than the personal level on UHC financing so as to produce high quality research.

Keywords: *universal health coverage, research and development, strategic initiatives, sustainable health financing strategies*

I. INTRODUCTION

The visibility and importance of universal health coverage (UHC) has significantly increased over the last decade. UHC interventions in middle and low-income nations have improved the access to health services. UHC is often seen to have an effect that impact positively on the financial protection and health status of residents of countries where it is implemented (Debroy& Kumar, 2015).However, the concept and possibilities of UHC remains underexplored in several low resource settings globally owing to little research and development efforts limiting the implementation of UHC. The demand for access to quality health services has been increasing over time as healthcare reforms increase and people become more aware of their entitlements from the state and what is possible for them. The scope of UHC must,therefore, go beyond treatment and also include services such as palliation, rehabilitation, promotion and prevention. Furthermore, the universal coverage of the required services cannot be achievable without universal access to health technologies and essential medicines, motivated sufficient health workers situated at the right places and information systems that permits making of informed decisions (Baral&Dieleman, 2015).

According to Mukherjee et al, (2016), if the population have to pay the full costs of obtaining the health services out of their own pockets the poor people will not be able to access these services and in the event of long term or severe illnesses even the rich would be exposed to financial constraints. To spread the financial risks of illnesses across the population, funds are pooled through insurance contributions, tax and other government revenues. Therefore, this calls for sustainable health financing. Sustainable health care financing ensures that all people access health in the country. As countries undergo their health financing transitions, moving away from external and out-of-pocket (OOP) financing

toward domestically sourced public financing, the issue of fiscal space – that is, of finding ways to increase public financing in an efficient, equitable, and sustainable manner - is front and center in the policy dialogue around universal health coverage (UHC).Effective strategies for financing healthcare are critical in achieving this goal yet it still remains a challenge in Sub-Saharan Africa (SSA). Majority of health care revenue in SSA is from direct out-of-pocket payments. However, substantial gains in sustainable health financing can be achieved through research and development.

Research and development has become a crucial tool for change in organizations today. To be innovative, research and development (R&D) is paramount. In a health care setting, research and development plays an important role in establishing better ways of dealing with diseases. Because of ever-improving health technologies and the significant attention to financialrisk protection and UHC, a number of countrieshave implemented a high cost approach to provide specialized treatment services (Rabbani et al., 2016). In a study to determine the role played by research and development in the health care sector, Wenke andMickan(2016) established that R&D plays an important role in an organization by sharpening the research skills of health care professionals. In a study linking R & D on health care outcomes, Kuruvilla, Mays, Pleasant and Walt (2006) argues that research and development helps in shaping and changing the values and beliefs of people hence success of the attainment of universal health care. Different communities have different values and beliefs that would act as a barrier in attainment of UHC. Research and development helps in reconciling these values, beliefs and practices held by community members and could be key to unlocking and implementing sustainable health financing.

Research and development strategy is the basis of innovation in the health care. This is according to Omachonu and Einspruch (2010) in a study determining how innovation influences service delivery in a health care setting. The study revealed that innovation in a health care context is majorly driven by technology. It was established that through technology, health centres are able to offer treatment and diagnostic options, enhance effectiveness and efficiency in terms of costs and enhance life expectancy that basically translates into UHC. The health care sector has realized increased complexity coupled with rapid advancement in technologies. These changes have transformed R&D in the health care sector through enhancement and modification of the systems and processes that are in place.

In spite of the significant role played by the above changes in technologies in R&D, there exists challenges include issues of privacy, legal and ethical issues that affect the attainment of UHC through R&D(Beresniak, Schmidt, Dupont, Sundgren, Kalra and De-Moor (2015). Further, in their study, Abouzeid et al., (2022) observed that several internal and external barriers affected healthcare research in the Global South (GS) countries. Among these were; barriers internal to the GS include *researcher-level barriers* such as insufficient mentorship, limited financial incentives and time constraints. *Institutional barriers* include limited availability of resources, restrictive and poorly developed research infrastructures, weak collaboration and obstructive policies and procedures. *Structural barriers* include political will, politicization of research and political instability. External barriers relate to the nature and extent of Global North (GN) activities and systems and include allocation and distribution of funding and resources, characteristics and focus of GN-GS research collaborations, and publication and information dissemination challenges.

The differences between the decision-making environment and the academic environment are a well-known phenomenon, which hasdrawn global attention (WHO, 2015). It seems that it is more the individualswithin the institutions, rather than the institutionsthemselves, who have been involved in NCDs-related research or policy drafting. Conventionally, academic public health institutes havefocused on the issues of promotion, primary prevention and primary health care, hence, leadingUHC to deal mostly with primary prevention rather than palliation services. Therefore, there has been relatively little research on sustainable health financing until recent times. Drawing on the growing body of research into health systems financing, the present study sought to establish the impact of research and development strategic initiatives at the institutional level on sustainable healthcare financing of UHC in Kenya. This was achieved by testing the hypothesis;

H01: Research and Development Strategic Initiatives have no significant effect on Sustainable Financing of Universal Health Coverage in Kenya

II.   Research Methodology

2.1Research Design

The study adopted a descriptive cross-sectional survey research design. This research design was appropriate to this study since it seeks to establish the relationship between strategic initiatives and Universal Health Coverage using both qualitative and quantitative techniques.

2.2 Target Population

The target population was multiple UHC stakeholder organizations in the healthcare industry comprising of policy makers and implementers (at the National and County Health Ministries), financiers (both NHIF and Private Insurance firms), donor fund agencies, as well as public and private healthcare providers in the country. This was owing to the fact that UHC in Kenya is meant to be delivered strategically through a multi-sectoral approach comprising both government and private sector actors. In total, the number of organizations targeted throughout the country was 565. The unit of observation consisted of the management in the organizations as they are the key decision makers entrusted with the policy interpretation and implementation function.

2.3 Sampling and Sampling Techniques

Respondents from the national and private medical insurance providers were selected using systematic random sampling while purposive sampling were used to select respondents from the international donor funds and national ministry of health. A sample size of 234 UHC stakeholder organizations was obtained using the formula proposed by Israel (2009). The sample size was then proportionally allocated across the implementing organizations size using the Neyman allocation formula.

2.4 Research Instrumentation

The study used both primary and secondary data. Primary data collection was done using a questionnaire and an interview schedule which was administered to management of the organizations. The items in the instruments were derived from constructs generated through literature survey on sustainable financing and UHC. Secondary data was collected in form of official records on UHC.

2.5 Pilot Test, Validity and Reliability of the Research Instruments

To improve on the internal validity of the study, a pilot test of the instruments was done to detect design weakness in the instrumentation for primary data. This exercise was meant to assess and refine the instruments before administering in the actual study population. The purpose of pilot testing is to establish the accuracy and appropriateness of the research design and instrumentation (Saunders, Lewis &Thornhill, 2012). Regarding the constructs used in the instrument, no construct fell below the communality value of 0.49 which is the accepted threshold value recommended by Lawshe (1975). The test of reliability of the questionnaire also showed high internal consistency with values exceeding the Cronbach threshold value of 0.7.

2.6 Data Analysis Techniques and Presentations

The quantitative data was analyzed by use of the Statistical Package for Social Scientists (SPSS). Descriptive statistics involved frequencies as percentages as well as the chi square to provide the general trends of the data. Inferential statistical analysis, on the other hand, involved bivariate correlations and bivariate regression analysis. The linear regression model assumed to hold under the equation;

$$y_{ij} = b_0 + \sum_{i=1}^{n} bixi + e$$

Where;
y = Sustainable Financing of Universal Health Coverage in Kenya
b_0 = Model Constant
x_i = Research and Development Strategic Initiatives
B_i, the coefficients of the variables to be determined by the model
e = the estimated error with zero mean and a constant variance

III.   Results

3.1 Introduction

This section presents the data analysis results and discussions. Table 1 shows the response rates.

Table 1: Response Rate

Instruments issued	Instruments returned	Percentage response (%)
234	187	80

Two hundred and forty questionnaires were administered to the respondents and one hundred and eighty seven were returned duly filled and useable for the study purposed. This represented 80% response rate and acceptable for the study. According to Nulty (2008), a response rate of over 50% is considered acceptable.

3.2 Research and Development Strategic Initiatives for Universal Health Coverage

The objective of the study was to examine the effect of research and development strategic initiatives on the Universal Health Coverage in Kenya. This objective was measured on the basis of; research quality, training and development and health products & technology. The responses were assessed through a 5-point Likert scale ranging from 1 corresponding to Strongly Disagree to 5 denoting Strongly Agree. The results are summarized in Table 1.

Table 1: Research & Development Programmes Strategy on achievement of UHC

Statement .	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	. x2	. p-value
There is strengthened public support for and trust in health and medical research	21(11)	32 (17)	74 (40)	48 (26)	12 (6)	55.41	0.033
There is improved quality in the health research process	15 (8)	27 (14)	27 (14)	79 (42)	39 (21)	181.13	0.001
We facilitate technical assistance to support the strengthening of national systems for health research	12(6)	41(22)	24(13)	88(47)	22(12)	124.56	0.019
There is high compliance with the research recommendations	22(12)	12(6)	22(12)	85(46)	46(25)	102.56	0.002
We endeavor to undertake training and development with the technological changes	14(7)	35(19)	45(24)	61(33)	32(17)	165.99	0.005
Periodic and continual refresher training for UHC have been adopted	23(12)	27(14)	37(20)	72(39)	28(15)	152.84	0.013
We apply greater technological Integration of medical Systems	12(6)	55(29)	25(13)	60(32)	35(19)	109.42	0.020
We have potential for medical Work-Flow Process Reengineering	3(2)	19(10)	87(47)	75(41)	1(1)	137.70	0.028
We have computerized health care information technology	11 (6)	13(7)	23(12)	84(45)	52(41)	45.98	0.035

The findings in Table 1 indicate that most of the respondents (40%) were uncertain on whether there was strengthened public support for and trust in health and medical research. However, 42% agreed while 21% strongly agreed that there is improved quality in the health research process. Majority of the respondents 47% of who agreed and 12% who strongly agreed indicated that their organizations facilitate technical assistance to support the strengthening of national systems for health research. There is an indication that there is high compliance with the research recommendations in the organizations as indicated by 46% who agreed and 25% who strongly agreed. Most healthcare organizations endeavor to undertake training and development with the technological changes as indicated by most respondents of who 33% agreed and 17% strongly agreed. Most of the healthcare organizations have adopted periodic and continual refresher training for UHC in their systems as indicated by 39% who agreed and 15% who strongly agreed. Hence, it is evident that the organizations were keen on developing their own local capacity to carry out R&D on health systems probably as a way of sustaining continuity of research in their operations and increase their adaptability to the changes in the operating environment.

The findings also show that most respondents agreed (33%) while 19% strongly agreed that greater technological Integration of medical Systems was also being applied by the organizations. However, there was uncertainty by most respondents (47%) on whether their organizations had potential for medical work-flow process reengineering. However, majority of the organizations had computerized health care information technology as indicated by most of the respondents who agreed (45%) and those who strongly agreed (41%). Increasing technology dependence on the healthcare management systems for R&D and operations management is evident from the findings. The results

indicating that there is improved quality in the health research process and also there is high compliance with the research recommendations in the organizations imply that the healthcare organizations supporting UHC were increasingly depending on research to improve their operations. The results imply that research and development programmes strategy was important in the achievement of Universal Health Coverage in Kenya.

3.2 Sustainable Health Financing Strategy for Universal Health Coverage in Kenya

The study also sought to find out the status of sustainable health financing strategy on Universal Health Coverage in Kenya. The responses were assessed through a 5-point Likert scale ranging from 1 corresponding to Strongly Disagree to 5 denoting Strongly Agree. The results are summarized in Table 2.

Table 2: Sustainable health financing strategy and Universal Health Coverage in Kenya

Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	. x2	p-value
The government is efficiently directing and using funds ensure equitable access to quality health services and financial protection for all.	28(15)	74(40)	12(6)	51(27)	22(12)	108.88	0.011
The government is strengthening and aligning PFM systems that determine how budgets are formulated, allocated and executed with health financing functions and health system objectives	0	46(25)	41(22)	79(42)	21(11)	77.32	0.062
Efficient and sustainable financial policies have been put in place by the government to enhance universal health coverage	14(7)	76(41)	33(18)	50(27)	14(7)	95.73	0.015
Strategies have been put in place to raise revenues that can sustainably finance universal health coverage in Kenya	44(23)	50(27)	18(10)	40(21)	35(19)	80.83	0.003
Spending targets have been put in place for the health sector to ensure sustainable financing	0	6(3)	43(23)	93(50)	45(24)	74.25	0.031
Health coverage schemes have increased access to health services for all citizens	32(17)	77(41)	11(6)	56(30)	12(6)	67.68	0.044
Health coverage schemes assures availability of quality health services among insured individuals in the country	4(2)	25(13)	68(36)	73(39)	17(9)	61.10	0.034
Monthly premium improves personal health seeking behavior	9(5)	48(26)	44(23)	67(36)	19(10)	54.53	0.035

Table 2 shows that 40% of the respondents disagreed while 15% strongly disagreed implying that the government was not efficiently directing and using funds ensure equitable access to quality health services and financial protection for all. However, there were indications that the government is strengthening and aligning PFM systems that determine how budgets are formulated, allocated and executed with health financing functions and health system objectives as indicated by most of the respondents, 42% of who agreed and 11% who strongly agreed. Further, most respondents (47%) disagreed while 7% strongly disagreed that efficient and sustainable financial policies have been put in place by the government to enhance universal health coverage.There are also indications that not enough strategies have been put in place to raise revenues that can sustainably finance universal health coverage in Kenya as indicated by most of the respondents, 27% of who disagreed with the statement and 23% who strongly agreed.

However, spending targets have been put in place for the health sector to ensure sustainable financing as implied by most respondents, 50% of who agreed and 24% who strongly disagreed. Further, 41% of the respondents disagreed while 17% strongly disagreed that with the view that health coverage schemes have increased access to health services for all citizens. The respondents, however, indicated that for the in insured individuals in the country, health coverage schemes assure availability of quality health services as indicated by 39% who agreed and 9% who strongly agreed. The findings also show that monthly premium improves personal health seeking behavior among the citizens as indicated by most respondents, 36% who agreed and 10% who strongly agreed. The findings showed that the government was not efficiently directing and using funds ensure equitable access to quality health services and financial protection for all.

3.3 Correlation and Regression Analysis

Bivariate correlation analysis was carried out to evaluate the relationships between constructs of research & development and sustainable financing ofUHC in Kenya. The findings are summarized in Table 3.

Table 3. Correlation analysis of research & development and sustainable financingof UHC

Construct	Sustainable Health Financing	
	Pearson Correlation	Sig. (2-tailed)
Public support for and trust in healthcare research	.245**	0.001
Quality of health research process	.208**	0.004
Facilitation of technical assistance for health research	.137	0.062
Compliance with research recommendations	.159*	0.030
Training and development along technological changes	.086	0.241
Adoption of periodic and continual refresher training for UHC	.121	0.099
Application of technological Integration of medical Systems	.262**	0.000
Potential for medical Work-Flow Process Reengineering	.123	0.095
Computerized health care information	.055	0.459

N = 187

Table 3 shows that four out of nine constructs of research & development variable had significant bivariate correlation with sustainable financing ofUHC in Kenya. These were Public support for and trust in healthcare research (r = .245, p = 0.001), Quality of health research process (r = .208, p = 0.004), Compliance with research recommendations (r = .159, p = 0.030), and Application of technological Integration of medical Systems (r = .262, p = 0.000). The correlations were all positive indicating that sustainable financing of UHC in Kenya would increase along each of these constructs when more emphasis was put on them.

Multivariate regression analysis was also carried out to evaluate the relationships between constructs of research & development and sustainable financing ofUHC in Kenya. The findings are summarized in Table 4.

Table 4: Regression of Research & Development on Sustainable Financingof UHC

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate		
	.439a	0.193	0.152	3.29882		
ANOVAa		Sum of Squares	df	Mean Square	F	Sig.
	Regression	460.238	9	51.138	4.699	.000b
	Residual	1926.147	177	10.882		
	Total	2386.385	186			

a Dependent Variable: Sustainable Health Financing

The results in Table 4 that the model with Research & Development as its independent variable could significantly explain up to 19.3% (R^2 = 0.193) of the variations in the achievement of Sustainable Financingof Universal Health Coverage in Kenya. The ANOVA also shows that the model fitted ($F_{o'}$ = 4.699> F_c = 1.98; α < 0.05; df = 9, 177; p < 0.05) and the prediction power of the model would increase when more predictor variables were added into the model. A summary of the model coefficients predicting the model is given Table 5.

Table 5:Summary of Model Coefficients PredictingResearch & Development and Sustainable Financingof UHC

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	18.991	3.175		5.981	0.000
Public support for and trust in healthcare research	1.018	0.431	0.177	2.363	0.019
Quality of health research process	0.720	0.444	0.133	1.621	0.107
Facilitation of technical assistance for health research	0.528	0.445	0.091	1.186	0.237

Compliance with research recommendations	0.320	0.200	0.112	1.603	0.111
Training and development along technological changes	0.264	0.238	0.077	1.108	0.269
Adoption of continual refresher training for UHC	0.238	0.349	0.053	0.682	0.496
Technological Integration of medical Systems	0.955	0.309	0.236	3.089	0.002
Potential for medical Work-Flow Process Reengineering	0.216	0.108	0.140	1.997	0.047
Computerized health care information	-0.030	0.346	-0.006	-0.087	0.931

a Dependent Variable: Sustainable Health Financing

Table 5 indicates that only three constructs were significant in the joint model predicting the effect of Research & Development Strategic Initiatives on Sustainable Financing of Universal Health Coverage in Kenya. Of these variables, Technological Integration of medical Systems was the most influential in predicting Sustainable Financing of UHC as per the beta values ($\beta = 0.236$; $p \leq 0.05$). This was followed by Public support for and trust in healthcare research ($\beta = 0.177$; $p \leq 0.05$) and Potential for medical Work-Flow Process Reengineering ($\beta = 0.140$; $p \leq 0.05$). This implies that the three Research & Developmentconstructs were important enabling Sustainable Financing of UHC. The results as per the model could, therefore, be predicted by the linear relationship;

Y = 18.991+ 1.018Public support + 0.955Technological Integration + 0.216Work-Flow Process Reengineering

Therefore, the null hypothesis;

H0₁:*Research & Development Strategic Initiativeshave no statistically significant influence on Sustainable Financing of Universal Health Coverage in Kenya*

Wasnot accepted since the results showed that the relationship between the variables was significant and also the model predicting the relationship between the two variables was linear and had significant factors.

3.4 Discussions
The findings showing that greater technological integration of medical systems was also being applied by the organizations is consistent with the view that it increasingly being recognized that R&D is strongly supported by technological capabilities. Technology also acts as a catalyst of R&D in the health care sector which helps in achievement of UHC. Gupta (2008) in a similar study linking technology as a driver of R&D strategy for attainment if UHC also identified key areas that ICT would likely on health care sector noting that technology is key driver of offshore health care services through outsourcing. According to Štaras et al., (2013), technology helps in reducing paper work, facilitates storage of huge volume of information of the patients whole at the same time reducing the time taken to retrieve the information of the patients from the data base. rapid change and advancement in technology has changed the way health care operations are conducted (Beresniak et al., 2015).

The findings on the significance of public support for and trust in healthcare researchcorroborate those of Aitken et al,, (2016) who found that there was a growing body of evidence pointing towards widespread general—though conditional—support for data linkage and data sharing for research purposes. An earlier study by Trauth et al., (2000) had shown that 46% of respondent said that they would be willing to take part in a medical research study focusing on a new treatment for a specific disease that was of concern to them. According to Huang et al., (2015)Long-term support and investment in collaboration between diverse stakeholders to create shared value is also important. From a policy perspective, medical research designed to develop new treatments for disease or funding models require an evidenced-based approach for decision making. Such an approach can only succeed if adequate numbers of individuals are willing to participate in these studies.

Further, Abouzeid et al., (2022) observe that Strong Global South (GS) health research leadership, itself both dependent on and a requisite for strong health research systems, is essential to generate locally relevant research and ensure that evidence is translated into policy and practice. Strong GS health research systems and leadership are important for health development and in turn for strong health systems.Rabbani et al., (2016) also concluded in their study that academic public health institutes must invest in transforming their conventional approach in research, education, advocacy and service provision, should they decide to play a meaningful role in reaching sustainable health development.

IV.   Conclusions
The study established that research and development strategic initiatives significantly influenced the sustainable financing of universal Health Coverage in Kenya both from a bivariate perspective and also in the joint model. Therefore, the study concludes that research and development strategy was an important component in the achievement of UHC and that strengthening of the research and development component could lead to further improvements in the achievement of universal health coverage in Kenya particularly through development of sustainable financing models.Technological Integration of medical Systems was the most influentialR&D strategic initiative in predicting

Sustainable Financing of UHC. This was followed by Public support for and trust in healthcare research and Potential for medical Work-Flow Process Reengineering.However, there were also indications that not enough strategies have been put in place to raise revenues that can sustainably finance universal health coverage in Kenya as indicated by most of the respondents. However, spending targets have been put in place for the health sector to ensure sustainable financing.

The study recommends that more research should be conducted at the institutional level rather than the personal level on UHC financing so as to produce high quality research and obtain more public support. At the institutional level, more resources can be availed and more in-depth research models spanning longer periods and across several contexts can be done.

REFERENCES

[1.] Abouzeid, M., Muthanna, A., Nuwayhid, I., El-Jardali, F., Connors, P., Habib, R. R., ...&Jabbour, S. (2022). Barriers to sustainable health research leadership in the Global South: Time for a Grand Bargain on localization of research leadership?.*Health research policy and systems*, *20*(1), 1-14.

[2.] Aitken, M., de St Jorre, J., Pagliari, C., Jepson, R., & Cunningham-Burley, S. (2016). Public responses to the sharing and linkage of health data for research purposes: a systematic review and thematic synthesis of qualitative studies. *BMC medical ethics*, *17*(1), 1-24.

[3.] Baral, R., &Dieleman, J. (2015). Framework for measuring effective coverage to monitor progress towards universal health coverage. *Annals of Global Health*, *81*(1), 64-77.

[4.] Beresniak, A., Schmidt, A., Dupont, D., Sundgren, M., Kalra, D., & De Moor, G. J. (2015). Improving performance of clinical research: development and interest of electronic health records. *BioMed Research International*, *2015*.

[5.] Debroy, B., & Kumar, A. (2015). The road to universal health coverage in India. *The Lancet*, *386*(10011), e56-e57.

[6.] Gupta, A. (2008). Prescription for change. *The Wall Street Journal*, *6*.

[7.] Huang, T. T., Cawley, J. H., Ashe, M., Costa, S. A., Frerichs, L. M., Zwicker, L., ...&Kumanyika, S. K. (2015). Mobilisation of public support for policy actions to prevent obesity. *The Lancet*, *385*(9985), 2422-2431.

[8.] Israel, G. D. (2009). *Determining Sample Size.* University of Florida IFAS extension.

[9.] Kuruvilla, S., Mays, N., Pleasant, A., & Walt, G. (2006). Describing the impact of health research: a Research Impact Framework. *BMC health services research*, *6*(1), 134.

[10.] Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel psychology*, *28*(4), 563-575.

[11.] Mukherjee, J., Satti, E., Mugunga, J., Almazor, C., & Jerome, G. (2016). Toward the implementation of universal health coverage: Introducing the partners in health's-universal health coverage matrix. *Annals of Global Health*, *82*(3), 516.

[12.] Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: what can be done?.*Assessment & evaluation in higher education*, *33*(3), 301-314.

[13.] Omachonu, V. K., &Einspruch, N. G. (2010). Innovation in healthcare delivery systems: a conceptual framework. *The Innovation Journal: The Public Sector Innovation Journal*, *15*(1), 1-20.

[14.] Rabbani, F., Shipton, L., White, F., Nuwayhid, I., London, L., Ghaffar, A., ...& Abbas, F. (2016). Schools of public health in low and middle-income countries: an imperative investment for improving the health of populations?.*BMC public health*, *16*(1), 1-12.

[15.] Saunders, M., Lewis, P., &Thornhill, A. (2012). *Research methods for business students*. Harlow: Pearson Education Ltd.

[16.] Štaras, K., Mačiulienė, M., &Stokaitė, V. (2013). Impact of Information and Communication Technologies on Delivery of Health Care Services. *Health Policy and Management*, *1*(5), 148-166.

[17.] Trauth, J. M., Musa, D., Siminoff, L., Jewell, I. K., & Ricci, E. (2000). Public attitudes regarding willingness to participate in medical research studies. *Journal of health & social policy*, *12*(2), 23-43.

[18.] Wenke, R., &Mickan, S. (2016). The role and impact of research positions within health care settings in allied health: a systematic review. *BMC Health Services Research*, *16*(1), 1-10.

[19.] World health organization (2015). UniversalHealth Coverage. Establishing urban primary healthcare experience from Iran.http://www.emro.who.int/about-who/universal-health-coverage/#programme.