



Exploring Care Pathways for Hypertensive Patients at Government Sub-district Health Facility in Bangladesh: A Qualitative Study

Final Report of Summative Learning Project (SLP) presented to the BRAC James P Grant
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Abbreviation

COREQ	Consolidated Criteria for Reporting Qualitative Research
BP	Blood Pressure
ESP	Essential Service Package
HCP	Health Care Provider
HTN	Hypertension
IDI	In-depth Interview
IHD	Ischaemic Heart Disease
LMIC	Low- and Middle-Income Country
NCD	Non-communicable Disease
NGO	Non-Governmental Organization
PHC	Primary Health Care
POC	Point of Care
QoC	Quality of Care
RMO	Resident Medical Officer
UHC	Upazila Health Complex
WB	World Bank
WHF	World Health Federation
WHO	World Health Organization

Abstract

Introduction: Hypertension prevalence is 26.4% in Bangladesh (Naheed et al., 2018), which is a significant contributor to high morbidity and mortality. The rising prevalence and current state of NCD intervention at the primary healthcare (PHC) level are often insufficient to manage the condition. Therefore, understanding the care pathways that patients navigate throughout their lives is crucial for managing this disease.

Methods: This facility-based qualitative exploratory study was conducted at the Upazila Health Complex in Keraniganj, Dhaka, Bangladesh Applying convenient sampling a total 24 in-depth interviews were conducted with respondents visiting the NCD corner of the UHC during from November 22, 2024 to December 11, 2024. Descriptive statistics about the respondents were evaluated using STATA V17. Thematic analysis of the interviews was done.

Findings: Majority of the respondents were aged 40-69 years, female, married and lived in peri-urban areas. A significant portion had no formal education (37.5%), and most were unemployed (75%). Respondents navigating a complex pathway. Among all respondents, we have identified four points of hypertensive care pathways. As their first contact for care services, 50.0% of the respondents had consultations with drug sellers. The remaining, 22.7% at private practitioner's care, 4.5% at tertiary care, and 27.3% at UHC for their first point of care. Only 5 of them, continue their services at UHC. Then, simultaneously, the second point 9 of them reached UHC, the third point 8 of them, and at final point 2 of them reached UHC after all the transition. The main care providers identified are UHC, drug sellers, private practitioners, tertiary, and traditional healers. Most respondents delayed seeking care due to attributing symptoms to other diseases, managing the symptoms through self-management. Factors such as accessibility, and affordability played a main role for decision-making to choose each service. UHCs were preferred for their affordability, accessibility and ability to manage comorbidities. Although respondents rated UHC services as good, still they mentioned challenges regarding the unavailability of essential medicine. They viewed this condition as a burden as it caused health issues as well as a financial burden.

Conclusion: The majority of the respondents with hypertension in Bangladesh access various categories of providers before reaching UHC care, and use a diverse range of pathways and loops,

which results in a delay or missing appropriate care. We hope that our findings are useful for planning interventions to improve access to hypertension care in general, in Bangladesh.

Keywords: Pathways, Care pathways, Pathways to hypertensive care, Hypertension, Non-communicable disease, Upazila health complex, Primary healthcare, Bangladesh.

Background

Introduction

A Care Pathway is a systematic strategy for attaining the planned and integrated provision of care for patients with specific diagnoses over an extended duration of time (Schrijvers et al., 2012; Vanhaecht et al., 2007). The sequence of activities, choices, and medical encounters that a patient experiences from the beginning of symptoms to the diagnosis, treatment, and continuing care of a medical problem is also referred to as the care pathway. Applying care pathways can enhance patient and provider outcomes, including quicker diagnosis, consistent treatment, fewer errors, cost reduction, and improved job satisfaction for healthcare providers (Schrijvers et al., 2012). It also helps reveal the obstacles patients face, the reasons behind their decisions to seek particular forms of care, and their overall experiences with the healthcare system. The management of chronic conditions, such as non-communicable diseases, requires continuous, coordinated care from multiple providers and settings, making this especially important. Through this study, we explore the care pathways of hypertensive patients in the context of Bangladesh.

One of the most pressing public health issues of the century is non-communicable diseases (NCDs), is the leading cause of death worldwide, accounting for 74% of all deaths in 2019 compared to 61% in 2000 (WHO, 2023). In South Asian region, NCDs cause between one third to two-thirds of all deaths and disability (Siegel et al., 2014). Hypertension is a major NCD that leads to high rates of illness and death worldwide. Over 1.28 billion adults aged 30-79 have hypertension globally which accounts for 9.4 million deaths annually (Pius Al et al., 2021; WHO, 2024). It is often referred to as a “Silent Killer” (World Heart Federation, n.d.).

In low-income countries, hypertension is more prevalent compared to high-income countries, and its rate is increasing (Naheed et al., 2018). The overall hypertension prevalence is around 27% across South Asia (Naheed et al., 2018; Neupane et al., 2014).

Literature review

In Bangladesh, the prevalence of hypertension is 26.4% (Naheed et al., 2018). The majority of this portion remains undiagnosed and untreated (Naheed et al., 2018; Neupane et al.,

2014). Untreated hypertension can have serious negative effects on one's health including heart disease, stroke, renal failure, and early mortality (Elliott, 2003). Also, it can have detrimental effects on the economy as well.

This is further complicated by Bangladesh's pluralistic health system, with government, private, and non-governmental organizations (NGOs) providing services along with poorly regulated informal providers making it challenging to deliver integrated non-communicable disease services effectively (Ahmed et al., 2024). Furthermore, patients primarily try to seek services from informal sectors and when those services are not satisfactory, they reach formal healthcare services. Again, due to inadequate health services in government healthcare facilities, many patients are diverted to private healthcare services. This exacerbates the growing financial burden, negative health outcomes and well-being of patients and their families. This complicated structure of the healthcare system leads to poor health outcomes and a substantial economic burden on NCD patients.

LMICs like Bangladesh have a high burden of communicable and non-communicable diseases which is placing additional strain on the country's healthcare system (Islam et al., 2023). Due to inadequate infrastructure for NCD care, many developing countries are struggling to provide proper services. Similarly, Bangladesh's health system is ill-equipped to meet the increasing burden of NCDs as well (Ahmed et al., 2024). While there is a national policy and strategy for NCD care in Bangladesh, it is often lacking adequate services for NCD patients. Primary health care (PHC) facilities such as Upazila Health Complex (UHC) offer an ideal window for prevention and continuity of care for NCDs through NCD corners. This initiative began in 2012, aimed to address NCDs through preventive services for chronic diseases and some cancers. However, much like the over-stretched government facilities in general, NCD corners' success is impeded by lack of resources, staff and equipment (Ahmed et al., 2024).

Several studies in LMICs focus on patients' care pathways and management for hypertension and address the barriers to accessing healthcare for example inadequate services, long distances, and long waiting times in healthcare facilities (Legido-Quigley et al., 2019; Perera et al., 2019). Due to the lack of structured healthcare pathways, many hypertension patients discontinue treatment.

Studies in rural Bangladesh mentioned that patients from rural areas mainly rely on informal healthcare providers or self-medicine which complicates their condition (Naheed et al.,

2018). Studies also mentioned a patient's financial constraints as a barrier to afford medication and management of hypertension (Jafar et al., 2017; Naheed et al., 2018). Therefore, in Bangladesh managing hypertension remains a challenge, particularly in areas where healthcare access is restricted.

A qualitative study on hypertension patient care pathways in Sri Lanka, Bangladesh, and Pakistan explored several issues, however, it may not be contextualized information specific to each country. There is a need for a qualitative perspective in the context of Bangladesh.

Pathway studies underscore the help-seeking behavior of patients with physical and mental illnesses. Some studies on pathways to care of psychiatric patients have been conducted globally (Gater et al., 1991). However, there is a scarcity of literature on care pathways of hypertension in Bangladesh in qualitative perspectives. Our review revealed that there are some literature focusing on care pathways for mental health disorders (Giasuddin et al., 2012; Nuri et al., 2018), preeclampsia and eclampsia (Dempsey et al., 2021), tuberculosis (Shatil et al., 2019) and only one qualitative study on hypertension (Naheed et al., 2018) in the context of Bangladesh. We have found that limited qualitative data exists for hypertensive care pathway, which account for a substantial burden of disease and mortality in the country.

The study by Naheed et al., (2018) discussed three main care pathways and found limited knowledge among patients who rely on informal care pathways. However, the study did not fully explore the socio-cultural and economic barriers influencing patients' decisions to choose any particular care pathway. The study highlights the gaps and needs for a comprehensive qualitative investigation into the patient's journey through healthcare systems, examining the reasons and barriers behind their healthcare provider selection and continuing and delaying of using healthcare services.

Justification

Understanding the experiences of hypertensive patients in Bangladesh is required to address both behavioral and structural barriers to care. Even though hypertension is frequently asymptomatic in its early stages, it needs to be managed for life, thus following medication instructions and scheduling routine checkups is crucial to maintain health. Since NCDs have a particular chronicity, rising prevalence and current NCD interventions at the primary healthcare (PHC) level are often insufficient to manage them fully (Ahmed et al., 2024). Therefore,

understanding the care pathways that patients navigate throughout their lives is crucial for managing these diseases. Also, policymakers, program designers, and healthcare practitioners require comprehensive information to create effective, context-specific solutions, including understanding the factors influencing patients' care-seeking behaviors, the challenges they face, and the barriers they overcome to access care and services.

The study aims to investigate the impact of these pathways on individuals' care-seeking behavior, health outcomes, and financial and mental well-being. This knowledge is essential to developing an equitable health system that addresses the unique needs of chronic disease patients. Such an approach is especially important in low- and middle-resource settings.

Conceptual framework

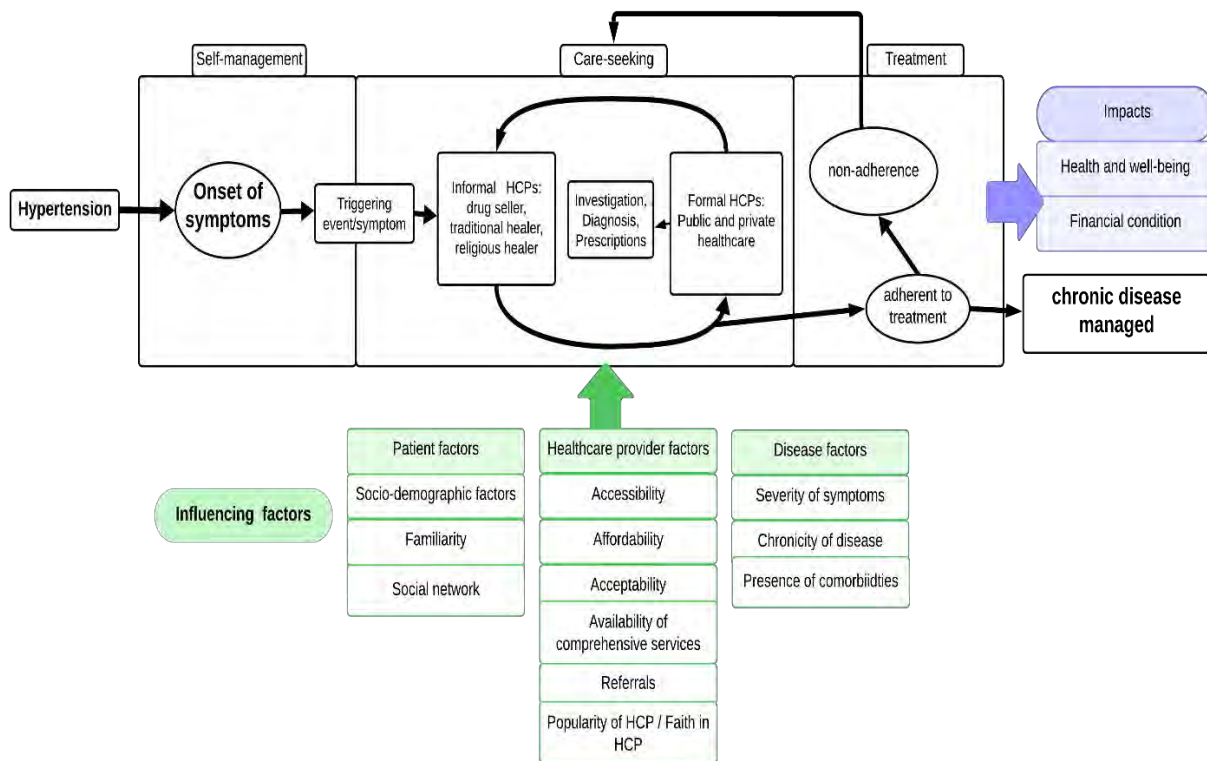


Figure 1: Care Pathways of diabetic patients, influencing factors and its impacts (Adapted from (Scott et al., 2013), with insights from (Naheed et al., 2018))

This study's **Patient Care Pathway Framework** is adapted from the Model of Pathways to Treatment (Scott et al., 2013), a validated approach for analyzing patient-reported pathways to diagnosis and initial treatment. It also incorporates insights from the framework used in a study

on patient pathways and perceptions of hypertension treatment, management, and control in rural Bangladesh (Naheed et al., 2018).

According to this framework, hypertensive patients first manage the symptoms without medical intervention, in the **self-management** phase once they have the first symptom(s) of hypertension. However, a **triggering event**, which could also be the worsening of the symptom(s), will prompt the patient to no longer delay seeking care. This will lead the patient to encounter different delivery points in the **care-seeking phase**. These delivery points could be formal healthcare providers such as a physician of a government facility, non-governmental organisation, or private facility. It could also be informal healthcare providers, comprising drug-sellers, traditional healers, and religious healers in the context of Bangladesh. The service delivery points will offer treatment for the patients' condition; however, only registered physicians can make a confirmed diagnosis. Patients may navigate between different providers during this phase. Some patients adhere to the prescribed treatment, while others may not. Additionally, some patients who initially adhere to treatment may later become non-adherent, restarting the care-seeking process. Various **influencing factors** shape the care pathway, including **patient factor** including their demographic and socio-economic and cultural factors (e.g., age, gender, socioeconomic status, familiarity with the service delivery point, their social networks etc.), **healthcare provider factors** (e.g. affordability, accessibility, acceptability, etc.) and **disease-related factors** (e.g. the severity and chronicity of the disease; the presence of other comorbid conditions). These factors play a significant role in determining the service points. The pathways navigated by patients can significantly affect their health outcomes and financial imperatives, shaping their overall well-being.

Research questions

1. What are the care pathways encountered by patients with hypertension in a selected sub-district government healthcare facility in Bangladesh and what are the main service delivery points in these care pathways?
2. What are the various factors influencing care pathways of patients with hypertension?
3. What are the impacts of these pathways on treatment outcomes of the patients?

Objectives

General

To explore the patient care pathways, identify the main service delivery points, factors influencing the pathways and its impact on hypertensive patient outcomes in a selected sub-district government healthcare facility.

Specific

1.1 To understand the care pathways of hypertensive patients have to navigate to seek treatment.

1.2 To identify the different service delivery points in the Hypertensive patients care pathways where they sought treatment.

2.1 To explore the various factors that influence care pathways of hypertensive patients.

2.2 To determine the time needed from the beginning of the illness to reach a particular service

delivery point in the care pathways, including underlying factors of such journeys.

2.3 To explore their experience at different points of the care pathways.

3.1 To explore the impact of the care pathways encountered on their health and well-being including financial imperatives.

Methodology

Study design

This study was a facility-based qualitative exploratory study. Exit interviews were conducted with eligible respondents to explore the care pathways and experiences of hypertensive patients.

Study site and settings

The study was conducted at Keraniganj Upazila Health Complex (UHC) in Keraniganj, Dhaka, Bangladesh. Keraniganj is a sub-district (or Upazila) of Dhaka District in central Bangladesh (Annex 2, for area map). It is situated on the southern outskirts of the capital city of Dhaka, separated by the Buriganga River. The area is well-connected by roads and waterways. This proximity to Dhaka makes Keraniganj a blend of urban and rural, also making it a gateway for people traveling between Dhaka and nearby rural areas. The healthcare landscape of Keraniganj has a mix of government-run health facilities, such as the UHC, private clinics, and informal healthcare providers. The UHC, since its establishment in 1984, serves as a vital primary Health care provider (HCP) for this population. For these characteristics, and the study team's convenience, this facility had been chosen.

The UHC in which the study was conducted is a 50-bed government hospital offering outpatient, inpatient, emergency, and surgical services, pathology, pharmacy, and ambulance support. These facilities are designed to cater to the health needs of the population by providing an Essential Service Package (ESP), which includes an NCD corner where the research team was able to reach potential hypertensive respondents from diverse demographic backgrounds.

Study population

Hypertensive patients who visited the UHC's NCD corner on the days of data collection and completed service uptake were part of the sampling frame. They were included in the exit interview if they fulfilled the inclusion criteria for the study.

Inclusion criteria

- Patients above the age of 18 who can give their consent
- Patients suffering from hypertension for more than 6 months and diagnosed with hypertension
- Patients who have had a consultation with the doctor at the UHC and are about to exit
- Patients who agreed to participate in this study

Exclusion criteria

- Hypertensive patients who appear to be severely ill

- Patients who were advised for urgent admission to the hospital but had refused, which also signifies that they are severely ill
- Pre-eclampsia and Eclampsia in pregnant women as they have the disease of interest which might resolve when the gestation period has ended and thus will no longer need care for this
- Patients of the same household
- Patients with any disability, as it is not possible to explore their special needs to healthcare access within the limited scope of this study
- Patients under 18 years of age who cannot provide consent
- Patients who are unwilling to participate

Sampling technique and sample size

This study adopted a convenient sampling approach and interviewed 24 eligible respondents to understand their pathways to healthcare in the management of hypertension. The choice of convenience sampling was primarily driven by constraints related to time, resources, and budget, which limited the feasibility of including a wider coverage of sample with more diverse populations. However, the sample size was adequate for meaningful insights, as participants were selected to represent diverse healthcare-seeking behaviors, including interactions with informal and formal healthcare providers. The interviews with these 24 respondents thus provided a rich dataset, representing varied illness experiences, self-management practices, and healthcare-seeking behaviors. Diversity in the sample ensured that key themes, challenges, and influencing factors could be identified while gaining an in-depth understanding of hypertension management in the context studied.

Development of tools

The guideline was developed in line with concepts of other pathway studies (Nuri et al., 2018) and this study's Patient Care Pathway framework (Figure 1). The major domains of the tool included respondent's (i) perception of their health condition, (ii) factors influencing their choice of healthcare provider, (iii) experience with the service delivery points, (iv) impact on health, well-being and financial imperatives, and (v) their expectations for better care for diabetes from the service delivery points. The tool was developed in English and translated into Bangla by the

researchers (native Bangla speakers). The interview guide was piloted with individuals in the study setting, and necessary adjustments were made before the final data collection.

Data collection tool

Exit interviews were conducted using an in-depth interview (IDI) tool (Annex 3). Data collection tools have both open-ended and closed-ended questions. The tool focused on the onset of symptoms, respondents' self-management practices before seeking healthcare, influences on their choice of HCP, experiences at each point of care, impact the pathway had on their health, well-being and financial condition, and their suggestions for the improvement in their care. It also contained close-ended questions to collect some quantitative data (e.g., socio-demographic information, duration of illness, referral to each provider, duration of treatment under each provider, satisfaction with present point of care). Both qualitative and some quantitative data were collected with this tool in order to comprehensively visualise the data.

Data collection process

Data collection took place from November 21, 2024, to December 11, 2024. The study team collected data from the UHC on weekdays including Saturday from 10 AM until 2 PM, as the NCD corner closed at 2 PM. Patients were first identified as having consulted at the NCD corner, as they generally carried the NCD corner patient book (a green book used to record clinical signs, symptoms, findings, prescriptions, and date for the next follow-up visit) with them. They were then identified as hypertensive when it was observed that they were receiving the hypertension medication (Losartan and Amlodipine) from the UHC pharmacy which was on the same floor as the NCD corner. These patients, if willing to participate, were approached as they exited the NCD corner after collecting their medication. Each day we approached 10-15 patients. However, there was a high non-response rate, as most patients had to go to work early in the morning, or were women who had left housework and/or children unattended at home.

Patients willing to participate were then interviewed primarily in a room within the UHC, and otherwise in the seating area adjacent to the NCD corner, or a nearby spot close to their home or workplace which was easily accessible by the study team (See Annex for interview locations), after respondents had provided consent and met the eligibility criteria for the study. The interviews would span 25-60 minutes each. Attendants were allowed to be present at the time of

the interview, if that was more comfortable for the respondent. At the end of the interview, the respondents were given a copy of the information sheet (with details of the study, and study team's contact information) and a signed copy of their consent form.

Data quality assurance and management

To ensure data quality, debriefing sessions were held after each day's data collection. Interviews were transcribed on the same day they were conducted. To reflect on the interviewer's reflexivity and positionality, the study team followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) Checklist's (Tong et al., 2007) Domain 1 (See Annex 10). Self-awareness and recognition of how one's own history, experiences, and beliefs may affect the study process are referred to as reflexivity. Understanding how factors like gender, class, education, and professional standing impact the study and participant interactions is known as positionality. The research team can add to a more moral credible body of qualitative knowledge by recognising these.

At the time of writing the report, this 32-item tool was again reviewed, to assess and ensure reporting on this qualitative study comprehensively.

To maintain the safety of the data, the data was stored securely on password-protected laptops and encrypted servers at the BRAC James P Grant School of Public Health, as well as in internal cloud storage. The signed consent forms were kept in a locked storage area accessible only to the study team.

Data analysis

During the study, interviews were conducted in Bangla and audio-recorded with prior written consent. All interviews were transcribed directly into English. The study team familiarised themselves with the data. A codebook (Annexure 6) had been created with initial a priori codes drawn from existing literature and the tools, and new inductive codes emerging from the interviews were added. Transcripts were coded using the software Dedoose. Using a combination of inductive and deductive codes, patterns and themes were identified and organized into a data matrix (Annexure 7). Themes were developed through a thematic analysis approach (Annexure 8), as was done by Nuri et al. (2018) in their study on care pathways for Bangladeshi mental health patients, as well as the IDI guide and this study's Care Pathway framework (Figure 1).

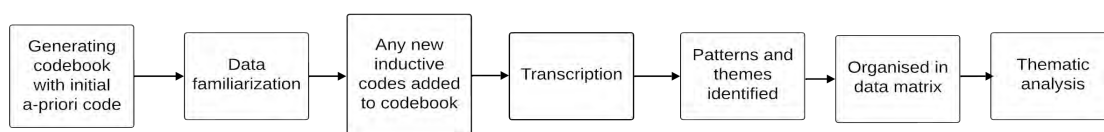


Figure 2: Qualitative data analysis plan

Quantitative data collected through the IDIs were directly entered into an English format, and descriptive statistics about the respondents' response were analysed using STATA V17.

Ethical consideration

Ethical clearance of this study was obtained from the IRB of BRAC James P Grant School of Public Health, Brac University. Written permission was secured from both the UHC authority, the Residential Medical Officer of Upazila Health Complex and the Civil Surgeon's Office. During the study, interviewers read informed consent forms in Bangla to all respondents (Annexure 5). Respondents were recruited after providing written informed consent (by signing the consent form or providing a thumbprint) for participation and audio recording. Respondents were ensured that they could refuse to answer any question and withdraw from the study at any time without repercussion. Confidentiality was maintained using pseudonyms in the report.

Findings

This report presents findings in several sections, which include-

- A. Demographic characteristics of the respondents,
- B. Pathways of Care seeking practices,
- C. Factors influencing the choice of healthcare provider and care seeking practices including perception of health condition and delay in care-seeking,
- D. Experience at all service delivery points
- E. Impact of the care pathways encountered on their health and well-being and financial imperatives

A combination of quantitative and qualitative data was obtained to get a comprehensive picture of the care pathways of hypertensive patients. Our findings have been presented below.

A. Demographic characteristics of the respondents

The majority of respondents were aged 40-69 years (70.8%) and were female (70.8%), with most being married (79.2%), Muslim (79.2%) and living in a peri-urban setting (75.0%). Approximately two-thirds (37.5%) of the respondents had no formal education. Most of the respondents were not working (75%). Among those who were employed, four respondents either did not want to share, could not recall, or had no fixed income, while one respondent reported monthly income ranged between 11000 to 15000 and another reported earning more than 20000 per income. Out of total respondents, 14 could not or chose not to share their household monthly income. Majority of households had 1 to 5 members, and only one household had 10 or more members. Half of the respondents (12 out of 24) identified their spouse as household head, while 11 respondents identified themselves as the household head. Around half of the respondents (54%) had a duration of illness of 2-5 years and a significant portion (75%) were suffering from comorbidities.

Table 1: Respondents' demographic characteristics

Variable	N=24	Percentage (%)
Age (in years)		
25-39	3	12.5
40-54	10	41.7
55-69	8	33.3
70-84	3	12.5
Sex		
Male	7	29.2
Female	17	70.8
Marital status		
Married	19	79.2
Ever married ¹	5	20.8
Religion		
Islam	19	79.2
Hinduism	5	20.8
Residence		
Rural ²	6	25.0
Periurban ³	18	75.0
Education		
No formal education	9	37.5

Variable	N=24	Percentage (%)
Less than primary	5	20.8
Primary	8	33.3
Secondary	1	4.2
More than secondary	1	4.2
Employment status		
Currently working ⁴	6	25.0
Not working ⁵	18	75.0
Present monthly income (in BDT)		
11,000-15,000	1	4.0
16,000-20,000	0	0
More than 20,000	1	4.2
Cannot/Could not share ⁶	4	16.7
Average household monthly income (in BDT)		
Less than 5000	2	8.3
5,000-10,000	3	12.5
11,000-15,000	1	4.2
16,000-20,000	2	8.3
More than 20,000	2	8.3
Cannot/Could not share ⁶	14	58.3
Total number of household members		
1-5	19	79.2
6-9	4	16.7
10 and above	1	4.2
Relation to household head⁸		
Self	11	45.8
Spouse	12	50
Parents	3	12.5
Duration of illness		
Under 1 year	3	12.5
2-5 years	13	54.2
6-10 years	4	16.7
More than 10 years	4	16.7
Comorbidities⁷	18	75

¹ Separated/Divorced/Widowed

² Rural areas are typically characterized by low population density, agricultural or natural landscapes, and limited infrastructure.

³ Peri Urban areas are transitional zones between urban and rural areas, where rural and urban features overlap.

⁴ Auto rickshaw puller, carpenter, farmers, day-laborers, persons in business and trade, and others

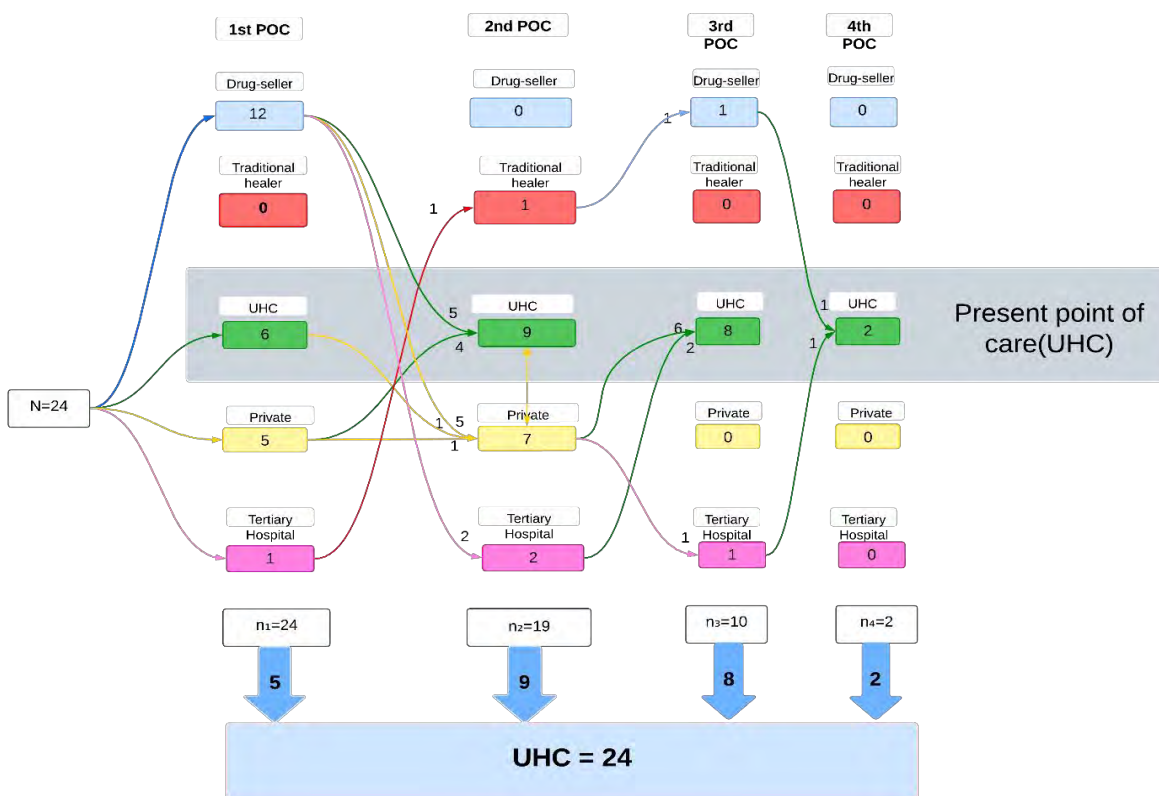
⁵ Individuals who are not involved in any income-generating activities including homemakers, and retired persons

⁶ Cannot share: Respondent does not want to share. Could not share: No fixed income, cannot recall or not earning

⁷ Presence of comorbidities like: diabetes, cerebrovascular disease, ischaemic heart disease, chronic kidney disease, thyroid disorders and others

⁸ Total percentage will exceed 100 as there are multiple responses for Relation to household head variable

B. Pathway of care-seeking practices



n_{1-5} refers to the total number of respondents at each point of care

Figure 3 Healthcare pathways of Hypertensive patients showing the distribution of respondents across different points of care (POC) and healthcare providers (Reconstruction of the pathways presented by Nuri et al. (2018))

This section provides a comprehensive picture of the healthcare pathways of hypertensive patients. Data were collected from 24 respondents at UHC, to understand their pathways/journeys for the hypertensive treatment process. The care pathways up to the point

hypertensive patients arrived at the UHC are shown in figure (Figure-3). The duration and complexity of these pathways varied among different respondents. Since, data was collected at UHC, the pathways were considered to end here. The maximum number of care points for some respondents was four, while five respondents completed their care journey with only one point of care. Five main healthcare providers are involved across the pathways: Drug seller, Traditional healer, UHC, Private practitioners and Tertiary hospitals. Here, the total number of respondents at each point of care was represented by n_1 , n_2 , n_3 , n_4 . Among these, those who continued using UHC services were 5,9,8, and 2 respectively, for each of the four POC.

First step

Among the 24 respondents who sought care for hypertension, half of the them (12) initiated their care with drug sellers. Out of the remaining respondents, five initiated their care with a private practitioner, and one respondent consulted at a government tertiary hospital. The other six respondents initially went to the UHC, where they started their care pathways. Among six respondents, five of them completed their care pathway, without seeking additional points of care.

Second step

As five of the 24 respondents had finished their pathway at the UHC, the remaining nineteen respondents moved to their second point of care. Respondents who had started with drug sellers, among them five respondents switched to UHC, five respondents to a private practitioner and the other two respondents switched to a tertiary hospital at the 2nd POC. Similarly, 5 respondents who took service from a private practitioner as its 1st POC, 4 respondents switched to UHC, and one respondent switched to a private practitioner at the 2nd POC. Only one respondent transitioned from UHC to a private practitioner. Similarly, only one transitioned from a tertiary hospital to a traditional healer (i.e. Kobiraj). However, an exception was one respondent who simultaneously sought care from both private practitioner and UHC. By doing so, a significant number of respondents (9 out of 19; 47.4%) had again opted for UHC at this stage and completed their care pathway, without additional points of care.

Third step

As 14 out of 24 respondents had finished their pathway at the UHC, the remaining ten respondents continued their healthcare journey to the third point of care. Of these, one transitioned from a traditional healer to a drug seller and another one transitioned from a private practitioner to a tertiary hospital. Of the remaining respondents, eight eventually reached the UHC—six transitioning from a private practitioner and two from a tertiary hospital.

Fourth step

In the final point of care, 2 remaining respondents finally concluded their path at the UHC, having previously taken treatment from a drug seller and a tertiary hospital.

Steps were taken to reach the UHC

A total of five out of 24 respondents sought out the UHC as their first and current point of care in their care-seeking pathway, followed by nine in the second point, eight in the third point, and two in the fourth and final point of care. Notably, one respondent received care simultaneously from both the UHC and a private practitioner (as the 2nd point of care).

Number of respondents consulting each provider category

The majority of the respondents sought treatment from multiple healthcare providers. Formal providers included the UHC, tertiary-level hospitals, and private practitioners, while informal providers consisted of traditional healers and drug sellers. We calculated the total number of respondents who consulted each category of healthcare provider at all different points in their care-seeking pathway (Figure 4). Among the 24 respondents, 4 visited tertiary hospitals, 13 sought care from drug sellers, and 12 consulted with private practitioners at some point in their healthcare-seeking pathways. UHC was the most frequently visited provider, followed by private practitioners. Among informal care providers, drug sellers were most commonly consulted. Currently, all 24 respondents are receiving ongoing care at UHC, although, one of them also received services from private practitioners simultaneously.

Duration of care at each HCP

We tabulated how long patients stayed with a particular provider (Table 2). Duration of care was explored to understand their continuity of care. Majority (20 out of 22; 83%) of the respondents had been receiving care for more than one year from the UHC. Half of these respondents (12; 50%) had been under treatment for 1-2 years, while 8 respondents had continued care for over two years. Private practitioners were commonly consulted for shorter-term care, with five out of 13 respondents receiving care for less than one year. However, an almost equal proportion sought care for 1-2 years and over two years. Tertiary hospitals had a smaller size (n=4) but showed a similar mix of short-term and long-term care. Drug sellers were consulted for hypertension care in short-term, with seven out of 13 respondents receiving care for less than one year. In one instance, the patient continued seeking care from a traditional healer for about 2 years.

Table 2: Duration of care received at each service point*

Healthcare providers	Duration of care					
	<1 years		1-2 years		>2 years	
	N=18	%	N=21	%	N=16	%
UHC (n=24)	4	16.7%	12	50.0%	8	33.3%
Private practitioner (n=12)	5	41.7%	4	33.3%	4	33.3%
Tertiary level hospital(n=4)	2	50.0%	1	25.0%	1	25.0%
Drug seller(n=13)	7	53.8%	3	23.1%	3	23.1%
Traditional healer ¹ (n=1)			1	100%		

¹ Kobiraj *multiple response

C. Factors influencing the choice of healthcare provider and care seeking practices

C.1. Perception of health condition (severity of illness) and delay in care-seeking, diagnosis

This section provides a comprehensive picture of the perception of the health condition of 24 hypertensive patients in Keraniganj, Dhaka. It focuses on their perceptions regarding the onset of symptoms, self-management practices, delay in care-seeking, triggering events that led them to seek care from healthcare providers, and go through the process of diagnosis.

C.1.1. Perceived onset of symptoms

The journey of experiencing hypertension often begins with certain common symptoms. Among the 24 respondents, 20 reported experiencing similar symptoms such as headache, neck pain, dizziness, and restlessness. At the onset of illness, all of the respondents experienced light symptoms and increased over time. One respondent described the onset as follows:

When the pressure (Blood pressure) starts, my eyes feel heavy repeatedly, and there's a tingling sensation throughout my body (Sorir er vitore ekta Jhakuni lagto). My pressure (Blood pressure) level was 159, 160. My body was shaking, it felt like I was being pushed. I felt head and neck pain, I felt dizzy. (53 years old, Male, Hypertensive for 1 year)

However, four respondents were asymptomatic. Additionally, some of those who reported common symptoms also mentioned experiencing other symptoms including blurry vision, excessive sweating, and an overall strange sensation in the body or feeling discomfort. One respondent described the onset as follows:

"My blood pressure went so high that I couldn't see anything clearly, and my body felt strange (Chukhe muhkhe kemon je lagse). I felt dizzy when my blood pressure rises. At that time, my head feels strange, my body feels off, and my head becomes heavy." (75, Female, 2 years)

For many, the symptoms significantly disrupted their daily lives, creating barriers to normal functioning. One respondent did not associate these symptoms with hypertension but instead attributed them to her improper sleeping habits. They frequently attributed their symptoms to unrelated causes, delaying their medical care. For example, one respondent shared:

“I was suffering from neck pain, and I thought it was my sleeping habit. But then, my head started hurting(headache), and my body felt strange.” (40, Female, 3 years)

C.1.2. Preliminary or self-management

Before initiating their healthcare pathway with service providers, many respondents had opted for the self-management phase. Self-management here refers to the actions the respondents took to manage or alleviate their symptoms independently, without direct intervention from an HCP for hypertension specifically. Out of 24 respondents, 14 relied on self-care before visiting the facilities, average range was 7 days to 1.5 years, we found that the duration of self-management practices among females were longer compared to males. Among these 14 respondents, 10 were female and 4 were male. Common practices during this phase include consuming sour items like tamarind juice or lemon juice, and applying oil, cream, or water onto their forehead. Respondents also used symptomatic treatments by their own, such as painkillers for headaches without prescription. For example, one respondent mentioned that:

“I always kept sour items like tamarind at home because I knew that when my blood pressure got very high, there's was a risk of a stroke. These things helped to reduce my pressure (BP), and I used them whenever I felt it rising. Also, I apply oil/water on my head to cool down and took napa tablet” (37 years old, Female, Hypertensive for 8 years)

Only two respondents were exceptional as they tended to rest or sit idly in response to their sickness. On top of this, 10 of out 24 were asymptomatic and did not take care of their symptoms.

For example, a 52-year-old female respondent, suddenly fell sick and ended up worsening her condition as she did not perceive any need for treatment. As a result, her family admitted her to the hospital. On the other hand, another 60-year-old male, had a similar experience after he was found severely ill, his family took him to the hospital. However, his wife had taken care of him when his symptoms were mild, ensuring he received basic attention and

The findings highlight a notable trend in which the wives of hypertensive patients play a key role in encouraging self-management practices. However, females did manage by themselves and we found that the duration of self-management practices among females were longer compared to males. This highlights the existing gender gap in health-seeking behavior within our society. Women often do not seek or receive healthcare until their illness becomes critical, as there is frequently no one to provide them with care in the early stages. In contrast, men often have caregivers—typically their wives—who ensure they receive attention even before their condition worsens. This disparity underscores the need for societal change to ensure women have equal access to timely healthcare and support.

C.1.3. Delay in care-seeking

Overall, we grouped the respondents' statements by reasons for delay in seeking out a healthcare provider for their hypertensive symptoms. The most recurring reasons were as follows.

Before diagnosis: 1. Believing their symptoms were not severe enough, 2. Attributing their symptoms to other causes.

Even after a diagnosis test indicates high blood pressure: 1. Assuming that there is no such thing as high pressure it will resolve on its own.

C.1.4. Events that triggered the journey on to the healthcare pathway

Followed by self-care, at certain points of their illness journey, respondents ended their self-management period as they could not manage it anymore, and symptoms worsened. It is due to certain triggered events that initiate their healthcare journey. An event that triggered symptoms or worsened their severity often promoted respondents to seek care. In some cases, symptoms gradually worsened over time, leading to a critical moment when patients felt compelled to act. This push may also have been advice to seek care, from their **social network**. Many participants reported their family members, and neighbours giving them information about why and where they should seek care. This information may have come from a referral (formal or informal) for another disease condition too, for example, one respondent said:

“My back felt hot, especially behind my head. I sweated so much, that it seemed like every 30 minutes, my shirt soaked with water. Then I measured my blood pressure at the drug sellers, and they suggested me to visit a specialist doctor.” (48 years old, Female, Hypertensive for 2 years)

An exception to this is the respondents who were asymptomatic and then had an incidental diagnosis while taking treatment for another disease while taking treatment for another disease such as cold/fever or during a follow-up for diabetes or ischaemic heart disease. Some triggering events were a blend of these reasons too (symptoms and referral). It could also have been an advice from their social network. For example, one respondent was experiencing symptoms of hypertension neck pain, and dizziness, measured his BP at a drug seller was found it high, his friends suggested to visit a specialist doctor. Oftentimes, other than oneself, the decision to seek healthcare depended on family members. For some respondents, the decision to go the first point of care had been made by the respondent's spouse, family members, and their children.

C.1.5. Diagnosis process

The most common pathway for diagnosing hypertension that we found here was measuring the Blood pressure at drug sellers, whenever they felt uncomfortable or had symptoms they visited the nearest drug seller. Some exceptions to this are the respondents who were asymptomatic and then had an incidental diagnosis while taking care of another disease such as a cold/fever, or during follow-up for diabetes. Others knew about their situation while they had had surgery or during their pregnancy period. Additionally, even after diagnosis for some respondent's hypertension remained unmanaged. For example, one respondent stated:

“20 years back, when I had a miscarriage that time, I learned Doctors informed me that I had high blood pressure. but I did not take the medicine. I didn't take the medicine because I didn't know how to read, I was a fool. I am from the Village and don't understand these things well.” (69 years old, Female, Hypertensive for 20 years)

C.2. Factors influencing the decision-making of the process

This section explains the factors influencing the decision-making process of the 24 respondents regarding their healthcare pathways. It describes what influenced their choices, and the reasons

behind their decisions to seek care for managing hypertension which are tabulated in table 3. The choice of healthcare provider among respondents was influenced by various factors like “push and pull factors”, which varied across provider types.

Table 3 Factors influencing the decision-making of the process (N=24)

Variables	UHC	Private practitioner	Tertiary	Drug seller	Traditional healer
Accessibility (Distance and time and travel cost*	24	6	4	12	1
Cost of Service/Affordability*	24	9	1	10	1
Acceptability*	7	13	0	15	1
Social Network ¹ /referrals*	18	10	0	1	1
Previous experience*	15	5	1	5	0
Popularity of HCP/Faith in HCP*	17	2	0	16	0
Availability of comprehensive care*	19	1	4	0	0

* Multiple responses per respondent were collected

¹ Here social network refers to the relationships and interactions among individuals and groups in a community built through shared activities and/or communication.

C.2.1. Accessibility (Distance, time and travel cost)

Accessibility to healthcare facilities played a crucial role in respondent’s decisions to seek care. It emerged as a significant determinant, like distance, time, and travel cost. Many respondents preferred facilities that were easy access. For example, some chose nearby healthcare services due to reduced travel time and lower travel costs. When it came to selecting UHC, accessibility was a major factor (Table 3). Almost all respondents mentioned visiting the UHC because it was

close to their homes, cost-effective, and allowed them to visit alone. Respondents mentioned about the distance from their home to UHC was not far, needed less travel cost and time compare to others (Table 4).

Additionally, lack of accessibility played a significant role in decision to switch the healthcare services. Here, small portion of respondents (6 out of 24) initially opted for private facilities as it was accessible. However, they eventually shifted to UHC, due to higher distance and costs associated with private services. Respondents sought services from tertiary when needed, though accessibility posed a challenge for some. One respondent initially chose traditional healer because it was convenient. However, after her husband passed away, she lost her means of accessibility and could no longer continue with that option. Similarly, half of the respondents reported that due to the long distance, including treatment cost, they left private practitioners even though treatment was ‘good’ in that service point. One respondent said:

“First, when I fainted my husband took me to the Dhaka clinic with my husband. Then I switched from one doctor to another doctor, whoever was easily accessible, At that time I didn't have any issues because my husband was alive, and took me to the services. They prescribed me the medicine I followed their suggested medicine, then switched to UHC as my husband died and I can't travel alone. Continuing this UHC services.” (62 years old, Female, Hypertensive for 12 years)

C.2.2. Affordability

Cost is one of the major factor respondents need to consider before choosing a certain service provider. Due to lack of affordability, they choose those service which is less costly, as most of the respondents are from poor economic conditions. Although, some of them started with private practitioners or tertiary hospital, they left as they could not bear the cost of treatment. Even family members are not willing to support financially as they are serving for long time. It was another major factor, especially for those relying on UHC (24 out of 24) and drug sellers (10 out of 24). All of them are now consistent at UHC as it is less expensive. Respondents preferred to choose UHC services because of their free medicine services and prices of the laboratory cost is low compared to private. Respondents discontinued the treatment from private due to high cost. They mentioned:

“I could buy medicine for just one week, but I couldn’t afford it the next week. The family income is low, and I also have other things to buy. So, I couldn’t buy the medicine all the time. Then, neighbors told me that UHC provides free medicine here, and that’s why I started coming here.”(37years old, Female, Hypertensive for 8 years)

C.2.3. Acceptability

Acceptability refers to the cultural, social and personal preferences of the providers, particularly their ability to create a comfortable and respectful environment. When patients find that align their values or beliefs, then they choose this provider. Private practitioner and drug sellers were more acceptable to respondents because of their better communication and patient-friendly behavior. Many respondents valued the attention given by private practitioner, even if it was more expensive. While some respondents were satisfied with the care at UHC, others mentioned that it was difficult for women who maintain “Pordha” (religious boundary) to see a male doctor there, they feel uncomfortable.

C.2.4. Social network and referral

Social networks and referrals play an important role in healthcare choices, especially for UHC. Among 24 respondents, 18 mentioned that their decisions were influenced by friends, family, or neighbors who recommended or guided them to seek care at UHC. Respondent who sought care from traditional healers, also mentioned that her daughter suggested her to visit traditional healer.

C.2.5. Familiarity

A respondent's prior interaction with a healthcare provider significantly influences future choices. Positive experiences often resulted in respondents returning to the same provider. For example, a respondent shared,

“Here at UHC, though it's govt. provided treatment but the doctors are good, the quality of treatment is good, they do investigation then provide treatment. My family and I had an experience here; we received services from this place, which helped us overcome our issues.” (53 years old, Male, Hypertensive for 3 years)

C.2.6. Popularity of HCP/Faith in HCP

Popularity and Faith in the healthcare provider was another determining factor, particularly for UHC and drug sellers. Respondents frequently trusted drug sellers for minor illnesses or as a first point of care as they were easily accessible and affordable but when the severity increased, they switched to different facilities. More than half of the respondents visited UHC after they heard doctors here are good and provide medicine.

C.2.7. Availability of comprehensive services

Respondents reported that they preferred those service points where comprehensive services are available. They referred that some specialised and tertiary hospital had these facilities, but those are not affordable, so they chose UHC. Its ability to provide diabetes and hypertension care under one roof was appealing to many. Most of the respondents, 18 out of 24 seeking care from UHC because they can get comprehensive care such as medicine for both diabetic and hypertension.

“The hospital in Mirpur was far from my home, so I decided to shift my care to the UHC, which is closer to where I live now. My daughter and other family members also told me about this hospital where I can get free medicine for both diabetic and pressure.” (60 years old, Female, Hypertensive for 10 years)

C.2.8. Severity of symptoms

The severity of symptoms was critical in decisions to seek private or tertiary care. Respondents reported turning to these options when they perceived their condition as serious or when symptoms did not improve with initial treatment. Then someone else from their family decided for them to where to go. As one respondent noted,

“I was planning to visit my daughter's house, then I felt sick, my body was not feeling okay. then my husband took me to the nearest pharmacy then came home but again in the afternoon my situation got worse so my family took me to the general hospital, my eyes were blurred, I felt my body was not functioning. Doctors did some tests, ECG, and gave me some injections also.” (52 years old, Female, Hypertensive for 3 years)

D. Experience at all points of care

This section outlines respondent's experience throughout their healthcare pathways. It highlights their experience at each care service.

D.1. Drug seller

Among 24 respondents, a total of 13 respondents had sought services from drug sellers at some point in their care pathways journey. Mostly they were the local drug sellers. The quality of service they received was satisfactory as it was near to their place, affordable, and acceptable. While most found the service to be adequate sometimes, when the severity increases, they decided to switch to a doctor. Some found it was also costly; they could not afford that. Additionally, respondents preferred to measure their blood pressure at the drug seller but sought expert advice for further guidance. For example, one mentioned:

“When my pressure (Blood pressure) was high I felt dizzy, and my body felt weak and restless (Ostir-ostir lagsa)...I checked my BP here at the drug seller, I did not bring any medicine from there, because they are not doctors, I just wanted to know whether my BP was normal or high, so I went there for a check-up. The pharmacist measured my BP. It was high, they said to take pressure (BP) medicine regularly, and they suggested that me to visit doctor.” (53 years old, Male, Hypertensive for 3 years)

D.2. Traditional healer

Only one respondent sought care from a traditional healer (Kobiraj) and was satisfied with the service. She said would continue relying on the Kobiraj unless she faced difficulties accessing or affording the care. She believed her condition improved after following the traditional healer's advice. Sharing her experience, she said:

“I ate it (followed the remedy traditional healer Kobiraj gave) for some days, and it was fine. But after my husband passed away, who will bring it for me? That's why I don't take it anymore.” (69 years old, Female, Hypertensive for 20 years)

D.3. Private practitioner

Among 24 respondents, a total of 12 respondents had sought services from private practitioner at some point in their care pathways journey. Almost all the respondents who visited private facilities were satisfied with their services but due to cost, they did not continue that. One respondent said:

“This private hospital treatment effective to control my symptoms, their behavior good. Even if this hospital provided good services but there, I need money that I cannot afford.” (60 years old, Female, Hypertensive for 10 years)

One of the respondent mentioned that once there was a discount on consultation fees and diagnostics, she went to check but she was disappointed and helpless because the cost was out of her budget.

D.4. Tertiary hospital

Among 24 respondents, a total of 4 respondents had sought services from tertiary hospitals at some point in their care pathways journey. The reasons behind visiting tertiary care were severity of illness mainly. Respondents found their services were good but due to distance, they moved to other facilities.

D.5. UHC

In our study, the final point of care was UHC, where the respondents received their last consultation. Therefore, we have asked some additional questions regarding satisfaction and service experience. Their experience is described thoroughly.

The majority of respondents (15 out of 24) rated the quality of care at UHC as "Good,". However, with 7 respondents described it as "Mix experience" and, a small percentage found it "Poor," highlighting room for improvement in service delivery (Table 5). Many respondents expressed satisfaction with the care they received at UHC (NCD corner), as it provided comprehensive treatment for both hypertension and diabetes. They emphasized how treatment at the UHC (NCD corner) had positively impacted their health. Some of the respondent appreciated the continuity of care at UHC and the convenience of free medication. The availability of low-cost diagnostic services was another aspect respondents found beneficial. A respondent shared,

“Yes, they provide good services. Last time, when I had a fever for a long period, around 10 days, I came here for my diabetes and hypertension follow-up. I asked the doctor to

give me a dengue test, because if I do that test outside, it would cost much more money. That's why I requested the doctor, and he wrote it on my prescription. Now they even do kidney tests here, which they didn't do before. In a government hospital, the tests and everything are less expensive; outside, it's really high.” (65 years old, Male, Hypertensive for 3 years)

Furthermore, most consultations (16 out 24, 66.7%) lasted between 2-5 minutes, with only 3 respondents (12.5%) extending to 6-10 minutes, and 20.8% lasting less than 2 minutes. Longer consultation times (>10 minutes) were absent, indicating constraints in the time healthcare providers spent with each respondent. One respondent mentioned:

“Last visit doctors prescribed me an X-ray but nobody explained to me that, today doctors were asking me about the X-ray report but I did not know that x-ray was written on my book.” (80 years old, Female, Hypertensive for 20 years)

While 19 out of 24 respondents felt the consultation duration was adequate, five found it inadequate, reflecting a need for more thorough interactions. However, one respondent was mentioning that, doctors just took less than one minute to check, for example they felt like the doctors gave them very little time—just about the amount of time it takes to turn a page of a book. This could be the reason for lack of communication between doctors and patients. The recurring issue was the lack of communication about prescribed medications. Respondent mentioned that,

“For the past two months, I have been taking two types of medicine for my blood pressure—one I bought and the other they gave me here. They never tell me that the medicine they gave me is for blood pressure. They just give it to me and tell me to continue taking it regularly. If they don't mention it, how will I know what I'm taking the medicine for?... When I asked to the doctor, the doctor said this medicine is for blood pressure. Then I started worrying, thinking, what have I done? I took extra medicine for two months.” (48 years old, Female, Hypertensive for 1 years)

Encouragingly, all respondents (100%) reported feeling respected by healthcare providers and noted that their privacy was maintained during consultations, demonstrating positive

interpersonal care aspects. However, some respondents faced challenges that made their experience less satisfactory. A lack of flexibility in the medication distribution process was highlighted by one respondent:

“I always come on the 21st of every month, but once I went to the UHC 10 days before because one of my medicine packets got lost, and I couldn’t find it. I wasn’t able to get my medicine. So, I asked the doctor to prescribe the medicine again. He replied, ‘It’s not mine uncle house demand (Mama Barir Abdar), that I get medicine extra.’ He did not give me the medicine. Then I bought the medicine from a pharmacy, but this medicine is not the same as the UHC one. I have no choice; I have to take that.” (53 years old, Male, Hypertensive for 1 year)

Again, among the essential medicine that is unavailable medicine. Respondents were unhappy about the situation that they came here for free medicine but now they have to buy medicine from outside.

Table 5 Satisfaction with quality of care at last consultation at UHC

Variable	N=24	Percentage (%)
Perception of quality of care		
Good	15	62.5
Mix	7	29.2
Poor	2	8.3
Duration of consultation (in minutes)		
< 2	5	20.8
2-5	16	66.7
6-10	3	12.5
Perception of consultation duration		
Adequate	19	79.2
Not adequate	5	20.8
Feeling respected by the HCPs	24	100

Variable	N=24	Percentage (%)
Privacy was maintained during the consultation	24	100

Expectation from UHC

Available medicine: Respondents' express frustration at having to purchase additional medication and stress that a reliable supply from government hospitals would greatly benefit both them and their families.

"If I got full course medicine from the government, that would help me a lot, as I have mentioned my son does not buy his medicine, and prefers to bring mine. It will help my son as well." (62 years old, Female, Hypertensive for 12 years)

Seating arrangement for elderly patients: Elderly patients face challenges during long waits for their check-ups, often sitting on the ground due to the lack of proper seating arrangements. They recommend prioritizing aged patients and providing suitable seating to improve their experience.

Increased manpower: Respondents feel that more manpower would enhance services quality and ensure timely and comprehensive care.

Clear medicine instructions:

The Story of Suchi (Pseudonym)

Suchi, a 48-year-old woman, had been living with hypertension for two months.

The UHC (Upazila Health Complex) was conveniently located within walking distance of her home. Though she primarily relied on the drug seller for hypertension care, she would occasionally visit the UHC for acute ailments like fever or cold. One day, when she developed a fever, she decided to visit the UHC instead of the drug store. During this visit, the healthcare providers discovered her blood pressure was high. Without explaining the diagnosis, they

prescribed her antihypertensive medication and advised her to follow up monthly.

Without fully understanding the implications, Suchi began taking the newly prescribed medication from the UHC while simultaneously continuing the antihypertensive drugs provided by the drug seller. Unaware of the potential dangers of combining medications, Suchi believed she was doing her best to manage her condition.

Unfortunately, this dual consumption of antihypertensive drugs led to severe complications. Her blood pressure dropped dramatically, causing hypotension. The overmedication left her feeling weak and unsteady, and her health deteriorated further.

When Suchi returned to a doctor for further consultation, she learned about the overdose and its harmful effects on her body. She expressed her frustration, highlighting what she perceived as a critical communication gap in her care journey. According to her, the lack of proper communication and guidance from healthcare providers had worsened her condition.

This highlights systemic challenges in the healthcare process, particularly in managing long-term conditions like hypertension. Due to the high patient load, healthcare providers often have limited time for thorough examinations or in-depth consultations, which can affect the quality-of-care patients receive. The majority of participants in this study had short consultation periods, lasting between one and three minutes. Such rush interaction did not attend to the patient's individual needs, which allowed for misunderstandings and mistakes in treatment.

In Suchi's instance, the lack of follow-up care and clear communication not only complicated her treatment but also made her condition worse.

Female-friendly environment: Women, especially those accompanied by children, experience many challenges when visiting healthcare facilities. The facilities were often crowded, with

limited seating, making it difficult for them to find a place to sit and rest. Additionally, they had to stand in long lines to buy a ticket for consultation as well as for doctor consultation. Also, few mentioned the female doctor availability, they are more comfortable discussing issues with female doctors. These challenges can be especially exhausting for women. Improved arrangements, increase number of female doctors and ticketing systems would make healthcare services more accessible and comfortable for female respondents.

" Ticket counters should have more manpower so that it would not take too much time. Also, there should be female doctors, it is more acceptable to us. Here are more female patients here, so the line gets really long for female patients. Often, I've seen them become ill from standing in line for so long. There's no place to sit, especially for those with children. It's very uncomfortable, and there's no fan. If there were better facilities, man power will be more, they could finish quicker and go back home sooner. Women have so many other responsibilities, like cooking and taking care of the house." (52 years old, Female, Hypertensive for 3 years)

Efficiency in the treatment process: Respondents suggest consolidating check-ups under a single ticket to streamline the treatment process. They believe this would save time and reduce the inconvenience of repeated visits for related issues.

Improved doctor-patient communication: Respondents highlight the need for doctors to dedicate more time to explanations, which could prevent misunderstandings and improve treatment outcomes.

Though respondents have some level of dissatisfaction at their last points of care but still they depend on UHC. They are compelled to accept it because alternative options are either unaffordable or not easily accessible. One respondent mentioned that:

"Hunger waits for no delicacy—our situation is like that. If we buy medicine, we can't afford rice, and if we buy rice, we can't afford medicine. That's the kind of struggle we face to get medicine. Now as I am getting the medicine from here at free of cost, it doesn't feel like a burden." (37 years old, Female, Hypertensive for 8 years)

Due to dependency on others and treatment costs for others services are high. The respondents make do with whatever care they got from here, that is enough for them.

E. Impact of the journey on respondents' health, well-being, and financial imperatives

E.1. Health and well-being affect

This section explored how the illness journey impact on respondent's health and well-being. Health issues, particularly chronic conditions like hypertension, have a profound emotional and practical impact on individuals' lives. Some expressed frustration and sense of inevitability about their conditions. One respondent shared,

“Sometimes it makes me sad thinking of my suffering from a health issue like blood pressure, especially when I compare myself to my sisters-in-laws. They do not have any high or low blood pressure. Sometimes, I ask God (she said with a sad tone) why God gave me blood pressure and why am I the one who has to suffer and bear the consequences...” (40 years old, Female, Hypertensive for 3 years)

Despite efforts to maintain a positive outlook, financial and emotional strains weigh heavily on some individuals. One respondent expressed,

“When I feel down, I take a walk and talk to the people around me. But still, the sadness remains, especially when income isn't steady, and illness strikes—it feels overwhelmingly heavy.” (48 years old, Female, Hypertensive for 2 years)

E.2. Financial affects

This section explored how the illness journey impact on respondent's financial condition. The financial burden of managing chronic illnesses heavily impacts respondents' daily lives. For a long time, managing this chronic disease has cost a significant amount of money. Now, they no longer have the financial means. They lacked the support to handle it on their own, and borrowing money became necessary. Travel expenses exacerbate the issue. Another summed up the harsh reality of their priorities, they cannot just skip the medicine as it causes health risk.

One respondent expressed,

"I have to struggle and manage to buy it and take it anyway. Everything has to be bought, it's a hassle. I feel better when taking the 7.5-taka gastric medicine, but I can't always afford it. How can I ask my son to bring the 7.5-taka medicine? He also has a family to take care of." (69 years old, Female, Hypertensive for 20 years)

Limited support from government hospitals adds to the challenge:

"Government hospitals provide only one type of medicine sometimes, and we have to buy the other two types ourselves. Often, I can't afford to buy the medicines, so I skip taking them. It's not like we always have money at hand." (48 years old, Female, Hypertensive for 2 years)

These stories underscore the ongoing struggle between managing health and financial constraints.

Discussion

The findings reveal the complexities of hypertension care pathways in the studied context.

Patient's journey through a complex care pathway: delay in seeking care

Many respondents delayed care-seeking due to symptom perception or attributing symptoms to comorbidities. Our study finds that people not consider chronic diseases to be serious enough to encourage care-seeking unless their symptoms become severe, and it affect their daily activities. Similarly, a study exploring health-seeking behavior for non-communicable diseases (NCDs) in northern Bangladesh found that individuals often delay seeking care until symptoms disrupt their daily lives (Rasul et al., 2022). Self-management, lasting from a few weeks to many months, was common. Long durations of self-care (i.e. 1.5 years) were particularly practiced among female respondents. The exceptions are those who had been incidentally diagnosed while taking treatment for another disease, usually diabetes. Triggers for seeking care included worsening symptoms, advice from social networks, rather than awareness they already had about hypertension, or information about the NCD corner. The majority of the respondents had been diagnosed by formal HCPs, which is similar to a 2018 study on hypertension pathways (Naheed et al., 2018).

All the respondents uncovered a complex, four points of care pathway, with respondents frequently transitioning between drug sellers, private practitioners, tertiary hospitals, and UHCs. Similarly, a study done in India reported that patients see numerous public and private healthcare providers for treatment, and they frequently changed healthcare providers (Ramani et al., 2024). Often, the stories included several points of diagnosis, re-diagnosis, and treatment modifications. Although the UHC eventually served as the primary provider for most respondents, they often delayed reaching this point, opting for informal or private practitioners initially. Similar findings were found in Nuri et al., (2018) study with five points of care pathway for psychiatric patients and patients transition between care points. The only exception was one respondent simultaneously taking care from both UHC and private practitioner in 2nd point of care.

UHCs emerged as the most common sustained care provider, as it was where the interviews were held. Drug sellers emerged as the second-most common provider, but one with the shortest duration of care. Half of the respondents initially started their care pathways journey at drug seller services. Due to various reasons like accessibility and affordability. Similarly, studies mentioned that patient's first point of care is a pharmacy and these are the primary source of healthcare for all prevalent issues among Bangladesh's poor population (M. M. H. Khan et al., 2012).

The study found that the care pathway for many respondents was intricate, as they visited multiple service points before finally reaching the UHC. A significant reason behind this is the insufficient information about healthcare services. Many respondents were unaware that medicines were available at the UHC or that they offered better services at lower costs. The lack of awareness led them to seek care elsewhere before eventually arriving at the UHC. Similarly, researchers from Bangladesh mentioned that hypertension treatment has lower awareness because of the insufficient health literacy of hypertension and its consequences, care-seeking behavior, or financial difficulties (Md. N. Khan et al., 2021).

This study also found information on their diagnosis process which includes (1) BP measurement at local drug seller when they felt uncomfortable or had symptoms, (2) incidental diagnosis while seeking care for other conditions like cold/fever, or follow-up for diabetes or during pregnancy or after a miscarriage. These findings align with pathways reported by Naheed et al., (2018) and Perera et al., (2019) for diagnosis of hypertension: (1) specialized hospitals for

acute care, (2) private hospitals/local pharmacies for nonacute symptoms, and (3) incidental hypertension identification while being treated for another condition.

Multiple factors influence the choice and decision of healthcare service utilisation

The interplay of accessibility, affordability, acceptability, social network, familiarity, popularity of HCP, and availability of comprehensive services emerged as pivotal in determining respondent's choice of healthcare providers. Additionally, the WHO reports that in Bangladesh, patients usually select a provider or facility that is most convenient for them, considering the factors of availability, accessibility, and cost (WHO, 2015). We have found half of the respondents began their care-seeking journey with informal providers such as drug sellers, primarily due to accessibility and affordability and the trust they had in these providers. This aligns with findings from another study, which also highlighted pharmacies as easily accessible points where patients place significant trust, often leading to receiving long-term treatment (Naheed et al., 2018). Additionally, a different study noted that people's health beliefs, religious beliefs, and relationships with local providers influence their actions, considering factors like provider accessibility and cost (Ramani et al., 2024; Rasul et al., 2022). Also, Naheed et al., that patients receiving adequate time in private care was the influencing factor which is similar to our findings that respondents prefer private practitioner but due to the economic situation cannot continue.

The appeal of free medicines at UHCs attracted many low-income respondents, highlighting the critical role of cost in healthcare access. The long duration of care at the UHC indicates its reliability in hypertension treatment. Respondents faced challenges due to inadequate medicine at UHC, which also aligns with the hypertension pathways study done by Naheed et al., which mentioned inadequate supplies for NCD treatment. Despite facing challenges, respondents depended on UHC due to its affordability and accessibility. However, perceptions of overcrowding and impersonal treatment and challenges of inadequate essential medicine supply at UHCs deterred some respondents, emphasizing the need for quality improvements to enhance respondent satisfaction.

Impact of complex care pathways on patient's health and well-being

Chronic illnesses like hypertension profoundly impacted respondents' health and well-being. While many expressed frustration and sadness, others exhibited resilience and adapted to their health challenges. A study done in Bangladesh, India and Pakistan, mentioned that prevalence of depression was 38% for hypertension patient's (Uphoff et al., 2019). This condition also imposed significant financial burdens on respondents and their families. The struggle to balance healthcare expenses with basic living costs highlighted the need for affordable and comprehensive healthcare services. UHC's ability to mitigate these challenges through cost-effective services is pivotal in supporting the economic well-being of respondents.

Strengths

- The study provides a comprehensive understanding of the care pathways for hypertensive patients, capturing their experiences, challenges, and decision-making processes.
- The study addresses the unique socio-economic and cultural dynamics influencing healthcare-seeking behaviors in a low-resource setting, making the findings highly relevant for policy and program development.

Limitations and challenges

- The findings are specific to the study population and may not be generalizable to other regions or healthcare systems.
- As the study was conducted at a primary healthcare facility, there may have been a selection bias that influenced the types of respondents engaged in the study.
- Respondents' accounts of past healthcare experiences may be influenced by memory inaccuracies or personal biases.
- The study's focus on one UHC facility limits the ability to capture variations across different healthcare centers.
- The study primarily focuses on the demand side (patients), leaving out insights from healthcare providers that could offer a more balanced view of the challenges and potential solutions.
- The Hawthorne effect due to the presence of the researcher might suddenly change the quality of services being offered to the respondents at their present healthcare point.

- Respondents and their attendants were unwilling to provide the sufficient time to the researcher, which might have resulted in losing eligible respondents. In some case, respondents withdrew their consent in the middle of the interview. Consequently, we missed the opportunity to gather insights from more respondents and their experience.

Addressing these limitations in future research could enhance the robustness and applicability of the findings.

Conclusion

The study provides valuable insights into the care pathways of hypertensive patients in Bangladesh. On the care pathways, it identified several obstacles, which, if removed, will surely improve Quality of Care (QoC) in healthcare services. Addressing barriers such as information backlog, medication shortages, overcrowding, and communication gaps through enhanced resource allocation, community engagement, and systemic reforms can improve accessibility, affordability, and quality of care. Strengthening PHC's capacity to deliver comprehensive and patient-centered services will ensure its continued role as a vital healthcare provider.

Recommendations

The findings suggest several actionable recommendations for improving hypertension care pathways.

1. Enhance UHC Capabilities:
 - Ensure consistent supply of essential medicines.
 - Ensure available diagnostic services of nominal fee, at the UHC.
 - Improve privacy during consultations to foster trust and comfort among patients.
 - Introducing medication for other comorbidities such as heart disease, so patients can receive comprehensive care from one service point.
 - Ensure citizens are aware of the availability of treatment for hypertension at the PHC facility.
2. Implementing routine hypertension screenings at community and facility levels would aid in the early detection of asymptomatic cases.

3. Capacity building of the informal sector, such as drug sellers, and then integration from community-based care, to streamline referrals to appropriate care at PHC facilities.
4. Implement financial assistance programs for low-income patients by exploring subsidized care packages and insurance schemes to alleviate out-of-pocket expenses for low-income households.
5. Improving patient education by developing community-based awareness programs to reduce delays in seeking care and educate patients on the importance of self-care and sustained treatment.

References

- Ahmed, S. M., Krishnan, A., Karim, O., Shafique, K., Naher, N., Srishti, S. A., Raj, A., Ahmed, S., Rawal, L., & Adams, A. (2024). Delivering non-communicable disease services through primary health care in selected south Asian countries: Are health systems prepared? *The Lancet Global Health*, 12(10), e1706–e1719. [https://doi.org/10.1016/S2214-109X\(24\)00118-9](https://doi.org/10.1016/S2214-109X(24)00118-9)
- Dempsey, A., Sripad, P., Sultana, K., Kirk, K., Hossain, S. M. I., & Warren, C. (2021). Pathways to service access for pre-eclampsia and eclampsia in rural Bangladesh: Exploring women's care-seeking. *PLOS ONE*, 16(2), e0245371. <https://doi.org/10.1371/journal.pone.0245371>
- Elliott, W. J. (2003). The Economic Impact of Hypertension. *The Journal of Clinical Hypertension*, 5(3), 3–13. <https://doi.org/10.1111/j.1524-6175.2003.02463.x>
- Gater, R., Almeida E. Sousa, D. B., Barrientos, G., Caraveo, J., Chandrashekar, C. R., Dhadphale, M., Goldberg, D., Al Kathiri, A. H., Mubbashar, M., Silhan, K., Thong, D., Torres-Gonzales, F., & Sartorius, N. (1991). The pathways to psychiatric care: A cross-cultural study. *Psychological Medicine*, 21(3), 761–774. <https://doi.org/10.1017/S003329170002239X>
- Giasuddin, N. A., Chowdhury, N. F., Hashimoto, N., Fujisawa, D., & Waheed, S. (2012). Pathways to psychiatric care in Bangladesh. *Social Psychiatry and Psychiatric Epidemiology*, 47(1), 129–136. <https://doi.org/10.1007/s00127-010-0315-y>
- Islam, S. M. S., Uddin, R., Das, S., Ahmed, S. I., Zaman, S. B., Alif, S. M., Hossen, M. T., Sarker, M., Siopis, G., Livingstone, K. M., Mehlman, M. L., Rahman, Md. M., Chowdhury, R. I., Alim, Md. A., Choudhury, S. R., Ahmed, S. M., Adhikary, R. K., Anjum, A., Banik, P. C., ... Naghavi, M. (2023). The burden of diseases and risk factors in Bangladesh, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. *The Lancet Global Health*, 11(12), e1931–e1942. [https://doi.org/10.1016/S2214-109X\(23\)00432-1](https://doi.org/10.1016/S2214-109X(23)00432-1)
- Jafar, T. H., Jehan, I., De Silva, H. A., Naheed, A., Gandhi, M., Assam, P., Finkelstein, E. A., Quigley, H. L., Bilger, M., Khan, A. H., Clemens, J. D., Ebrahim, S., Turner, E. L., & Kasturiratne, A. (2017). Multicomponent intervention versus usual care for management of hypertension in rural Bangladesh, Pakistan and Sri Lanka: Study protocol for a cluster

- randomized controlled trial. *Trials*, 18(1), 272. <https://doi.org/10.1186/s13063-017-2018-0>
- Khan, M. M. H., Grübner, O., & Krämer, A. (2012). Frequently used healthcare services in urban slums of Dhaka and adjacent rural areas and their determinants. *Journal of Public Health*, 34(2), 261–271. <https://doi.org/10.1093/pubmed/fdr108>
- Khan, Md. N., Oldroyd, J. C., Chowdhury, E. K., Hossain, M. B., Rana, J., Renzetti, S., & Islam, R. M. (2021). Prevalence, awareness, treatment, and control of hypertension in Bangladesh: Findings from National Demographic and Health Survey, 2017–2018. *The Journal of Clinical Hypertension*, 23(10), 1830–1842. <https://doi.org/10.1111/jch.14363>
- Legido-Quigley, H., Naheed, A., De Silva, H. A., Jehan, I., Haldane, V., Cobb, B., Tavajoh, S., Chakma, N., Kasturiratne, A., Siddiqui, S., Jafar, T. H., & for COBRA-BPS Study group. (2019). Patients' experiences on accessing health care services for management of hypertension in rural Bangladesh, Pakistan and Sri Lanka: A qualitative study. *PLOS ONE*, 14(1), e0211100. <https://doi.org/10.1371/journal.pone.0211100>
- Naheed, A., Haldane, V., Jafar, T. H., Chakma, N., & Legido-Quigley, H. (2018). Patient pathways and perceptions of hypertension treatment, management, and control in rural Bangladesh: A qualitative study. *Patient Preference and Adherence*, Volume 12, 1437–1449. <https://doi.org/10.2147/PPA.S163385>
- Neupane, D., McLachlan, C. S., Sharma, R., Gyawali, B., Khanal, V., Mishra, S. R., Christensen, B., & Kallestrup, P. (2014). Prevalence of Hypertension in Member Countries of South Asian Association for Regional Cooperation (SAARC): Systematic Review and Meta-Analysis. *Medicine*, 93(13), e74. <https://doi.org/10.1097/MD.0000000000000074>
- Nuri, N. N., Sarker, M., Ahmed, H. U., Hossain, M. D., Beiersmann, C., & Jahn, A. (2018). Pathways to care of patients with mental health problems in Bangladesh. *International Journal of Mental Health Systems*, 12(1), 39. <https://doi.org/10.1186/s13033-018-0218-y>
- Perera, M., De Silva, C. K., Tavajoh, S., Kasturiratne, A., Luke, N. V., Ediriweera, D. S., Ranasinha, C. D., Legido-Quigley, H., De Silva, H. A., & Jafar, T. H. (2019). Patient perspectives on hypertension management in health system of Sri Lanka: A qualitative study. *BMJ Open*, 9(10), e031773. <https://doi.org/10.1136/bmjopen-2019-031773>
- Pius Al, B., Dewi, I., & Akhir Yani S, H. (2021). Hypertension: A global health crisis. *Annals of Clinical Hypertension*, 5(1), 008–011. <https://doi.org/10.29328/journal.ach.1001027>

- Ramani, S., Bahuguna, M., Spencer, J., Pathak, S., Shende, S., Pantvaidya, S., D'Souza, V., & Jayaraman, A. (2024). Many hops, many stops: Care-seeking “loops” for diabetes and hypertension in three urban informal settlements in the Mumbai Metropolitan Region. *Frontiers in Public Health*, 11, 1257226. <https://doi.org/10.3389/fpubh.2023.1257226>
- Rasul, F. B., Sarker, M., Yasmin, F., & De Allegri, M. (2022). Exploring health-seeking behavior for non-communicable chronic conditions in northern Bangladesh. *PLOS Global Public Health*, 2(6), e0000497. <https://doi.org/10.1371/journal.pgph.0000497>
- Schrijvers, G., Hoorn, A. V., & Huiskes, N. (2012). The Care Pathway Concept: Concepts and theories: an introduction. *International Journal of Integrated Care*, 12(6). <https://doi.org/10.5334/ijic.812>
- Scott, S. E., Walter, F. M., Webster, A., Sutton, S., & Emery, J. (2013). The Model of Pathways to Treatment: Conceptualization and integration with existing theory. *British Journal of Health Psychology*, 18(1), 45–65. <https://doi.org/10.1111/j.2044-8287.2012.02077.x>
- Shatil, T., Khan, N., Yunus, F. Md., Chowdhury, A. S., Reza, S., Islam, S., Islam, A., & Rahman, M. (2019). What Constitutes Health Care Seeking Pathway of TB Patients: A Qualitative Study in Rural Bangladesh: *Journal of Epidemiology and Global Health*, 9(4), 300. <https://doi.org/10.2991/jegh.k.190929.001>
- Siegel, K. R., Patel, S. A., & Ali, M. K. (2014). Non-communicable diseases in South Asia: Contemporary perspectives. *British Medical Bulletin*, 111(1), 31–44. <https://doi.org/10.1093/bmb/ldu018>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Uphoff, E. P., Newbould, L., Walker, I., Ashraf, N., Chaturvedi, S., Kandasamy, A., Mazumdar, P., Meader, N., Naheed, A., Rana, R., Wright, J., Wright, J. M., Siddiqi, N., & Churchill, R. (2019). A systematic review and meta-analysis of the prevalence of common mental disorders in people with non-communicable diseases in Bangladesh, India, and Pakistan. *Journal of Global Health*, 9(2), 020417. <https://doi.org/10.7189/jogh.09.020417>
- Vanhaecht, De Witte, K., & Sermeus, W. (2007). *The impact of clinical pathways on the organisation of care processes (Doctoral dissertation)* [KU Leuven, Belgium].

- https://kuleuven.limo.libis.be/discovery/fulldisplay?docid=lirias1718750&context=SearchWebhook&vid=32KUL_KUL:Lirias&lang=en&search_scope=lirias_profile&adaptor=SearchWebhook&tab=LIRIAS&query=any%2Ccontains%2CLIRIAS1718750&offset=0?limo
- WHO. (2015). *Bangladesh health system review, in health systems in transition*. (p. 214). https://apps.who.int/iris/bitstream/handle/10665/208214/9789290617051_eng.pdf
- WHO. (2023). *Advancing the global agenda on prevention and control of noncommunicable diseases 2000 to 2020: Looking forwards to 2030* (p. 57). World Health Organization. <https://www.who.int/publications/i/item/9789240072695>
- WHO, W. (2024). *Hypertension*. WHO. <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- World Heart Federation. (n.d.). *Hypertension*. World Heart Federation. <https://world-heart-federation.org/what-we-do/hypertension/#:~:text=Hypertension%20is%20often%20known%20as,as%20end%20organ%20damage%20such>

Annexure

Annex 1: Operational definitions of the concepts

Patients care pathway

A Care Pathway is a methodical strategy for attaining the planned and integrated provision of care for patients with specific diagnoses over an extended duration of time (Schrijvers et al., 2012). As defined by Vanhaecht (Vanhaecht et al., 2007) a care pathway should represent “a complex intervention to enhance shared decision-making and coordination of a broad set of care processes.” Care pathways, in general, aim to improve patient outcomes by ensuring safety, satisfaction, and efficient use of resources throughout the continuum of care.

Hypertension: According to WHO (WHO, 2024), When blood vessel pressure is 140/90 mmHg or above, patients have hypertension, also known as high blood pressure. Although frequent, if left untreated, it can become dangerous. Also, a diagnosis of hypertension is made if the systolic blood pressure readings on two separate days are at least 140 mmHg, and the diastolic readings are at least 90 mmHg.

Traditional Healers in the context of Bangladesh refer to healthcare providers of the informal sector which include but are not limited to Kabiraj, Polli Chikitshok etc.

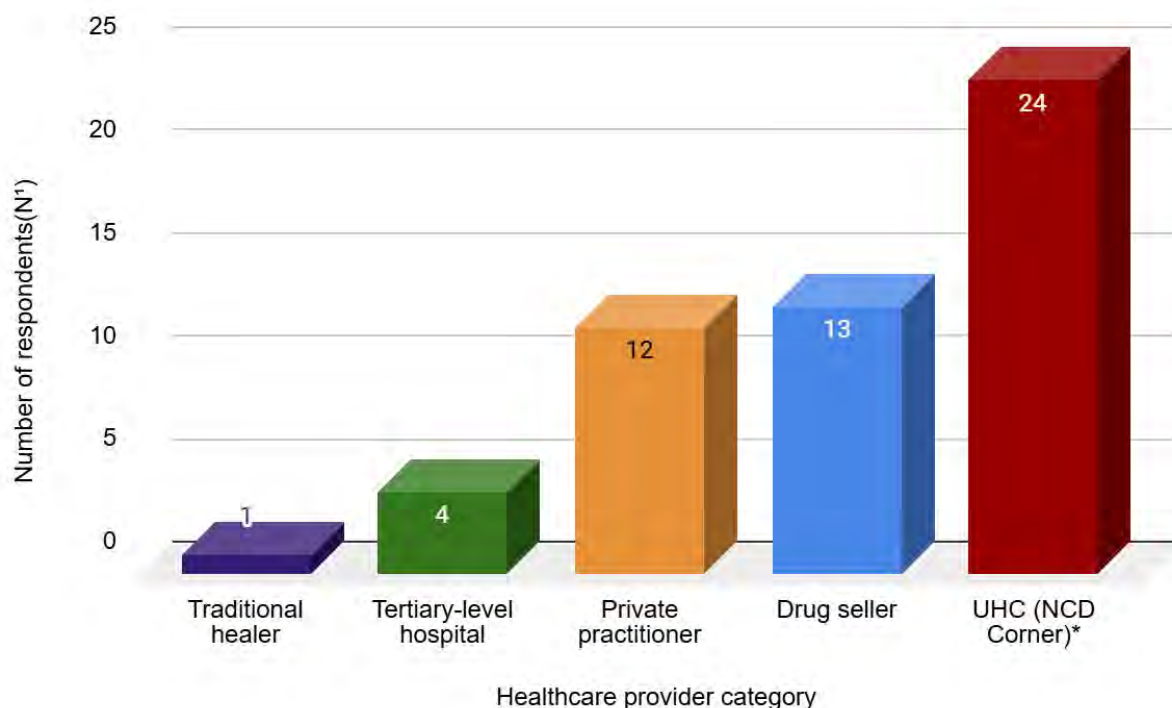
Drug Sellers or more commonly referred to as “pharmacies” by the Bangladeshi populace are retail medicine shops that provide symptomatic treatment by dispensing medication without a physician’s prescription.

Annex 2: Keraniganj map

<https://keraniganj.weebly.com/>



Annex 3: Figure & Table



¹ Multiple responses per respondent were collected

* Respondents had sought care from the medicine outpatient department and the NCD corner of the UHC

Figure 4: Number of respondents consulting each provider category at any point of care in their care pathway

Table 4 Travel methods and associated costs for accessing UHC services

Variables	N=24	%
Mode of transportation		
Walking	4	16.7
Auto rickshaw	19	79.2
CNG	1	4.2
Travel fare¹ (in BDT)		
No cost	4	16.7
20-80	17	66.7
80-150	3	12.5

¹ Travel fare counted as round trip from home to UHC

Annex 4: IDI Guide (in Bangla and English)

Study title: Understanding Health Care Pathways of Patients with Chronic Diseases (Chronic Respiratory Disease, Hypertension, Diabetes): Insights from an Exploratory Study in a Sub-district Level Government Hospital of Bangladesh.

Data Collection Tool

Exit interview with IDI Guide

Date of interview	
Place or interview	
Interviewer	
Note Taker	
Interview start time	
Interview end time	

A. Socio-demographic profile:

Respondent Profile	
A1. What is your name?	
A2. What is your age?	years
A3. Gender?	Female.....1 Male.....2 Others.....99
A4. Where do you live (Area of residence)?	Urban.....1 Peri urban.....2 Rural.....3
A5. What is your marital status?	Married.....1 Unmarried.....2 Widowed.....3 Separated.....4 Divorced.....5
A6. What is your religion?	Islam.....1 Christianity.....2 Hinduism.....3 Buddhism.....4 Others.....99
A7. What is your educational background?	No formal education.....1 Below primary education.....2 Completed primary education (class 5)/ Ebtedayee.....3

	Completed secondary education (SSC) /Dakhil.....4 Completed higher secondary education (HSC)/ Alim....5 Completed Bachelor/Diploma/Fazil.....6 Completed Masters or higher/Kamil.....7 Others (Specify).....99
A8. What is your current occupation?	Housewife.....1 Farming and agriculture.....2 Labor and construction.....3 Business and trade.....4 Govt Service holder.....5 Private practitioner6 Informal sector (Rickshaw puller, street vendor).....7 Retired.....8 Unemployed.....9 Others (Specify).....99
A9. What is your monthly income?	BDT
A10. What is the total number of people in your household?	
A11. What is your family income per month on average?	BDT
A12. Contact number	

B. IDI Guide

Domains	Questions	Response options	Probing
Perception of health condition	B1. Which one of these conditions are you seeking treatment for at the UHC today?	Hypertension.....1 Diabetes Mellitus.....2 Chronic Respiratory Disease (CRD) - COPD/Asthma.....3	- Why are you visiting the UHC today? - Why did you choose UHC for today's visit? Why not other service providers?
	B2: How long have you been suffering from this illness?	month/years	
	B3. What were the symptoms at onset? (Multiple answers can be selected for disease of interest)	Frequent urination.....1 Increased thirst.....2 Unexplained weight loss...3 Fatigue.....4 Blurred vision.....5 Slow-healing sores.....6 Asymptomatic7 Often asymptomatic.....8 Headaches.....9 Dizziness.....10	- How did the disease progress over time? - How did you manage your condition before seeking healthcare? (e.g. Self-care, suggestions from family members, neighbours?) - What were those practices?

		Shortness of breath, especially during physical activities.....11 Wheezing.....12 Chronic cough.....13 Chest tightness.....14 Others (Specify).....99	
	B4. For how long did you manage this disease by yourself before seeking healthcare?	month/years	
Motivating factors, challenges, costs and experience with service	B5. List all the healthcare providers visited (Multiple answers can be given)	Union health sub centre.....1 Tertiary/District/Medical College Hospital.....2 Village Doctor.....3 Kobiraj.....4 Pir/Fakir.....5 Drug Seller.....6 Unlicensed HCP (DMF/SACMO).....7 Community clinic.....8 Upazila health complex...9 NGO clinic.....10 Private hospital/chamber....11 Others (Specify).....99	• What symptoms triggered you to seek healthcare? • Please describe in order who you took treatment from first and then subsequently? • What are the motivating factors behind each of these encounters? • Please describe the treatment procedure you received from each provider • What were the challenges you faced in receiving services from this provider? • What kinds of changes did you feel from these treatments from each provider? • Duration of each of these cares? • Estimated costs of each of these care/services? • What were the experiences (positive or negative impacts) of those practices? • Which was the best service and why do you think so? • Which was the worst service and why do you think so? • How has the disease progressed over time?
Experience with the UHC	B6. Who made the decision of visiting this health facility? [Multiple answer]	Own Decision.....1 Family Members.....2 Neighbor.....3 Health Care Provider.....4 Others (Specify).....99	• What are the motivating factors behind taking treatment from the UHC? • If referred to the UHC, what is the referral process?

	B7. Frequency of NCD corner or OPD visits in this health facility?		
	B8. Do you consider the consultation time at the UHC adequate for you to ask questions and clarify your concerns/confusions?	Yes.....1 No.....2	Why do you think so?
	B9. How would you rate the expertise/skill/competence of the healthcare providers at the UHC facility?	Excellent.....1 Good.....2 Neutral.....3 Poor.....4 Very poor.....5	Why do you think so?
	B10. Did you feel respected and treated with dignity by the UHC healthcare providers?	Yes.....1 No.....2	Why do you think so?
	B11. During your consultation, was your privacy maintained at the UHC?	Yes.....1 No.....2	Why do you think so?
	B12. Did the healthcare provider explain the procedures and tests conducted during the consultation?	Yes.....1 No.....2	Why do you think so?
Impact on financial condition	B13. Can you list the expenditures for the following during the course of treatment at	For Medicine.....1 For Investigations.....2 Travel Fare.....3	

	the UHC	Any other costs.....4	
	B14. How much is the total cost of your treatment till date?	BDT	
	B15. Has this been a financial burden to you?	Yes.....1 No.....2	• Why and how do you think this has been a financial burden? • Please describe the impact of your illnesses on your occupation, earnings, household expenditure and NCD treatment choices and plans.
	B16. Have you had to borrow money to aid your condition?	Yes.....1 No.....2	
	B17. Has the cost of your illness taken a toll on your household expenditure?	Yes.....1 No.....2	
Impact on health and well-being	B18. Do you think there has been any improvement in your health condition since you were first diagnosed?	Yes.....1 No.....2	• Why do you think seeking healthcare has worsened these feelings?
	B19. Has this condition caused you feelings of anxiety or sadness?	Yes.....1 No.....2	
	B20. While seeking healthcare, have these feelings worsened?	Yes.....1 No.....2	

Recommendations	B21. Do you have any suggestions/Recommendations for the betterment of care in persons with the disease of interest?		• Do you have any suggestions/Recommendations for the betterment of care in persons with the disease of interest? • Why have you suggested these recommendations?
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Annex 4: Information sheet and consent form (Bangla)

তথ্য পত্রক

ভূমিকা : শুভেচ্ছা, আমার নাম সূচনা রানী কৈরী, এবং আমি ব্র্যাক জেমস পি গ্রান্ট স্কুল অফ পাবলিক হেলথ, ব্র্যাক ইউনিভার্সিটি থেকে এসেছি। আমরা উচ্চ রক্তচাপ রোগের রোগীদের কাছে থেকে চিকিৎসা পদ্ধতি বোঝা: বাংলাদেশের একটি উপজেলায় সরকারি হাসপাতালে অনুসন্ধানমূলক গবেষণা পরিচালনা করছি।

লক্ষ্য : বাংলাদেশের একটি উপজেলা সরকারি স্বাস্থ্য সুবিধায় উচ্চ রক্তচাপ রোগীদের যত্নের পথ বোঝা।

অংশগ্রহণের ন্যায্যতা : আপনার অংশগ্রহণ অত্যন্ত গুরুত্বপূর্ণ। কারণ দীর্ঘস্থায়ী রোগের রোগী হিসাবে আপনার দৃষ্টিভঙ্গি এবং অভিজ্ঞতাগুলি স্বাস্থ্যসেবা খোঁজার ক্ষেত্রে জড়িত চ্যালেঞ্জ এবং প্রক্রিয়াগুলি সম্পর্কে মূল্যবান তথ্য প্রদান করে। এই অভিজ্ঞতাগুলি বোঝা আমাদের স্বাস্থ্যসেবা উন্নতির জন্য সহায়তা করে, যা ভবিষ্যতে একই রকম রোগীদের স্বাস্থ্যের অবস্থা ভালো করতে সহায়তা করতে পারে।

পদ্ধতি : আপনি অংশগ্রহণ করতে সম্মতি দিলে, আমরা প্রায় ৩০-৪৫ মিনিটের জন্য একটি মুখোমুখি সাক্ষাৎকার নিব। এই সাক্ষাৎকারের সময়, আমরা আপনাকে আপনার দীর্ঘস্থায়ী রোগের চিকিৎসার ক্ষেত্রে আপনার অভিজ্ঞতা এবং স্বাস্থ্যসেবা প্রদানকারীদের সাথে আপনার আলোচনা সম্পর্কে প্রশ্ন জিজ্ঞাসা করব। আপনার সম্মতিতে, সাক্ষাৎকারটি সঠিকতার জন্য অডিও-রেকর্ড করা হবে। আপনি স্পষ্ট অনুমতি প্রদান না করা পর্যন্ত কোন ছবি ও তোলা হবে না।

অংশগ্রহণের সুবিধা: এই গবেষণায় অংশগ্রহণ করে আপনার সরাসরি কোনো সুবিধা নেই। তবে, আপনার উত্তরগুলো আমাদের গবেষণায় অবদান রাখবে যা আপনার মতো দীর্ঘস্থায়ী রোগে আক্রান্ত রোগীদের জন্য স্বাস্থ্যসেবা ডিজাইন উন্নত করতে সাহায্য করতে পারে, উপ-জেলা স্বাস্থ্য কমপ্লেক্সে সেবার মান উন্নতি করতে পারে।

ক্ষতিপূরণ: এই গবেষণায় অংশগ্রহণের জন্য কোন ক্ষতিপূরণ নেই।

ঝুঁকি: এই গবেষণায় অংশ নিলে শারীরিক বা মানসিক ক্ষতির কোনো ঝুঁকি নেই। কোন প্রশ্ন আপনাকে অপ্রস্তুত করে ফেললে আপনি সাথে সাথে এ সাক্ষাৎকার থামিয়ে দিতে পারবেন।

গোপনীয়তা এবং পরিচয় গোপন রাখা: আপনার কাছ থেকে সংগৃহীত সমস্ত তথ্য গোপন থাকবে এবং শুধুমাত্র গবেষণার কাজে ব্যবহার করা হবে। আপনার নাম এবং কোনো শনাক্তকারী বিবরণ এখানে অন্তর্ভুক্ত করা হবে না এবং সমস্ত উত্তর নামহীন করা হবে। শুধুমাত্র গবেষণা দলের কাছে প্রয়োজনীয় তথ্য থাকবে, যা নিরাপদে সংরক্ষণ করা হবে এবং পাসওয়ার্ড-সুরক্ষিত থাকবে। আমরা প্রতিবেদন বা একাডেমিক জার্নালে ফলাফল প্রকাশ করতে পারি; তবে, আপনাকে সনাক্ত করতে পারে এমন কোন তথ্য প্রকাশ করা হবে না।

অংশগ্রহণের প্রকৃতি: আপনার অংশগ্রহণ সম্পূর্ণ স্বৈচ্ছায়। কোনো নেতিবাচক পরিণতি ছাড়াই আপনি যে কোনো সময় প্রত্যাহার বা প্রত্যাহার করতে পারবেন। আপনি যদি ইন্টারভিউ শেষ হওয়ার পরে প্রত্যাহার করার সিদ্ধান্ত নেন, অনুগ্রহ করে দুই সপ্তাহের মধ্যে আমাদের জানান, এবং আমরা নিশ্চিত করব যে আপনার তথ্য বাদ দেওয়া হয়েছে।

যোগাযোগের তথ্য: গবেষণা প্রকল্প সম্পর্কে আপনার যদি আরও কোন প্রশ্ন থাকে, তাহলে অনুগ্রহ করে সাদাহ হাসান সাথে এই ফোন নম্বরের মাধ্যমে যোগাযোগ করুন +৮৮০১৭১৫৮৪৭০৫৩

নৈতিক উদ্বেগের জন্য, আপনি ইনস্টিটিউশনাল রিভিউ বোর্ডের সাথে যোগাযোগ করতে পারেন:
+৮৮০১৯৯৩৩৭৯৫১২ | ইমেল: irb-jpgsph@bracu.ac.bd

সম্মতি পত্রক

অধ্যয়নের শিরোনাম: উচ্চ রক্তচাপ রোগে আক্রান্ত রোগীদের স্বাস্থ্যসেবার পথ বোঝা: বাংলাদেশের একটি উপজেলা লেভেল সরকারি হাসপাতালের একটি অনুসন্ধানমূলক গবেষণা থেকে অন্তর্দৃষ্টি।

আপনি যদি এই গবেষণায় অংশগ্রহণ করতে সম্মত হন, অনুগ্রহ করে আপনার স্বাক্ষর/আঙুলের ছাপ রেখে নিশ্চিত করুন।

আপনার আন্তরিক সহযোগিতার জন্য আপনাকে ধন্যবাদ।

আপনি কি সাক্ষাতকারের অডিও রেকর্ড করার অনুমতি দেন? অনুগ্রহ করে মনে রাখবেন যে ইন্টারভিউ চলাকালীন যে কোন সময়ে, আপনি সাক্ষাতকারকে রেকর্ডিং ডিভাইসটি বন্ধ করতে বলতে পারেন।	হ্যাঁ	না
আপনি আপনার ফলাফল শেয়ার করার অনুমতি দেন?	হ্যাঁ	না
আপনি কি ছবি তোলা অনুমতি দেন?	হ্যাঁ	না
আপনি কি ছবি শেয়ার করার অনুমতি দেন?	হ্যাঁ	না
(আপনি যদি আবার উত্তরদাতার সাথে যোগাযোগ/ডাটা সংগ্রহ করতে চান, তাহলে এখানে উল্লেখ করতে হবে এবং অনুমতি চাইতে হবে...)		
আপনার কোন প্রশ্ন আছে?	হ্যাঁ	না
প্রশ্নটি জানান		

ইন্টারভিউয়ারের নাম:

উত্তরদাতার নাম:

ইন্টারভিউয়ার স্বাক্ষর:

উত্তরদাতার স্বাক্ষর/আঙুলের ছাপ:

তারিখ:

তারিখ:

Annex 5: Information sheet and consent form (English)

Information Sheet

Introduction: Greetings, My name is Suchona Rani Kairi and I come from BRAC James P Grant School of Public Health, BRAC University. We are conducting a study on understanding care pathways for hypertensive patients at government sub-district health facility in Bangladesh: a qualitative study.

Serial no.: [Protocol number]

Aim: To understand the care pathways of patients with hypertension at a sub-district government health facility in Bangladesh.

Justification of participation: Your participation is crucial because your insights and experiences as a patient provide valuable information about the challenges and processes involved in seeking healthcare for chronic conditions. Understanding these experiences helps us to identify areas for improvement in healthcare access and delivery, which could benefit others with similar health conditions in the future.

Procedure: If you agree to participate, we will conduct a face-to-face interview lasting approximately 30-45 minutes. During this interview, we will ask you questions about your experiences in seeking care for chronic health conditions and your interactions with healthcare providers. With your consent, the interview will be audio-recorded for accuracy. No photographs will be taken unless you provide explicit permission.

Benefits of participation: There is no direct benefit to you from participating in this study. However, your responses will contribute to research that could help design healthcare interventions benefiting patients with chronic diseases like yourself, potentially improving care at sub-district health facilities.

Compensation: There is no compensation for participating in this study.

Risk: There is no risk of physical or mental harm from participating in this study. Some questions may touch on sensitive or personal issues related to your healthcare experiences. You have the right to skip any questions that make you uncomfortable, and we will respect your decision without any consequences.

Confidentiality and anonymity: All information collected from you will remain confidential and used only for research purposes. Your name and any identifying details will not be included in the study data, and all responses will be anonymized. Only the research team will have access to the data, which will be stored securely and password-protected. We may publish the findings in reports, presentations, or academic journals; however, no information that could identify you will be disclosed.

Nature of participation: Your participation is entirely voluntary. You are free to decline or withdraw from the study at any time, without any negative consequences. If you decide to withdraw after the interview has been completed, please inform us within two weeks, and we will ensure your data is excluded from the analysis.

Contact information: *If you have any further query about the research project, then please contact Suchona Rani Kairi through this phone number + 8801737151314*

For ethical concerns, you can contact the Institutional Review Board: + 801993379512. Email: irb-jpgsph@bracu.ac.bd

Consent Form

Title of the study: Exploring Care Pathways for Hypertensive Patients at Government Sub-district Health Facility in Bangladesh: A Qualitative Study

If you agree to participate in this study, please confirm by putting your signature/thumbprint.

Thank you for your cordial cooperation.

(Note to investigator: Please note that the items below can vary from protocol to protocol)

Do you give permission for the interview to be audio recorded? <i>Please note that at any point during the interview, you can ask the interviewer to turn off the recording device.</i>	Yes	No
Do you give permission to share your findings?	Yes	No
Do you give permission to take photos (without face being shown in photos) ?	Yes	No
Do you give permission to share the photos?	Yes	No
<i>(If you need to contact the/collect data from the respondent again, need to state here and ask permission...)</i>		
Do you have any questions?	Yes	No
State the question		

Interviewer name:

Respondent's name:

Interviewer signature:

Respondent's signature/thumbprint:

Date:

Date:

Annex 6: Codebook

Code	Short Definition	Long Definition
Self-Management Practices	Strategies patients use to manage symptoms before formal care.	Refers to actions taken by patients to alleviate their symptoms independently, often guided by cultural beliefs or community advice, such as using herbal remedies, over-the-counter medications, and lifestyle adjustments like avoiding dusty environments or modifying physical activity levels.
Care Pathway	Steps taken by patients to seek healthcare for chronic diseases.	
Accessibility	Ease of reaching healthcare providers.	Refers to geographical and logistical factors that determine how easily patients can access healthcare services. Includes proximity to providers, availability of transportation, and the time required to reach facilities.
Affordability	Financial factors influencing care decisions.	Refers to the financial constraints faced by patients in accessing healthcare services, including costs of consultations, medications, diagnostic tests, and transportation, which often determine their choice of provider.
Delays in Diagnosis	Factors delaying hypertensive diagnosis.	Refers to systemic and individual barriers, such as lack of awareness, reliance on informal care, financial constraints, and inaccessible diagnostic facilities, that contribute to delays in diagnosing chronic respiratory diseases.

Annex 7: Data Matrix Display Portion

Themes	Subthemes	Quotes	
Perception of health condition	1. Perceived symptoms	<i>At first one day, while sitting, my head felt completely dark and dizzy; I was about to faint, i called my daughter to hold me, then my neighbor also came down and help me, they poured water on my head</i>	<i>I was suffering from neck pain, I thought it was my sleeping habit of lying in bed that triggered the pain.</i>
	2. Preliminary or Self-	<i>I used to feel so dizzy that I would drink tamarind water to</i>	<i>People used to say that eating tamarind helps</i>

	management	<i>feel better</i>	<i>maintain high blood pressure." I took tamarind to reduce my high blood pressure. 3 - 4 month i continuned that remady</i>
	3. Events that triggered the healthcare pathway	<i>When, when I had a stroke, It confirmed that I had high blood pressure. When I had stroke, my family took me to Shohowardi hospital, then doctors confirmed(Purapuri sure hoye gelem) that i had hypertension</i>	<i>I felt unwell with headaches and discomfort, so I went to the pharmacy to check my blood pressure.</i>
	4. Diagnosis Process	<i>I have been living with diabetes for the last 3–4 years, and about 1 years ago, I found out that I also have hypertension. When I started coming to the UHC, they measured my blood pressure at each visit, and that's how they found out I also have hypertension and started providing me with medicine.</i>	
Factors influencing the choice of HCP	1. Accessibility	<i>It is very cost-effective, with close to no fees at all. It has been 1-2 years since I have been visiting this place and I have been following up with them as they do not require any visit fees. My mother and I could go together and get our</i>	

		<i>medicines together, and get my weight and blood pressure measured for free.</i>	
	2. Affordability	<i>"Hunger waits for no delicacy—our situation is like that. If we buy medicine, we can't afford rice, and if we buy rice, we can't afford medicine. That's the kind of struggle we face to get medicine. Now as I am getting the medicine from here at free of cost, it doesn't feel like a burden."</i>	
	3. Familiarity	<i>"Here at UHC, though it's govt. provided treatment but the doctors are good, the quality of treatment is good, they do investigation then provide treatment. My family and I had an experience here; we received services from this place, which helped us overcome our issues</i>	
Impact	1. Health and well-being	<i>Sometimes it makes me sad thinking of my suffering from a health issue like blood pressure, especially when I compare myself to my sisters-in-laws. They do not have any high or low blood pressure. Sometimes, I ask God (she said with a sad tone) why God gave me blood</i>	

		<i>pressure and why am I the one who has to suffer and bear the conseq</i>	
	2. Financial	<i>"I have to struggle and manage to buy it and take it anyway. Everything has to be bought, it's a hassle. I feel better when taking the 7.5-taka gastric medicine, but I can't always afford it. How can I ask my son to bring the 7.5-taka medicine? He also has a family to take care of."</i>	

Annex 8: Themes and sub-themes

Themes	Subthemes
Perception of health condition	1. Perceived symptoms 2. Preliminary or Self-management 3. Events that triggered the healthcare pathway 4. Diagnosis Process
Factors influencing the choice of HCP	1. Accessibility 2. Affordability 3. Acceptability 4. Availability of comprehensive care 5. Social Network 6. Familiarity 7. Popularity of HCP/Faith in HCP
Experience at all points of care	1. Drug seller

	2. Traditional healer 3. Private 4. UHC 5. Tertiary
Impact	1. Health and well-being 2. Financial

Annex 9: Images



Study location: UHC, Keranigan



Interview location 1: a room at the UHC



Interview location 2: seating area adjacent to NCD corner



Blood pressure
measurement machine



Interview location 3: In the community where respondent felt comfortable to give interviews



Interview location 4: During interview at the UHC room

Annex 10: COREQ checklist, Domain 1

COREQ (Consolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in you where you consider each of the items listed in this checklist. If you have not included this information, either revise you accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description
Domain 1: Research team and reflexivity		
<i>Personal characteristics</i>		
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?
Credentials	2	What were the researcher's credentials? E.g. PhD, MD
Occupation	3	What was their occupation at the time of the study?
Gender	4	Was the researcher male or female?
Experience and training	5	What experience or training did the researcher have?
<i>Relationship with participants</i>		
Relationship established	6	Was a relationship established prior to study commencement?
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic

Interviewer who conducted the interview presented themselves as a student studying their Masters in Public Health, was female and had received training on how to conduct IDIs. The interviewer had established a relationship with the participant before interview commencement through rapport-building. The participant was made aware of the research purpose, and that the student researcher was carrying out the interview for their thesis.

Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	NO
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	13 page
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	13 and 14 page
Sample size	12	How many participants were in the study?	13 page
Non-participation	13	How many people refused to participate or dropped out? Reasons?	14 page
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	14 page
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	14 page
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	17 and 18 page
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	13 page
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	Yes
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	Yes
Field notes	20	Were field notes made during and/or after the inter view or focus group?	Yes
Duration	21	What was the duration of the inter views or focus group?	14 page
Data saturation	22	Was data saturation discussed?	13 page
Transcripts returned	23	Were transcripts returned to participants for comment and/or	No

