

# *Evaluation of Community Pharmacist-Based Differentiated Care in HIV/AIDS Management Services in Nigeria from 1980 to 2022: A Narrative Review*

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## Abstract

The World Health Organization promotion of community pharmacist-based global strategy to increase access to ART prompted the differentiated care model to meet the target of HIV/AIDS while maintaining quality of care. Published literature has highlights of the involvement with sparse information on the community pharmacists in Rivers State. This study evaluates the community pharmacist's involvement in the differentiated care services in the Nigeria setting. This narrative review evaluates the community pharmacist's differentiated care. Literatures retrieved from computerized databases using related search terms. Data retrieved were entered into Microsoft Excel sheet and summarized to present the differentiated care services and their gaps with the aim of developing interventions to facilitate the management of HIV/AIDS. A total of 263 articles were selected from the 305 articles retrieved (86.2% selection rate). All selected articles fell after the year 1980, indicating the novel implication of differentiated care. Majority of the studies are intervention studies and their reviews. The community pharmacists-base differentiated service delivery is a successful approach to meeting the needs of clients in HIV/AIDS management. The initiation of certain services not currently employed will provide good interventions to a robust HIV/AIDS management in Nigeria.

**Keywords:** HIV/AIDS; Differentiated care; Pharmaceutical care; Clinical Pharmacy; Public health.

## Introduction

The human immunodeficiency virus (HIV) infections and immune-deficiency syndrome (AIDS) constituted a major global public health concern having claimed more than 35 million people worldwide especially in developing countries [1]. The international advocacy of the WHO global funding to fight HIV gained momentum resulting in the promotion of access to Anti-retroviral therapy (ART) through the President's Emergency Plan for AIDS Relief (PEPFAR) and its scale-up. This significantly reduced morbidity and mortality, and the prevention of individual with suppressed viral load transmitting the virus to others [2]. It is reported that of the 20.9 million of people living with AIDS (PLWHA) accessing antiretroviral therapy only 62% are adhering to their medication worldwide [3]. In Nigerian, only a little fraction of the estimated 3.5 million of the PLWHA has access to ART [4]. Access to ART and retention in HIV care

and treatment received set back because of overcrowding of public health care facilities, long distance to care centers amidst stigmatization [2]. Patient counseling with access to antiretroviral agents has been identified as key strategies in HIV/AIDS prevention and survival of infected individuals [5], expanding the universal access to these strategies are therefore critical steps to achieving HIV/AIDS vision 2020 which aims at ending AIDS episode by 2030 [6]. The long waiting and queuing time experienced in health facilities with large patient cohorts with limited human resources resulting client dissatisfaction and reduced retention on treatment call for the decongestion of health systems to improve the quality of care, adherence to antiretroviral therapy and retention to enhance the HIV/AIDS eradication [7]. Community pharmacies are possible outlet for improved access to HIV services since the community pharmacists dwell in the community among the people interact with them daily and are highly respected in the community [8]. This resulted in the rec-

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ommendation of the community pharmacists-based ART WHO strategy for ending HIV/AIDS by 2030 that promoted the overwhelmingly supply of the community based ART. This is justified because it seems to be the only strategy for bringing the delivery of HIV treatment services closer to the people to ensure ART uptake while decongesting the burdened public health facilities [6]. The HIV management has changed drastically and enhanced by antiretroviral medication with the introduction of differentiated care [9]. The differentiated care is a client –centered approach that help HIV services to better individual needs and reduced unnecessary burden on the health systems [5]. The crucial role of the ART in the management of HIV is enhanced by pharmacists involvement in maintaining continuity and the processes of safe medication therapy of anti-retroviral [10].

The community-based strategy of assessing anti-retroviral therapy was informed by the sub-optimal retention in ART care and poor adherence to medication and overcrowding of health facilities [3]. In Nigeria, the expanded ART treatment overburdened the health system and birthed the differentiated service delivery that addressed the challenges of access to ART, quality of care and treatment outcome for PLWHA [11]. The model of the community drug distribution points for clients on ART produced 95% adherence and a CD4 count greater than 350 cells/mm [3]. PLHIV receiving ART through DSD models offered better treatment retention and viral suppression rates. Differentiated care as defined is a client-center approach that simplified and adapts HIV services across the cascade, in ways that both serve the need of the PLWHA better and reduce unnecessary burden on the health system [12]. This approach resulted in savings in the time spent at facilities and the transport costs associated with more frequent visits [13].

The introduction of the community pharmacy-based ART refill model where stable clients were dissolved to community pharmacy for a routine refills at a service fee, promoted the private sector participation and sustain the ART services [14]. Community pharmacies are licensed in Nigeria by the Pharmacy Council of Nigeria (PCN) and are highly accessible to the public and had shown excellent refill of ART, retention rates and viral suppression in HIV management. However with this great success, disadvantages recorded include loss of access to ancillary services, reduced opportunity for interactions with providers and increased risk of disclosures [15].

This study described the community pharmacists-based differentiated care services in HIV/AIDS management in Nigeria.

## Methods

**Study area:** The study covered prior works on the community pharmacists-base differentiated services in HIV/AIDS management from 1980-2022.

**Review question:** What are the benefits derived from the differentiated services in the community pharmacists-based management of HIV/AIDS in the Nigeria.

**Study population and type of study included:** Studies that passed the eligibility criteria and were found in databases such as Google Scholar, PubMed and CINAHL were included in the study.

**Eligibility criteria:** Studies published in English Language Studies related to community pharmacists-base differentiated services in HIV/AIDS management. Studies published between 1980- and 2022.

**Ineligibility criteria:** Studies not published in English Language Studies outside the scope of the study. Studies with conflict of interest stated.

**Study design:** Study was a narrative overview of studies related to community pharmacists-base differentiated services in HIV/AIDS management in Nigeria.

**Information sources:** Literature search was conducted using Google Scholar, PubMed and CINAHL.

**Article search process:** The search reviewed relevant journals and articles on differentiated services in HIV/AIDS management from 1980 to 2022. The search terms included key words, set synonyms in databases relating to differentiated services in HIV/AIDS management. Three main databases were considered namely: Google Scholar, PubMed and CINAHL; Abstract and full-text articles were obtained. A total of 305 articles were obtained relating to differentiated service delivery in HIV/AIDS management. These articles were then assessed for eligibility. These databases were selected based on convenience and ease of access.

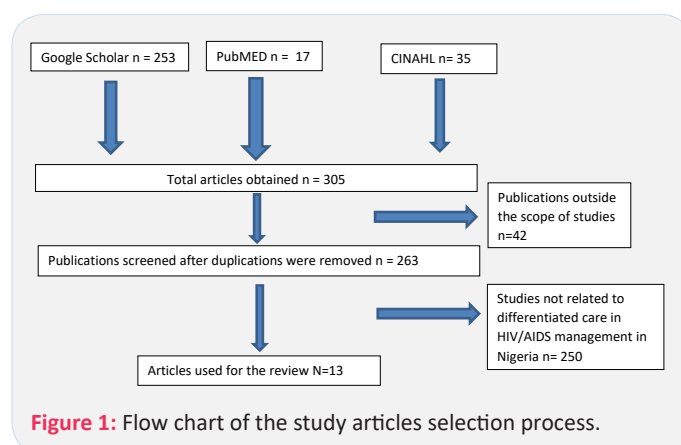
**Ethical approval:** No ethical approval was obtained for the study.

**Study articles selection process:** A total of 305 articles were obtained relating to differentiated service delivery in HIV/AIDS management; 253 from Google Scholar, 17 from PubMed and 35 from CINAHL. These were assessed based on the eligibility criteria. Duplicate articles were removed and on further screening, a total of 13 articles used for the review.

**Data analyses:** The data extracted from the selected articles were entered into a spreadsheet for statistical analysis. The variables registered for each articles and reference noted.

## Discussion

**Overview of community pharmacists based differentiated care in HIV/AIDS management services in Nigeria:** Differentiated care services a Client-centered approach improved the health system efficiency through tailoring HIV care to the needs of individual client improving their outcome and the quality of HIV care. This resulted in saving the time spent at facilities and associated transport cost. The community pharmacists-base differentiated services provided route to early diagnosis through initiation of test kits available in pharmacies, elimination performance errors associated with the clients self-testing kits. The interpretations of results were also readily made and utilized. The recommended injectable long acting Cabanuva® was an added innovation to HIV differentiated care services. The accessibility of pharmacies in the community readily provided counseling for



## Results

**Table 1:** Evidence based table of community pharmacists based differentiated care services in HIV/AIDS management studies.

Refer- ence	Title	Location	Design	Year of publica- tion	Study outcomes	Inclusion	Study Recommendations	Study instrument
Ajagu, et al, 2017	Expanding HIV/AIDS care service sites; a cross sectional survey of community pharmacists' view in South-East Nigeria. Journal of Pharmaceutical policy and practice.	South-East Nigeria.	A descrip- tive cross- sectional survey/	2017	Community Pharmacists are knowledgably and are willing to be involved in the services care.	Registered community pharmacist currently practicing	More pharmacists should be empowered to be involved.	Questionnaire
Odimegwuet al, 2017.	HIV-Stigma in Nigeria. Review of Research studies. Policies and programs. AIDS Research and Treatment vol 2017.	Nigeria	Reviews of articles on HIV/AIDS discrimination	2017	Elimination of Stigma and discrimination strategy are crucial strategies.	Qualitative and quantitative studies on HIV discrimination	Anti HIV Stigma is advocated.	Data base Search including PubMed, Africa journal online
Kayode and Babatunde, 2021.	Cabenuva®: Differentiated services delivery and the community pharmacists' roles in achieving UNAIDS 2030 target in Nigeria.	Nigeria	Explorative study of	2021	Community pharmacists should be involved in injectable ART		Implementation of Differentiated services highly advocated	Explorative search of data base
Avonget al., 2018.	Integrating community pharmacy into community based anti-retroviral theory program: A pilot implementation in Abuja, Nigeria.	North central	Ethnographic research/Bio demographic and clinical book keeping study	2018	The use of community pharmacists feasible.	Pharmacists willing to participate in study	Study for cost effectiveness of Differentiated study advocated	Book keeping study of recorded data on laptops supplied.
Daparetai, 2019.	Community pharmacy based model for HIV care and services. Attitude and perception of practitioners in Jos, Nigeria.	North central	A cross-sectional survey.	2019	Willingness and perception positive	Registered pharmacist practicing in Jos.	Right attitude of community pharmacists should be sustained	Questionnaire
Ekechukwu, 2019	Community pharmacists' knowledge of HIV/AIDS. Management and practices of Standard Precaution (A case of community pharmacists in Abuja municipal Area council Nigeria).	North Central	A cross-sectional study	2019	Knowledge and practice poor	Registered community pharmacists in Abuja.	HIV management should be integrated in curriculum of Community pharmacists continue educated.	Questionnaire
Ahmed et al, 2021	The economic impact of pharmacists care for people living with HIV/AIDS. A Systematic review.	Nigeria	A systematic review	2021	Good returns of investment in Differentiated services	Original research on pharmacists managed services in English	Policy on cost effectiveness advocated	PRISMA guideline
Olusola et al, 2021.	Differentiated services delivery models among PLHIV in Akwalbom and Cross River State, Nigeria during the COVID-19 pandemic. Descriptive analysis of pragmatic data.	South-south	A retrospective cohort study was conducted among patients devolved to DSD	2021	DSD enhances the management of HIV	All PLHIV enrolled in one of the DSD models up to 30 December 2020	Scale-up of DSD highly advocated.	Identified data were extracted from Lafiya Management Information System (LAMIS), an electronic medical record database
Asieba et al, 2021.	Antiretroviral therapy in community pharmacies-Implementation and outcomes of a differentiated drug delivery model in Nigeria.	Nigeria	A retrospective analysis of community pharmacy	2021	Community pharmacy ART refill model feasible	Participants dissolved from the 244 clinics	Client financial contribution is highly commendable	Analysis through population approach
Kolawole et al, 2017.	Patient experiences of decentralized HIV Treatment and care in Plateau State, North Central Nigeria. A quantitative Study.	North-Central	Qualitative study of patients experiences	2017	Decentralization of DSD enhances the access to ART	Purposeful selection of participants	Transition to Community pharmacists based differentiated care advocated.	Interviews and focus group audio recording and transcription

Mgbahurike and Amadi, 2020.	Assessment of the role of community pharmacists in Management of HIV Positive individuals in the Southern Region of Nigeria.	South-south	A cross-sectional survey	2020	Pharmacists well positioned for DSD	Registered community pharmacists in Rivers state.	Effective management through counseling and educated advocated	Structured questionnaire
Ogochukwu et al, 2014	Satisfaction of Hiv Patients with Pharmacy services in South Eastern Nigeria Hospitals	South-east	Cross sectional survey	2014	Client satisfaction is high	Pharmacists services	Client satisfaction crucial	Questionnaire
Oseni and Erhun, 2021	Assessing community pharmacists' involvement and clients' opinion on HIV/AIDS services in community pharmacies in Nigeria: A cross-sectional survey.	South-west.	Across-sectional survey	2021	Pharmacists involvement poor. High willingness to participate.	Community pharmacists registered and clients willing to participate.	HIV Status knowledge advocated	Semi structured questionnaire

**Table 2:** Study types.

S/N	Description of items	N	%
1	Descriptive study	9	69.2
2	Reviews	2	15.4
3	Explorative study	1	7.7
4	Ethnographic study	1	7.7
5	TOTAL	13	100

**Table 3:** Study focus.

S/N	Description of items	N	(%)
1	Knowledge based of community pharmacists	2	15.4
2	Stigma/Discrimination of HIV patients'	1	7.6
3	Pharmacists usefulness in DSD	3	23.1
4	Pharmacists willingness to participate in DSD	2	15.4
5	DSD place in the management of HIV	2	15.4
6	DSD Decentralization to community pharmacy	1	7.6
7	Client satisfaction in DSD	1	7.6
8	Services Rendered by community pharmacists	1	7.6
8	TOTAL	13	100

**Table 4:** Study Instrument in the studies.

S/N	Description of items	N	%
1	Questionnaire	6	46.2
2	Database searches	3	23.1
3	Book keeping study	2	15.4
4	Population approach	1	7.7
5	Interviews and focus group	1	7.7
6	TOTAL	13	100

patients to ensure compliance and ART adherence and patient satisfaction promoting high retention rates in HIV/AIDS care.

However, the literature studies shows that studies so far done in Nigeria indicated that Point-of care viral load testing, Injectable administration of the long acting ART, Fee for service Home service ART distributions and the pharmacists managed Group community clubs are not carried out among the identified differentiated services. The new innovative electronic Anti-

**Table 5:** Geographical location of studies.

S/N	Description of items	N	%
1	Nigeria nationwide	4	30.8
2	North-central	4	30.8
3	South-East	2	15.4
4	South-West	1	7.7
5	South-South	2	15.4
6	TOTAL	13	100

**Table 6:** Shows services of community pharmacists in the management of HIV/AIDS in Rivers State [16].

Services	Frequency	Percentage
Medication refill	30	100
Counsel on medication adherence	24	80
HIV testing Point of care	0	0
Education on HIV prevention/behavioural modification	12	40
Referral to tests to monitor treatment progress	15	50
Interpretation of test results to assess treatment response	16	53.3
Documentation of patient's medication history	18	60
Blood pressure monitoring	30	100
Point-of-care viral load testing	0	0
Injectable administration of Long acting Cabanuva®	0	0
Fee for service Home service ART distribution	0	0
Pharmacists managed Group of community Club	0	0

retroviral Therapy Adherence monitoring intervention as practiced in Uganda [17], could also be an advantaged differentiated service delivery in the pharmacists-base management service in Nigeria.

**Studies of community pharmacist based differentiated care in Nigeria:** Investigation of evidence based studies of the community pharmacists based differentiated studies in Nigeria engaged researchers attention to determine the knowledge, perceptions and attitude of community pharmacists to Differentiated care services in the management of HIV/AIDS in Ni-



geria. The extent of the services rendered by pharmacists in these services, the involvement of community pharmacists, will provide the understanding the feasibility, adoption, appropriateness, fidelity, penetration/coverage, cost and sustainability of the differentiated care services in the management of HIV/AIDS in Nigeria. This is highly indicated in Table 1. The retrieved evidence as in Table 2 shows that majority (69.2%) were original researches of descriptive studies of differentiated care services the studies while 15.4% were reviews that evaluated the studies carried out in Differentiated care services. The survey also reveals that explorative studies and ethnographic studies were 7.7 each. Investigative windows in Nigeria are opened to the exploration of the field in HIV/AIDS management in Nigeria to ensure that we leverage on the fight to end the HIV pandemic in 2030.

The focus of studies on community pharmacists differentiated care services provided the realistic need to broadened the HIV management profile in Nigeria, studies so far reveals that focuses is mainly on the knowledge of community pharmacists in HIV care( 15.4%) [8], usefulness of pharmacists in the services (23.1%) [6,11], the willingness of pharmacists to be involved (15.4%) [7,19], the useful demonstrated (15.4), Stigmatization and discrimination barriers on the HIV treatment (7.6%) [4] and clients satisfaction 7.6% [18]. In all only one study investigated the services rendered by community pharmacists [16] (Table 3).

The majority (46.2%) of the studies used the questionnaire as data collection instrument Table 4, indicative that quantitative research was high in the research profile of differentiated care services. Interview and focus group of qualitative research were also implored.

The studies geographical location shows that in the North–Central geopolitical zone of Nigeria have the highest (30.8%) expressed by the high prevalence of HIV/AIDS in that area Table 5. The studies are shifting to the South-East and South-South of Nigeria. It is imperative that research touch light should be directed to more areas.

The attention needs to be focused on the services rendered by community pharmacists in the differentiated care services in HIV/AIDS management. The only study that investigated the services [16] provided a need for further studied required in this area to ensure adequate information required in decision making and policies on HIV/AIDS management and critical thinking in professional practice that will promote the success in the eradication of HIV/AIDS in Nigeria.

## Conclusion

The differentiated service delivery is a successful approach to meeting clients need in HIV/AIDS management.

The services not identified among existing in Nigeria could be initiated to provide robust community pharmacists-base differentiated services in HIV/AIDS management in Rivers State.

**Limitation to the study:** The searches carried out were related to community pharmacists'-base differentiated services in HIV/AIDS management in Rivers State, some relevant articles containing details may have been omitted. Search terms used during the searches may have resulted in certain omission.

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