Understanding Healthcare Pathways of Patients with Chronic Respiratory Disease : Insights from an Exploratory Study in a Government Sub-district Hospital of Bangladesh

Final Report of Summative Learning Project (SLP) presented to the
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In Partial Fulfillment of the Requirements for the Degree of Master of Public Health (MPH)

5th January, 2025

Acknowledgement

I would like to thank my supervisors Prof. Dr. Syed Masud Ahmed and Dr. Nahitun Neher, JPGSPH, BRAC University, for the guidance throughout this Summative Learning Project. Special thanks to my mentors, Subas Chandra Biswas and Ranjan Koiri, JPGSPH, BRAC University for their continuous support, guidance and encouragement from the beginning to the end of this project. I am also grateful for the permission and the support provided by the RMO of Keraniganj Upazilla Health Complex and the Civil Surgeon. I am also thankful to the entire MPH team for logistical and technical support during SLP. My group members, Sadah Hasan and Suchona Rani Kairi, has provided immense support and encouragement. Lastly, I would like to thank my family for their continuous support and inspiration during this period.

Contents

Abbreviations

COREQ	Consolidated Criteria for Reporting Qualitative Research
DGHS	Directorate General of Health Services
CRD	Chronic Respiratory Disease
ESP	Essential Service Package
HCP	Healthcare Provider
IDI	In-depth Interview
LMIC	Low- and Middle- Income Country
NCD	Non-communicable disease
NGO	Non-governmental Organisation
PHC	Primary Health Care
POC	Point Of Care
UHC	Upazila Health Complex
WHO	World Health Organisation

- **Abstract**

Introduction

Chronic respiratory diseases (CRD) comprise a major burden of public health, especially in low-resource settings like rural Bangladesh. Many systemic, sociocultural and structural factors influence the care seeking journey of CRD patients, impact outcomes. There is an urgent need to understand the patient pathways for seeking CRD care in order to address the gaps in service delivery and to meet the unique needs of CRD patients.

Method

The study adopted a qualitative exploratory approach to elicit relevant data from the CRD patients. A total 20 respondents were sampled conveniently and interviewed to explore symptoms, onset of illness, self-management practices, healthcare seeking journey including choice and decision to choose service delivery points, experiences at each care point, and the overall impact on health and financial conditions. Data analysis involved both quantitative and qualitative methods, utilizing STATA V17 for descriptive statistics and thematic analysis for qualitative data. Ethical clearance was obtained, ensuring informed consent and confidentiality for all participants.

Findings

Respondents with CRD reported diverse care pathways, involving both formal and informal healthcare providers. The length of these pathways ranged from a single point of care to as many as five. Many participants delayed seeking treatment, often due to misattributing symptoms, underestimating their severity, or relying on beliefs about CRD that led them to manage symptoms with home remedies. Though the private providers and drug sellers were the most common initial

points of care, while Upazila Health Complex (UHC) ultimately became the source of consistent care provider for most respondents due to their affordability and accessibility. Although the majority of respondents expressed satisfaction with UHC services , several challenges such as unavailability of essential medicines, lack of diagnostic facilities, shortened consultation times, disrespectful behavior from staff and insufficient privacy affected their overall experience.

Receiving a CRD diagnosis often caused respondents to experience significant anxiety and worry, perceiving it as a lifelong burden. Moreover, the financial stress was another major concern and there were patients who relied on family or borrowing to cover treatment costs. The combination of prolonged illness and economic hardship exacerbated feelings of anxiety, hopelessness and despair.

Conclusion

Patients with CRD often use multiple pathways for various reasons to access various categories of providers before reaching UHC. This complex and challenging journey in accessing and using healthcare services, leading to delays in receiving proper formal care. Even though, UHC, a primary health care point, is not yet fully equipped to deliver high-quality CRD services, it remains a more accessible and affordable option for CRD patients, particularly those from poor, rural, and socioeconomically disadvantaged backgrounds. Addressing the underlying factors highlighted in the study can be useful for planning interventions to improve access to CRD care. Our findings aim to inform policymakers and guide program planning to enhance awareness, accessibility, and affordability of healthcare for CRD patients, thereby improving NCD care in Bangladesh.

Key Terms

Chronic Respiratory Disease, Pathways, Patient care pathways, Primary health care, Healthcare seeking behavior, Bangladesh

• 1.0 Introduction

Patient care pathways are essential plans of action that guide an individual patient to navigate through the system, ensuring that the care is timely, efficient and well-coordinated (Rotter et al., 2010). It

comprises a series of patient care activities and timelines for important interventions, thus making and the care services patient-centered in the continuum of care. In the setting of Chronic Respiratory Diseases (CRD) in Bangladesh, a pre-determined pathway is critical to access timely treatment with low costs and high patient satisfaction. Too often, challenges faced while navigating the care pathways within the healthcare system, affect treatment outcomes.

Literature Review

Chronic respiratory diseases (CRD) now rank among the most common causes of morbidity and mortality worldwide, and Bangladesh is no exception. A vast number of people in Bangladesh are suffering from CRDs, where the prevalence of asthma is 5.2% and the prevalence of COPD is 12.5% (Paromita et. al, 2021). Management of chronic respiratory diseases presents a particular challenge to handle in a low-resource setting like Bangladesh due to systemic gaps in healthcare delivery, socioeconomic barriers, and a lack of awareness. CRDs are also among the leading burdens of disease worldwide, and this trend is even more pronounced in LMICs facing significant constraints to accessing timely and effective care (WHO, 2017). Studies in Bangladesh and other LMICs have identified fragmented pathways to care for chronic conditions, where patients often move across informal providers, private practitioners, and government facilities (Naheed et al., 2018; Perera et al., 2019). These transitions often lead to delayed diagnosis and inconsistent treatment, with adverse implications for disease progression and financial strain on patients. This means that the drug seller and traditional healer, perhaps because they are easily accessible and affordable, are more relied upon for primary care (Nuri et al., 2018). Gaps in the provision of basic services such as diagnostics and medication supply at public facilities further exacerbate the challenge. The study adds to the literature on the health care pathways that CRD patients follow at a government subdistrict hospital to elicit system barriers and opportunities to provide more equitable, patient-centered care.

Like most LMICs, the health system of Bangladesh also mostly prioritizes management and treatment of acute exacerbations of the CRDs (Meghji et. al, 2022). In rural areas, vulnerable and low socio-economic communities, retail medicine shops or drug sellers, are often the first point of contact for people when there is onset of any kinds of symptoms and where they dispense medications

without proper knowledge and prescriptions. (Ahmed et. al, 2011). From there an eventful journey begins for the patient, to various categories of healthcare providers, with varying levels of disease severity, accessibility, affordability and quality. As such, the perceptions, beliefs, and behaviors that the patient exhibits while visiting various healthcare providers are essential to understand since they have implications for disease management, treatment adherence, self-management practices, treatment decision-making and psychological well-being (Korpershoek et. al, 2018).

For CRDs, they remain at the top in causing more years of disability-adjusted life, adding not only mortality but also time lived with a disability from conditions affecting the respiratory system. These diseases continue to rise due to their many causes, which relate to environmental pollution, the use of tobacco, occupational hazards, and even urbanization. Thus, the WHO Global Action Plan for the Prevention and Control of NCDs 2013–2020 has, therefore, emphasized the need for comprehensive strategies to deal with these diseases, thus underlining the importance of integrating CRD management into primary healthcare systems globally (Paromita et. al, 2021).

In South Asia, the burden of CRDs is particularly pronounced. According to the Global Burden of Disease Study 2019, respiratory diseases accounted for approximately 10% of total deaths in the region. Bangladesh, with its high population density and urban air pollution levels among the highest globally, experiences a substantial prevalence of CRDs. The region's rapid urbanization exacerbates exposure to risk factors such as air pollution from vehicles and industrial emissions, contributing to the rising incidence of respiratory diseases. The South Asian Association for Regional Cooperation (SAARC) has recognized CRDs as a priority area for health intervention due to their impact on public health systems. Regional initiatives aim to enhance awareness, improve access to care, and promote research on effective management strategies tailored to the unique challenges faced by South Asian countries (Adams et. al, 2019).

For patients with CRD, timely access to treatment and specialist care is of immense importance. But in our resource limited country and in situations of vulnerability (age, sex, gender, SES, etc.), most patients do not reach the type of appropriate care that they need in time. Moreover, the high out-of-pocket cost of consultations, medicines, diagnostic investigations and travel contributes to increasing economic hardship, thus discouraging patients from completing their treatment and attending follow-ups (Desai et. al, 2022). Ahmed et al. (2011) also pointed out that in the Bangladesh

healthcare context, unfulfillment of expectations about quality, effective communication and reliable care translate into dissatisfaction, which again may discourage people from interacting with the health system, particularly in the case of chronic diseases. The study done in 2021 and published in the journal PLOS ONE assessed service availability and readiness for managing CRDs across different tiers of health facilities in Bangladesh. This showed a huge preparedness gap, with only 3.1% of the health facilities sampled in the tertiary care hospitals identified as ready to manage CRDs.

Justification

There is scant literature available regarding patient care pathways of CRDs in Bangladesh. This study explores CRD patients-care pathways and analyze the impacts of the current healthcare system structure on patients' experiences of time to treatment, financial burden, and satisfaction. This exploratory study also aims to shed light on the healthcare pathways of CRD patients at a sub-district level government hospital in Bangladesh. By identifying the barriers and facilitators to care, the study seeks to inform recommendations to improve access, quality, and outcomes for CRD patients. Additionally, the findings can contribute to policy discussions on strengthening health systems to address the growing burden of CRDs in Bangladesh. The identification of such barriers and the influence of those factors on patients will provide necessary insights into the shortfalls of the current system and support the development of strategies to reduce gaps between the need and the receipt for CRD patients in Bangladesh.

Research Questions

1. What are the care pathways encountered by patients with CRD 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 CRD?
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 CRD patient outcomes in a selected sub-district level government healthcare facility.

Specific:

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

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

2.1 To explore the various factors that influence care pathways of CRD 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 experiences 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.

Conceptual Framework

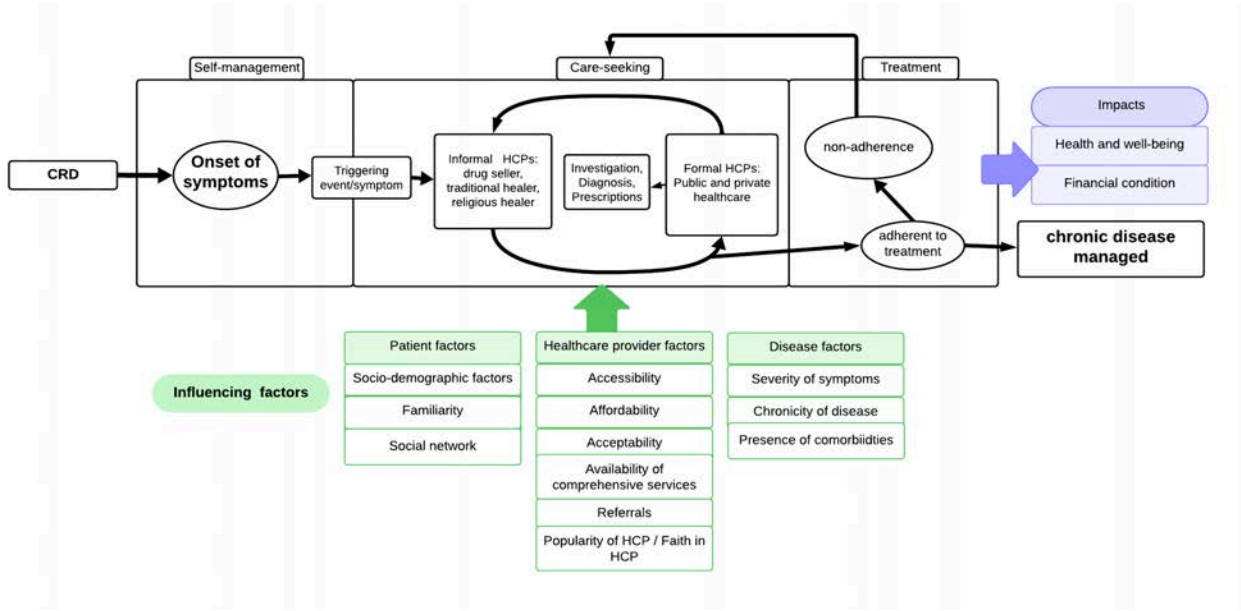


Figure 1: Care Pathways of CRD patients, influencing factors and its impacts (Adapted from Scott et al, 2012)

This study's Patient Care Pathway Framework is adapted from 'The Model of Pathways to Treatment' (Scott et al., 2012), a validated model for analyzing patient-reported pathways to diagnosis and initial treatment. It also draws from insights from the framework employed for the study on patient pathways and perceptions of hypertension treatment, management, and control in rural Bangladesh (Naheed et al., 2018).

The care pathway is shaped by various influencing factors, including sociodemographic factors (e.g., age, gender, socioeconomic status), healthcare provider (HCP) factors, and disease-related factors. These influences determine the trajectory across three key intervals: self-management, help-seeking, and treatment. This conceptual framework also provides a broad perspective on the care-seeking trajectory of patients with CRD, covering the onset of symptoms, self-management, help-seeking, and treatment stages of care, in addition to addressing consequences for health, well-being, and the financial status of the patients.

It also brings forth critical influencing factors that shape patient decisions and behaviors along the pathway of care.

a. Onset of symptoms and Self management - The journey begins with the onset of symptoms, such as mild to severe respiratory problems including breathlessness or persistent coughing. At this stage, many patients practice self-management, as guided by personal beliefs, social networks, or influence of culture. This phase involves resorting to home remedies or delaying professional care when the symptoms appear to be within manageable levels or related to nonspecific diseases. The process of moving from self-care to seeking care elsewhere is usually motivated by a triggering event, which may include sudden worsening of symptoms, a major health episode, or advice from family or community members. For example, a severe symptom exacerbation may make patients seek informal or formal healthcare providers.
b. Help seeking behaviour -

Informal Health Care Providers - During the initial help-seeking stage, most of the patients visit informal HCPs including, drug sellers, traditional healers, religious healers, village doctors. The informal HCPs often have preference from the patients through access (proximity), cost, and trust with either personal or community experience. Most informal providers are seen as the first contact by patients, providing symptomatic reliefs but with minimal etiological treatment.

Shift to Formal Health Care Providers - As the problem persists or worsens, patients shift to formal healthcare providers that include, the public facilities, like Upazila Health Complexes (UHCs), were valued for their affordability and availability of free or low-cost medicines. Private facilities were favored based on perceived higher quality of care, shorter wait times, and superior patient-provider interactions, however, cost may be higher compared to public facilities. This is not a linear transition; rather, patients frequently cycle between informal and formal providers depending on symptom progression, financial constraints, and perceived quality of care.

c. Treatment Pathway - Upon diagnosis, the patients enter the treatment phase, where the outcomes depend on their ability to adhere to prescribed treatment regimens. The framework identifies two possible pathways, namely,

Adherence to Treatment : The patients who adhere to the prescribed treatments are most likely to manage their chronic disease and thus achieve better health outcomes and an improved quality of life.

Non-adherence to Treatment : High treatment costs or erratic availability of medicines might cause a lack of confidence in the patients, leading to incomplete adherence and thus worsening health and increased economic costs. Non-adherence may lead to a vicious circle in which patients return to informal providers or delay care, compounding their health conditions.

d. Impacts - The results of the care pathway have been divided into two broad areas of impact, Health and Well-being and Financial Condition. Good management of CRD results in improved physical and mental health of the patients by reducing the burden of chronic symptoms. Conversely, fragmented pathways of care and non-adherence lead to increased health challenges, thus a poor quality of life. The management of a chronic disease like CRD is extremely costly, especially in resource-poor settings. The costs for medicines, diagnostics, and transportation may require patients to make heart-wrenching choices between healthcare and basic needs.
e. Influencing Factors - The factors influencing the health-seeking pathways of CRD patients were patient, health provider, and disease-related factors. Patient-related factors include sociodemographic like age, sex, income, and education, supplemented by previous healthcare experiences and social networks that influence decisions about where to seek care. Among such determinants, the most prominent include healthcare provider factors like access, affordability, quality of care, provider popularity, and trust, which may include referrals for diagnostics or specialist advice. Disease-related factors would relate to symptoms of severity and chronic nature, thus dictating urgency and type of care needed. Such factors dynamically interact to shape how patients navigate to obtain care.

2.0 Methods

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 CRD patients.

Study site and settings

The study was conducted at an Upazila Health Complex (UHC) in Keraniganj, in Malancha, Dhaka, Bangladesh. Keraniganj is a sub-district (Upazila) of Dhaka District in central Bangladesh (See 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 for 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 as well.

Study population

CRD patients who visited the UHC's NCD corner, Outpatient Department (OPD) and and completed service uptake as well as patients were admitted in the Inpatient Department (IPD) on the days of data collection were part of the sampling frame. The OPD patients were included in the exit interview and the IPD patients were interviewed in their admitted rooms, if they fulfilled the inclusion criteria for the study.

Inclusion criteria:

- Patients above the age of 18 who can give their consent

- Patients who have been diagnosed with CRD (Asthma or COPD)
- Patients who have had a consultation at the NCD corner on the day of the data collection and are about to exit the UHC premises
- Patients who agreed and gave consent to participate in this study
- Patients who were admitted in the IPD with CRD on the day of data collection

Exclusion criteria:

- CRD patients who appear to be severely ill
- CRD patients of the same household
- Patients with any disability (i.e. hearing, intellectual), as it 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

Sample size and sampling

This study adopted a convenient sampling approach and interviewed 20 eligible respondents to understand their pathways to healthcare in the management of CRD. 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 size 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 20 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 CRD management in the context studied.

Data collection tool

Exit interviews were conducted using an in-depth interview (IDI) guide (See Annex 9 and 10). The guide 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. The IDI guide also contained 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 UHC services), in order to comprehensively visualise the data.

Data collection tool development

The IDI guide was developed in line with concepts of other pathway studies (Nuri et. al, 2018) and this study's Patient Care Pathway framework (Figure 3). The tool was developed in English and translated into Bangla by native Bangla speakers. The interview guide was piloted with individuals at the study setting, and necessary adjustments were made before final data collection.

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 and OPD closed at 2 PM. Respondents willing to participate were approached as they exited the NCD corner and OPD rooms. They were then interviewed in a comfortable location, which would be primarily a room within the UHC, or in the seating area adjacent to the NCD corner, or a nearby spot close to their home or workplace, after they provided consent and met the eligibility criteria for the study. The CRD patients usually do not consult in the NCD corner here. They consult doctors in the General OPD or a particular outdoor department. The study team also interviewed patients in the indoor department.

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 reviewed the COREQ Checklist's Domain 1 (See Annex 8). Reflexivity refers to the researcher's self-awareness and acknowledgment of how their own background, experiences, and beliefs, might influence the research process. Positionality involves recognizing how aspects such as gender, class, education, and professional status affect the research and interactions

with participants. By acknowledging these, the research team can contribute to a more ethical and credible body of qualitative knowledge. At the time of writing the report, this 32-item tool was again reviewed, to assess and ensure reporting on this qualitative study comprehensively (Tong et al., 2007).

To maintain 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 (See Annex 5) had been created with initial *a priori* codes drawn from existing literature and the questionnaire, 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 display matrix. Themes were developed through a thematic analysis approach, 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 2).

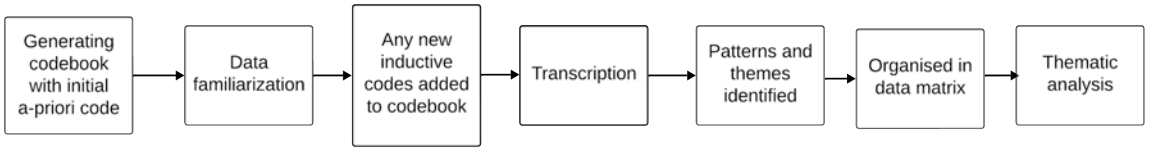


Figure 2 : Qualitative data analysis plan

Quantitative data collected through the IDIs were directly entered into an English format, and descriptive statistics about the respondents' responses 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. Written permission was secured from the UHC authority, the Residential Medical Officer of Upazila Health Complex. During the study, interviewers read informed consent forms (See Annex 11 and 12) in Bangla to all respondents. Written permission was also obtained from the Civil Surgeon's office. Participants were recruited after providing written informed consent (by signing the consent form or providing a thumbprint) for participation and audio recording. Participants 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 this report.

3.0 Findings

A combination of quantitative and qualitative data was obtained for our findings. This report presents those findings in several sections, which include-

A) Sociodemographic profile 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) Sociodemographic profile of the respondents

In this section, we will discuss the sociodemographic characteristics of the 20 respondents (Table 1) . The age of the respondents ranged from 25 to 84 years, among the age categories, 40-54 years and 70-84 years were distributed in equal proportion (30.0%) and majority were male (55%), with most being married (70%), Muslim (95%) and living in peri-urban areas (75%). Slightly more than half of the respondents had no formal education (65%). None of the respondents pursued education beyond

secondary school. Most were not engaged in employment (12 out of 20, 60%) currently, although a major proportion of respondents (12 out of 20, 60%) did not or could not share their monthly income, However, a major proportion of the respondents' household incomes were generally between 5000-10000 BDT (7 out of 20), although 5 respondents did not or could not tell about their household income. Only 2 respondents' average household monthly income was above 20,000 BDT. Most of the households typically had upto 5 members (85%), one household had 10 family members and they belongs a joint family, and over half of the respondents (55%) identified themselves as household heads. Among the 20 respondents, the majority (65.0%) have lived with CRD for more than 5 years.

Table 1: Respondents' Sociodemographic Characteristics (N=20)

Variable	**n**	**Percentage (%)**
Age (in years)		
25-39	2	10.0
40-54	6	30.0
55-69	6	10.0
70-84	6	30.0
Sex		

Variable	n	Percentage (%)
Male	11	55.0
Female	9	45.0
Marital Status		
Married	14	70.0
Ever married[1]	6	30.0
Religion		
Islam	19	95.0
Hinduism	1	5.0
Residence		

Variable	n	Percentage (%)
Rural[2]	5	25.0
Periurban[3]	15	75.0
Education		
No formal education	13	65.0
Less than primary	2	10.0
Primary	4	20.0
Secondary	1	5.0
More than secondary	0	0
Employment status		
Currently working[4]	8	40.0

Variable	n	Percentage (%)
Not working[5]	12	60.0
Present monthly income (in BDT)		
5,000-10,000	3	15.0
11,000-15,000	1	5.0
16,000-20,000	3	15.0
More than 20,000	1	3.0
Cannot/Could not share[6]	12	60.0
Average household monthly income (in BDT)		
5,000-10,000	7	35.0

Variable	n	Percentage (%)
11,000-15,000	1	5.0
16,000-20,000	5	25.0
More than 20,000	2	10.0
Cannot/Could not share[6]	5	25.0
Number of household members		
1-5	17	85.0
6-9	2	10.0
10 and above	1	5.0
Relation to household head		
Self	11	55.0

Variable	n	Percentage (%)
Spouse	1	5.0
Parents	4	20.0
In-laws	4	20.0
Duration of illness		
Under 1 year	3	15.0
2-5 years	4	20.0
6-10 years	7	35.0
More than 10 years	6	30.0

[1] Separated/Divorced/Widowed

[2] Rural areas are typically characterised 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-labourers, persons in business and trade, and others

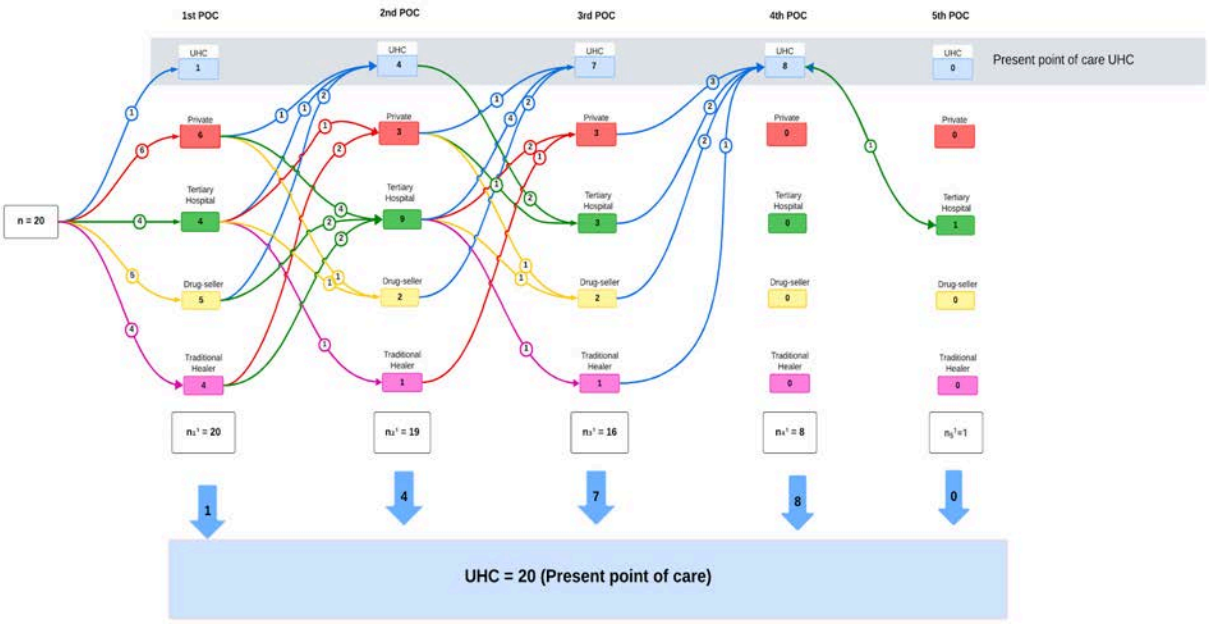
[5] Individuals who are not involved in any income-generating activities including homemakers, and retired persons

[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, hypertension, cerebrovascular disease, ischaemic heart disease, chronic kidney disease, thyroid disorders and others.

B) Pathways of care seeking practices



[1]$n_{1\text{-}5}$ refers to the total number of respondents in each point of care

Figure 3: Healthcare pathways of CRD patients visiting the UHC across all points of care (POC). Numbers within coloured boxes represent the total number of patients for that provider category, in its respective POC column. Numbers

near arrows depict the number of patients moving from the provider of one POC to the consecutive POC. Reconstruction of the pathways presented by Nuri et al. (2018)

Among the 20 respondents interviewed from the UHC, the length of their CRD care pathways varied. For our analysis, we considered the pathway's endpoint to be the point at which the UHC was reached by the respondent. The longest pathway involved five points of care, while the shortest had only one. However, an exception was one respondent who received care simultaneously from both the UHC (as the 4th point of care) and then, a tertiary hospital (as the 5th point of care). (Figure 3)

First point of care

At the onset of symptoms, the 20 respondents accessed a variety of healthcare providers as their first point of care, reflecting diverse care-seeking behaviors. About 95% of the patients sought care from a provider outside the UHC, with a tendency to turn first to informal providers and private practitioners. The first point of contact was drug sellers for 5 patients (25%) and traditional healers for 4 patients (20%). Drug sellers and traditional healers were often preferred because they were more accessible, cheaper, and closer to the patients. Similarly, private providers were consulted by 6 patients (30%) who valued the perceived higher quality and personalized attention of private care despite its cost. Four patients (20%) sought care at tertiary hospitals. Only one patient (5%) directly accessed the UHC as their first point of care and continued his/her treatment there. From this point, 19 of the 20 patients went to a second point of care.

Second point of care

At the second point of care, remained 19 patients transitioned to various providers. Among these 19 respondents, 4 (21%) transitioned to the UHC, among them, two were from drug seller, one from tertiary hospital and another was from private hospital. We found, 9 (47%) respondents reached tertiary hospital as a second point of care. Among these 9, 4 were from private hospital, 2 were from drug sellers and 2 were from traditional healers. There were also 3 patients, who reached private hospitals. Among these 3 respondents, 2 were from traditional healers and 1 was from tertiary hospital. Interestingly, 2 patients visited drug sellers; among these 2, one was from private and

another one was from tertiary hospital. We found one respondent who visited tertiary hospital as a first point of care, he or she transitioned to a traditional healer as 2nd point of health care service.

Third point of care

At the third stage of the care pathway, 16 patients continued their healthcare journey, with notable shifts in their choice of providers. The UHC emerged as a point of care for a big proportion of the patients, with services being provided to 7 (44%) there. Among these 7, 4 were from tertiary hospitals, 2 were from drug sellers and 1 was from private hospital. The increase underlines the growing importance of the UHC as the central provider in the management of chronic respiratory disease as patients transition from initial points of care into more structured services. Private providers and tertiary hospitals equally accounted for 3 patients each. Interestingly, two respondent moved to tertiary hospital who used treatment at UHC at 2nd point of care. Another respondent, reached tertiary who received treatment in private hospital at 2nd point of care. Informal providers of care, like drug sellers and traditional healers, lost their patient numbers and retained only 2, 13%, and 1, 6%, respectively. Two patients who received treatment at drug sellers, previously they visited private and tertiary hospital. The transitions at this stage reflect the dynamic nature of care pathways and the increasing reliance on formal healthcare infrastructure as CRD management progresses.

Fourth point of care

At the fourth stage, 8 patients continued their care-seeking journey making it their present point of care, UHC. 3 patients from private practitioners, 2 from tertiary facility, 2 from drug sellers and 1 from traditional healer altogether consolidated their care at the UHC. The UHC became the sole provider for all these patients still active in the care pathway.

Fifth point of care

At this stage, only one patient continued their care to the tertiary facility while simultaneously seeking care from the UHC. That particular respondent mentioned in the interview that while he was

satisfied with the care at the tertiary center, he also went to the UHC for any minor health issues related to CRD which required immediate medical attention and for free medicines.

Number of respondents consulting each provider category

The majority of respondents sought treatment from multiple healthcare providers. Among the 20 respondents, 14 visited tertiary hospitals, and 11 sought cares from private hospitals at some point in their healthcare-seeking pathways. Additionally, 9 utilized services from local drug sellers, and 6 sought cares from traditional healers during their treatment journey.

Currently, all 20 respondents are receiving ongoing care at UHC, although, one of them also received services from tertiary hospital simultaneously. (See Annex 7)

Duration of care at each HCP

We tabulated how long patients stayed with a particular provider (Table 3), which could help us assess whether they continued care or switched frequently. The UHC had the longest average duration of care, with 6 respondents staying for more than 1 year. Most of the respondents (8) had been taking treatment from the UHC for less than 1 year. Private providers were commonly consulted for 1-2 years (54.5%), often only for a few visits, but a significant proportion also sought a longer term care (>2 years; 27.3%). We also found that among the 12 out of 20 patients who took services from tertiary hospitals, 5 of them continued more than 2 years and 2 of them received services for 1 to 2 years.

For some cases, respondents with CRD, continued receiving health services from drug sellers and religious healers for more than 2 years (44.4% and 50.0% respectively).

Table 2 : Duration of care received at each healthcare provider (N=20)

Healthcare providers	Duration of care					
	<1 years		1-2 years		>2 years	
	n	%	n	%	n	%
UHC (n^2=20)	8	40.0	2	10.0	6	30.0
Private(n^2=11)	1	9.1	6	54.5	3	27.3
Tertiary hospital(n^2=14)	5	35.7	2	14.3	5	35.7
Drug seller(n^2=9)	4	44.4	1	11.1	4	44.4
Traditional healers[1] (n^2=6)	1	16.7	2	33.3	3	50.0

[1] Kobiraaj, Footpath doctor, Village doctor, Pharmacy doctor

[2] n is the total number of respondents at each healthcare provider

C) Factors influencing health-care seeking behaviour

This section explains the factors influencing the decision-making process of the 20 respondents regarding their healthcare pathways.

C.1 Perception of health condition (severity of illness), self-management and diagnosis of illness

C.1.1. Perceived symptoms and severity before diagnosis

The most commonly cited symptoms of onset of illnesses were persistent cough, shortness of breath, and wheezing. At the onset of illness, all of the respondents experienced light symptoms and

increased over time. Many patients also postponed their initial visits to the physicians or formal care by thinking that the symptoms would either go away on their own or with home remedies. The symptoms were seasonal, occurring mostly during the winter. One respondent shared,

" There was a sound inside me like "chiu chiu" when the breathing problem started.. . I did not count it as a major problem. . But these problems increased over time. " (45 years old, female, suffering from CRD for ⅞ years)

Most of them did not initially consider their initial as severe, which exacerbated to delay in receiving health care services. Some had early symptoms that were episodic and became persistent over an extended period.

Several factors ultimately triggered the decision to seek professional health care. Sudden and serious breathing difficulties were the most common, followed by the inability to undertake daily activities because of exhaustion and shortness of breath. Added to these, patients very often refer to social pressures like urging from family members to seek care as a critical factor. Some of them even experienced near-fatal episodes like fainting and severe respiratory distress, underlining the gravity of their condition. While financial constraints were a primary barrier, other logistical challenges further delayed care-seeking for many patients until symptoms became unmanageable.

" When my breathing problem starts, my chest starts to tighten, it feels like I am getting current shock. . . When I could not bear the pain, then my family members advised me to go to the doctors'' (51 years old, male, suffering from CRD for 1 year)

C.1.2.Dependency on self-management practices

All of the study respondents tried to manage their illness at home initially. These self-management practices were varied and widely adopted before diagnosis, and traditional beliefs and community-family member's advices often guided such actions. The common strategies included the use of herbal remedies, over-the-counter medications and dietary changes. The duration of these practices varied with some patients continuing them for many months or even years before seeking for professional help.

Respondents used symptomatic treatments by their own, such as antibiotics and painkillers without prescription. Physical adjustments, such as avoidance of dusty or polluted environments, modification of levels of physical activity, were also quite common. In spite of all these measures, as symptoms progressed and self-management options became insufficient, patients were eventually compelled to seek professional medical assistance.

'Yes I tried to manage my symptoms on my own for months. My wife and mother told me to drink warm water, tulsi cha (holy basil tea), honey cha. At times it seemed to get better, but again the coughing would return and I started having trouble breathing again.' (51 years old, male, suffering from CRD for 1 year)

The findings highlight a notable trend in which the wives of CRD patients play a key role in encouraging self-management practices. These women often took on caregiving responsibilities, guiding male patients toward home remedies and lifestyle adjustments to alleviate symptoms at minimising healthcare expenses. However, females did manage by themselves and we found that the duration of self-management practices among females were longer compared to males. While such practices did provide temporary relief, it often delayed formal care-seeking, potentially exacerbating the condition over time.

Pre-diagnostic self-management of CRD patients was quite common. These practices offered symptomatic relief in the short run but resulted in delayed care-seeking for many; indeed, several of these patients continued symptomatic management for a few months or years from symptom onset. Women-either wives or female patients practicing self-management-facilitated help-seeking behavior; additionally, there was the incentive pertaining to containing expenditure on health. Of importance is that female patients managed symptoms for a longer period than males during self-management. As symptoms worsened and self-management became inadequate, the patients were forced to seek professional medical care; the delays often led to complications and advanced stages of disease.

C.1.3. Diagnosis, its process and delays act as factors

Diagnosis of CRD among the respondents often took time and followed a complex path. This journey often consisted of multiple visits to healthcare professionals, traditional healers, and local clinics before being diagnosed. Knowledge of CRDs was a major recurring challenge among patients but

sometimes among health professionals (i.e. drug seller, healer, etc.) also, often resulting in under-diagnosis or undertreatment.

Many patients are delayed in seeking diagnostic tests such as spirometry or chest X-rays-just because of financial constraints or lack of availability of services. Some respondents also stated that they did not even go to any healthcare provider unless the symptoms got severe. One of them mentioned,

" At first I did not give importance to my symptoms. I bought meds from pharmacy, got better and went on. But then I noticed the symptoms are getting worse day by day. If I knew my symptoms will become this serious, I would have gone to a doctor sooner." (26 years old female, suffering from CRD for 3 years)

This statement illustrates that unawareness and insignificance of early symptoms are barriers to seeking professional care and thus leading to delayed diagnosis. This is an example of how early identification of illness and timely medical intervention are necessary to avoid the onset of chronic respiratory disease.

Frustration with the fragmented healthcare system is common, as diagnoses are often made only at advanced stages and typically in specialized centers or government hospitals. Additionally, factors such as distance and bureaucratic obstacles further hinder timely diagnosis.

C.2 Factors influencing the choice of healthcare provider

It describes the factors influenced their choices, and the reasons behind their decisions to seek care for managing CRD (Table 4). The choice of healthcare provider among respondents was influenced by various factors like “push and pull factors”, which varied across provider types. Push factors refer to circumstances or dissatisfaction that drive individuals away from a particular healthcare option. Pull factors, on the other hand, represent the positive attributes or incentives that attract patients toward a specific provider. These factors varied across public, private, and alternative healthcare options, reflecting diverse experiences and needs

Table 3 : Factors influencing choice of Healthcare provider (N=20)

Variables	UHC	Private	Tertiary	Drug Seller	Traditional Healer
	N	N	N	N	N
Accessibility (Distance and time and travel cost)	20	10	1	9	6
Affordability	20	2	8	9	4
Acceptability	18	8	12	9	6
Social Network[2]/referrals	16	5	8	7	6
Previous experience	14	1	6	7	1
Popularity of HCP	16	5	6	9	6
Availability of comprehensive care	8	0	4	0	0

[1] Total percentage will exceed 100 as there are multiple responses

[2] 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. Support system to make decision for choosing health care providers

Family members and past experiences significantly influence healthcare-seeking behavior, with some responses highlighting the profound influence of social networks on healthcare-seeking decisions.

Individuals often rely on the experiences and recommendations of trusted community members when deciding on a course of treatment, especially in areas where traditional healing practices like those offered by a "kobiraaj" (traditional healers) are culturally prominent. This dependency underscores the importance of understanding community dynamics and leveraging social networks to promote awareness of and access to evidence-based healthcare solutions.

" One of my relatives plus one of my neighbors went to that kobiraaj and they said they got well. They took me there." (51 years old, male, suffering from CRD for 1 year)

Recommendations from friends, family, and community members shaped the choice of healthcare providers as well. If a community member gave a good review about an HCP, then the rest of the members will definitely consider going to that HCP. 16 of the 20 respondents stated that their social network played vital role in choosing UHC as their HCP.

" No matter how big a hospital is like Dhaka medical, wherever I go there I feel scared, I do not feel good. But here even if I do not get treatment or medicines, I like to come here (UHC). I do not know why I feel like this, may be because this place is known to me, the people that come here are known to me. Feels like this hospital is ours." (50 years old female, suffering from CRD for 1 year)

In most cases, the decision ultimately rested with the respondents themselves. The majority chose which healthcare service to access, guided by their immediate needs and personal circumstances as well as suggestions received from family members and community peoples.

" Many of the suggested me to go to many other places. . I went to every places by myself. At this point I had some idea where to go when my breathing difficulty started. " (73 years old, male, suffering from CRD for 3 years)

C.2.2. Affordability of Services

Financial burden was a significant determinant, with many respondents highlighting difficulties in affording treatments. As the respondents are suffering from this disease for a long period, most of them has come to that stage where they are struggling with financial stress after spending much amount of money for their treatment. Although they start their treatment with better options and want to keep it like that, but financial stress and family, household expenditures gradually lead them to omit those options.

> *" Today I need rice and gas in my home. Or keep the money for my daughter's education? . . What will I do, buy rice, buy gas or buy medicines? " (40 years old, male, suffering from CRD for 10/12 years)*

In UHC and govt hospitals they get free medicines and investigations in half price. But they also complained the lack of supply of medicines, which eventually they have to buy from outside. Due to lack of affordability they choose those service which is less costly, as most of the respondents are from poor economic conditions. Even at one point family members are not willing to support financially as they are serving for long time and now they are not able to.

> *" My family goes to other private hospitals for their health problem. I do not have enough money that I can also go and do my treatment in private hospitals. I am a poor person, I get free medicines from here. I remain well." (75 years old male, suffering from CRD for 7 to 8 years)*

Many of the respondents with CRD were low-income individuals with limited economic resources. Such patients usually depended on irregular sources of income and, therefore, making it difficult to afford regular medical care. Some were elderly with no stable income, depending on family members or other peoples to cover their healthcare expenses. Others were women who managed household responsibilities and had minimal financial independence, further limiting their ability to afford necessary diagnostic tests or treatments.

The lack of economic support frequently forced these patients to delay seeking care, skip diagnostic tests, or rely on low-cost, informal providers like drug sellers or traditional healers. These delays and compromises often led to the progression and worsening of their condition over time.

" No one gives me money for my treatment now. My daughter can barely pay for the foods on our table. People around gives me money now out of pity." (67 years old, female, suffering from CRD for 6 to7 years)

These quotes paints a stark picture of the financial and emotional burden faced by this 67-year-old woman suffering from CRD for 6-7 years. The statement highlights the challenges of affording healthcare in the absence of a sustainable support system, especially as her daughter's financial limitations prevent her from prioritizing the mother's treatment over basic survival needs, such as food. The mention of receiving money from others "out of pity" reflects a deep sense of vulnerability and dependency, which can erode personal dignity over time. It also points to the lack of systemic support, such as social welfare programs, to address the needs of patients in similar conditions. This quote is a powerful reminder of how chronic illness can intertwine with poverty, creating a cycle of dependency and emotional distress for both patients and their families.

On the other hand, we can see another picture of a male respondent who did earn enough money to continue treatment wherever he wanted. He is currently working as a contractor and carpenter and earns 50000 to 60000 BDT per month. He was able to afford the necessary services for his treatment in any service points of care. But he did get better, rather his condition became worsened. Due to his illness, his wife left him.

" I spent enough money for my treatment, wherever the doctors suggested, wherever my family, relatives suggested, I went to those places. But every winter it's the same condition. Also what's the point of this money if I cant keep my wife happy. .she left me" (50 years old male, suffering from CRD for 20 years)

Upon asking about his financial and mental health impacts, he further added,

" *I never felt such financial burden. I earned and I spent money as my family wanted. Never had to borrow money. I only have one tension of my illness. I only worry about my wife. I miss my wife*."

C.2.3. Accessibility (Distance and Travel Cost)

The study found that proximity to healthcare facilities, particularly in terms of travel costs and distance, are some crucial factors in individuals' healthcare-seeking behavior, particularly for patients with chronic illnesses.

In many instances, physical distance between home and healthcare facilities created a barrier as this involved traveling long distances for long time, which might be very exhausting for a sick person. Some respondents did opt their better treatment due to the combined burden of travel fares and treatment costs.

Among the interviewed respondents, nine of the respondents reported that due to the long distance, including treatment cost, they left tertiary hospital even treatment was ‘good’ in that service points.

Most respondents in this study, who came to UHC live within close proximity. One respondent mentioned he can go to the UHC either by walking or by an autorickshaw which costs 10 taka. From table 5 we can see that, majority of the respondents (80%) mentioned that they came to UHC by autorickshaw and the rest of them came by local CNG. 95% of respondents said it takes 20-80 taka to get to UHC. One respondent stated that,

" I had to spend a lots of money for my travel fares. Travel fares are high for me (gari bhara churanto bhara). . I cannot bear this expenses for my regular visit ” (55 years old female, suffering from CRD for 25 years)

This quote depicts the significant financial burden of transportation costs for patients seeking healthcare. For individuals, the expense of traveling to healthcare facilities—whether for diagnostics or treatment—can often exceed the cost of the medical services themselves. This barrier not only strains finances but also discourages timely care-seeking, potentially worsening health outcomes.

Table 4 : Travel Methods and Associated Costs for Accessing UHC Services

Variables	N	%	Travel Fare (in BDT)
Mode of transportation			
Walking	1	5	
Auto rickshaw	16	80	
CNG	4	20	
No cost	1	5	
20-80	19	95	
80-150	1	5	
>150	0	0	

[1] Travel fare counted as round trip from home to UHC

[2] Total percentage will exceed 100 as there are multiple responses

C.2.4. Availability of Comprehensive Services

Patients 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 as this service might point treatments for other illness also. However,

on some occasions, the UHC facility failed to even give the service of basic pathological tests to patients which some of the respondents mentioned.

> *" They said I need to go downstairs to do Xray. But the x-ray machine is broken. They told us to go outside to do x-ray. Who is going to pay for the rickshaw fare to go there and the cost for X-ray test? " (40 years old, male, suffering from CRD for 10/12 years)*

The presence of specialized care and the ability to address multiple health issues in a single location were critical factors. However, these needs highlight the challenges posed by the lack of comprehensive services within existing healthcare facilities.

C.2.5. Familiarity and Popularity of Healthcare Provider

Reputation of and trust in the healthcare provider or institution significantly influenced decision of patients to choose particular PHC. . In most cases, respondents would prefer seeking drug sellers first for minor illnesses because they are more accessible and affordable; as their condition worsens, they shift to other health facilities. More than half of the respondents visited the UHC on referral, mainly because of being informed that the physicians in the UHC are worth seeing and also giving them the medicine they require.

> *" This doctor in room 8 (ayurved doctor) is very very good. . .therefore many of the patients go to this doctor'' (50 years old, male, suffering from CRD for 20 years.)*

Past interactions, both positive and negative, influenced trust in healthcare providers. Some respondents opted for then certain HCP because they had good reviews about them. One respondent who had both positive and negative feelings about gov hospital and UHC. He did not previously consider to receive health services from UHC. However, after getting admission to UHC, he found the services satisfactory and he would refer some other people in his community to come UHC for treatment and care.

" I thought the treatment will not be up to the mark…Here the services, the doctors, the nurses are really expert. After admission, the nurses explained the medicines and everything. I will tell other to come here for treament'' (75 years old male, suffering from CRD for 4 years)

D) Experience at all service delivery points

D.1 Experience at Upazila Health Complex (UHC)

The role of the UHC along the pathway to care for chronic respiratory disease patients, especially in resource-limited settings, is crucial. As the interviews were conducted at the UHC facility, they study give an emphasis on the experience and satisfaction to receive services at UHC.

Satisfaction and challenges at UHC

For many patients, this would be the last and most depended-upon point of care, especially after transitioning from informal providers (like, drug sellers and traditional healers) or private care which are beyond one's financial capabilities. Some even transitioned from tertiary care to UHC making it their present and continued point of healthcare services . Many people come to the UHC for its free medications, which are a lifeline to the low-income patients struggling with the financial burden of dealing a chronic condition. Situated centrally in the sub-district, UHC is far more accessible than tertiary hospitals, which are typically situated in urban areas and require considerable travel, time and expense to access. Therefore, accessibility, combined with affordable care, underscores the UHC's critical role in supporting CRD patients in underserved communities. One respondent mentioned,

" I also get free medicines from here. Its difficult to go to PG (a tertiary hospital) all the way. They may give the same medicines, but I do prefer UHC, as it is near to me." (60 years old male, suffering from CRD for 50 years)

Another respondent reflected positive experience on UHC. She emphasized on the satisfaction with the quality of care and the environment at the facility. She stated that,

" This facility is good. I like the treatment here. The building is clean and the nurses in the ward are very good." (55 years old female, suffering from CRD for 25 years)

Satisfaction with consultation at UHC

The majority of respondents (13 out of 20) rated the quality of care at UHC as "Good," with only 1 respondent describing it as "Excellent." However, a small but significant percentage found it "Poor," highlighting room for improvement in service delivery (Table 6). Most consultations (65.0%) lasted between 2-5 minutes, with only 15% extending to 6-10 minutes, and 15% lasting less than 2 minutes. Only 1 respondent, an indoor patient, stated that his consultation time was longer than 10 minutes. Most of the respondents who were outdoor patients mentioned they were not satisfied with the consultation time. One respondent shared,

" The doctor did not give me any attention and enough time? The doctor did not ask me anything. I am coughing also, they did not ask anything about that. Moreover said there are no medicines today. What is the point in coming here then?" (45 years old female, suffering from CRD for 7 to 8 years)

Respondents frequently highlighted a less positive aspect of their experience at the UHC, such as limited consultation time of the doctors at the UHC. Among 20 respondents, 65% felt the consultation duration was adequate, among them were indoor patients who said their consultation time was enough, 35% found it inadequate, reflecting a need for more thorough interactions. While the indoor patients said that their doctors gave them enough time, but the outdoor patients were expressed dissatisfactions regarding consultation time. They waited in long lines for a long time, and some of them mentioned that the doctor gave them time less than 2 minutes. Overcrowding is also an issue, mentioned by the respondents, leading to rushed consultations in which patients feel belittled and are not able to discuss their condition in full. One indoor respondent stated,

" He (doctor) did not ask me anything. Wrote what he needed to write. Gave me another expensive inhaler. The OPD doctors are the same as well. They do not have enough time for us." (40 years old male, suffering from CRD for 10/12 years)

Some praise the UHC for its competent doctors and accessible services, while others express dissatisfaction with the quality of care, particularly neglectful experiences from care providers, which reduced patient trust. One respondent became disheartened as the health service provider was not respectful to him.

" Here the treatment is good, but the staff is very bad, they misbehave a lot. I have to file a strong complaint against the Pathologist here specially. He misbehaved with every patients here. " (73 years old male, suffering from CRD for 3 years)

But on a positive note, 95% of respondents reported feeling respected by healthcare providers, which is again depicted by this quote:

" Yes they have always behaved good with me." (60 years old female, suffering from CRD for 4 to 5 years)

Encouragingly, all respondents (100%) reported that their privacy was maintained during consultations, demonstrating positive interpersonal care aspects.

Table 5: Satisfaction and challenges with quality of care at last consultation at UHC

Variable	N	Percentage (%)
Perception of Quality of care		
Excellent	1	5.0
Good	13	65.0

Variable	N	Percentage (%)
Poor	6	30.0
Duration of consultation (in minutes)		
< 2	3	15.0
2-5	13	65.0
6-10	3	15.0
> 10	1	5.0
Perception of consultation duration		
Adequate	13	65.0
Not adequate	7	35.0
Feeling respected by the HCPs	**19**	**95.0**
Privacy was maintained during the consultation	**20**	**100.0**

Diagnostic Facilities and information

One of the major problems respondents face is a shortage of functional diagnostic equipment. For example, the broken X-ray machine at the UHC made it necessary for patients to seek diagnostics from external facilities, increasing financial and logistical burdens on them. This lack of reliable diagnostic tools disrupts continuity of care and delays critical treatment for CRD patients, whose conditions often require regular monitoring. One of them said,

" My neighbors, people around told me that here they do tests for asthma. But when I came here they said X-ray machine does not work, or the x-ray technician is not available, or there is something wrong with electricity. How can a facility of this level be like this?" (48 years old female, suffering from CRD for 15 to 16 years)

Therefore, there were lack of communication and transparency in maintaining service delivery. Many patients often complain of not being informed in advance about the facility's limitations, such as broken equipment or unavailable services. For example, one might be referred to other centers for diagnostics without prior notice, which creates unnecessary inconvenience and frustration. Thus, the lack of transparency in communication negatively impacts the overall experience of the patients and creates more barriers to effective care.

Medicine Availability

There were reports of arbitrary practices in the distribution of medicines, with some patients feeling that access to medications depended on the whim of healthcare providers. Such inconsistency breeds frustration and erodes trust in the UHC, and often patients are forced to use private pharmacies or other providers to obtain essential medicines. For low-income patients, this creates an added financial burden because they cannot afford to buy medications outside the facility.

These mixed sentiments highlight the roles of UHCs as vital care providers and reflections of systemic gaps in healthcare delivery. Despite these challenges, UHC remains a cornerstone of care for many patients. Addressing

D.2 At tertiary hospitals

Tertiary hospitals were usually sought after when there was a need for advanced diagnostics or specialized treatment, especially when the symptoms of the respondents were not getting better. In some cases, when the respondents started their care from informal care, they were suggested to go to the tertiary facilities for better treatment.

' The drug seller told me to go to PG. They said as these medicines are no longer working I needed to see a better doctor." (26 years old female, suffering from CRD for 3 years)

Respondents did mention they got free medicines and investigations done at half price in tertiary hospitals. But other issues like long distance travels and overcrowding created significant obstacles to

continue their treatment there. One respondent reflected his emotional and psychological discomfort due to the unfamiliarity experienced in the tertiary setting.

" I did not like it in Mitford (tertiary hospital) when I was taken there. I had a stroke. That place had such unfamiliar vibe." (75 years old male, suffering from CRD for 7 to 8 years)

' Treatment in Sohrawardy (tertiary hospital) was good. Everything was good there. But there was no space. I was admitted but I had to sleep on the floor, outside hospital premises." (73 years old male, suffering from CRD for 3 years)

Overall, patients' experiences in tertiary care were mixed. While they appreciated the availability of advanced diagnostics and specialized care, challenges such as long travel distances, overcrowding, and impersonal environments often left them feeling dissatisfied and stressed.

> *" Mitford was quite far from us. However, so after 2 years, I would like to change the doctor to assess whether the new doctor at Midfort will give any other better medicine or not." (49 years old female, suffering from CRD for 10 years)*

D.3 At private facilities

Most respondents opted for private health care if those were near their home. They who went to private clinic, stated that in most case scenarios a private chamber was near their home rather than other primary or tertiary facilities or other hospitals. But due to affordability most of them had to stop. Although there were high expenses in the private sector, the service was satisfactory according to them.

"In private chambers we spent a lot of money. So that service was good." (48 years old female, suffering from CRD for 15 to16 years.)"

Another respondent who was suffering from CRD for almost 8 years and went to a private doctor in a private hospital near his home. There he was advised to go to a diagnostic facility to do some tests which were necessary to follow up his disease progression, but the services were not available in that hospital. The facility was also private, far away from his home and expensive.

" Dr Kafi from City Hospital told us to go to Shyamoli to do some tests. That place was quite far and it was very expensive." (73 years old male, suffering from CRD for 8 years)

This underlines a gap in the systemic presence of reasonably priced and accessible diagnostic facilities at primary healthcare levels. As the respondent was already taking consultation from private chamber, doing diagnostic tests from private facility were another burden on him and his financial situation.

D.4 At drug-sellers

Other important contact points of care were from drug sellers, especially those patients who were looking forward to symptomatic treatment at an affordable cost. Patients liked the easy accessibility of medications available without prescription. They started their care from there. One respondent who knew from another CRD patient that if anyone had breathing problem, the doctors usually prescribe the medicine 'Monas 10' and that medicine is available in any pharmacy. So he went to a drug seller near to him and bought it .

" I take Monas 10 for my asthma. No doctor prescription is needed for that. You can get it in any pharmacy. I just go there and tell the drug seller that my breathlessness has increased and they give me." (45 years old female, suffering from CRD for ⅞ years)

Another respondent stated that after onset his symptoms, he tried self management and then went to a pharmacy. He asked the drug seller for suggestions and the drug seller gave him medicine without any prescription.

" I waited for a month before going to doctor. I drank ada tea, warm water with lemon. I went to pharmacy and told the drug seller I am having difficulty breathing. They gave me Monas 10." (73 years old male, suffering from CRD for 3 years)

These quotes highlight the significant reliance on drug sellers for managing chronic respiratory disease (CRD) symptoms, reflecting accessibility and affordability as key factors driving this behavior.

D.5 Traditional Healers

Traditional healers were a preferred option for some patients, especially in the initial stages of illness. Cultural beliefs and recommendations from social networks played a significant role in their choice. Patients appreciated the affordability and emotional comfort provided by traditional healers, who often aligned their treatments with cultural or spiritual practices.

" The people around me suggested I go to this kobiraaj who used to come to my area for once a week. My neighbours said they felt better but they had other physical problems." (50 years old male, suffering from CRD for 20 years)

However, some of them had not belief on 'Kobiraji' treatment for this types of illness. They strongly believe that they needed doctor;s treatment for these diseases. One respondent replied with an interesting insight when she was asked about whether she ever visited any traditional healers.

" This disease treatment is not for pir fokir kobiraaj. Only doctors can give treatment for this." (45 years old female, suffering from CRD for ⅞ years)

E) Impact of the journey on respondents health, well-being and economic imperatives

Illness journey and its impact on respondents' health and well-being

This section explored how the illness journey impact on respondent's health and well-being. The illness journey of CRD patients significantly impacts their overall health and well-being, as reflected in their experiences. Chronic symptoms, such as persistent breathlessness, cough, difficulty in breathing and fatigue, take a physical toll, while the struggles of navigating a fragmented healthcare system add emotional and financial burdens. One respondent shared,

"I am not well. I cannot sleep much. My daughter worries a lot about me." (50 years old female, suffering from CRD, for 1 year)

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Most of the respondents who had been suffering from CRD for more than 4-5 years felt that their health and well-being had been adversely affected because of a combination of factors, mainly due to delays in seeking appropriate care and systemic barriers within the healthcare system. One of the major reasons identified was their lack of awareness about the seriousness of their symptoms in the early stages. Most respondents were not considering their initial symptoms to be severe, and they had been managing themselves or seeking informal providers, like drug sellers or traditional healers. It was only when the condition became critical that they sought care. This was usually fairly late in the course of their disease, making effective management even more difficult. This delay in seeking care was perpetuated by a lack of knowledge about where to go and when to seek medical help. Many patients explained how they waste much time going from one provider to the next without getting an apparent diagnosis or treatment plan, either informal or formal points of care. Financial constraints further exacerbated their condition by failing to access continued, comprehensive care. Most of the respondents could not afford the diagnostic tests, such as X-rays and spirometry, and costs of transportation and medicines. The public facilities, such as the UHC, provided some subsidy in medicines and services, but most of the time these were irregular or not available, meaning that patients had to buy more expensive alternatives or forego the treatment altogether. Private care, perceived to be superior, was inaccessible due to cost constraints for the average patient and prevented most from having frequent follow-ups or long-term care. Financial barriers have made

many feel abandoned and poorly supported; some patients believed that their condition would deteriorate because of these financial constraints.

Another physically and emotionally vulnerable respondent said,

"Sometimes I pray to Almighty to die. It hurts so bad, I struggle so much, I lose the will to live," (26 years old female, suffering from CRD for 3 years)

This quote reflects the profound emotional and physical toll of chronic respiratory disease (CRD) on the respondent's quality of life. This expression of despair underscores the debilitating nature of the condition. The interplay of physical suffering and emotional distress creates a vicious cycle, where mental health deteriorates further due to the overwhelming nature of the illness. The act of praying for relief through death signals a cry for help and the need for support—not just medically but also emotionally and socially.

Illness journey and its impact on respondents' financial condition

Here we will discuss the impacts of financial condition of the respondents. The illness journey of respondents managing chronic respiratory disease (CRD) had profound implications on their financial stability. The chronic nature of the condition, requiring continuous medication, diagnostics, and frequent consultations, placed a significant financial burden on patients and their families. Respondents often reported struggling to balance healthcare expenses with daily living costs, leading to financial distress and difficult trade-offs. One respondent shared,

"No one gives me money for my treatment now. My daughter can barely pay for the food on our table. People around give me money now out of pity," (67 years old female, suffering from CRD for 6/7 years)

This quote highlights the extent of economic vulnerability and dependency created by the cost of managing CRD. Another respondent recounted,

"Sometimes they don't have the medicine I need, and I have to buy it myself. It's frustrating," (80 years old male, suffering from CRD for 5 to 6 years)

This quote indicates how gaps in public healthcare services compelled patients to purchase medications out-of-pocket, adding to their financial burden. Additionally, referrals to external facilities for diagnostics, such as X-rays, imposed additional costs. A respondent noted,

"They said the X-ray machine is broken. They told me to go outside and get it done, but who is going to pay for the rickshaw fare to go there?" (40 years old male, suffering from CRD for 10 to 12 years)

The cumulative cost of transportation, diagnostics, and medications often left families financially strained. Patients with limited incomes or dependents often had to rely on loans, savings, or external support to sustain their treatment. This financial strain underscores the urgent need for comprehensive and affordable healthcare services that address the long-term needs of CRD patients, reducing the economic burden on vulnerable populations.

Discussion

Journey of CRD Patients with a Complex Care Pathway: Delay and Lack of Proper Treatment

The findings of this study highlight the complexities of chronic respiratory disease (CRD) care pathways in Bangladesh's fragmented healthcare system. This study on 20 respondents revealed a care pathway involving up to five points of care, comparable to the four points of care identified in Nuri's (2018) study on healthcare pathways for psychiatric patients. Respondents accessed both formal healthcare providers (UHCs and tertiary-level government hospitals) and informal providers (drug sellers and traditional healers), reflecting a diverse range of healthcare-seeking behaviors.

Care pathways often began with self-management practices, as many respondents did not initially recognize the seriousness of their symptoms, misattributed them to other illnesses, or followed cultural beliefs about treatment. This delay in seeking professional care was further exacerbated by the asymptomatic progression of CRD in its early stages, which is consistent with patterns observed in other chronic conditions (WHO, 2017). The lack of awareness among CRD patients that their condition is a non-communicable disease (NCD) led them to visit general outpatient departments

(OPDs) instead of accessing specialized care at designated NCD corners, underscoring critical gaps in health literacy and system navigation. The lack of information about health facilities, from where they may get treatment, created another barrier for patients to seek proper services. Therefore, they moved between various providers, delaying appropriate healthcare. The Global status report on noncommunicable diseases (2018) also highlighted the importance of health literacy, awareness of NCDs, and the challenges patients face in navigating healthcare systems, including delays in accessing appropriate services due to lack of information and fragmented healthcare pathways.

After initial visits to the UHC, many respondents transitioned to private practitioners, often for short durations, due to the perception of higher-quality care. Parallel care-seeking was also observed, with some patients accessing both tertiary hospitals and UHCs, particularly when the UHC could not address specific concerns, such as privacy or providing adequate medicines or tests. Similar findings have been reported in previous studies, which revealed that informal providers, particularly drug sellers, were frequently sought initially due to their accessibility, affordability, and availability on demand (Naheed et al., 2018; Azhar et al., 2009; WHO, 2015). This reliance on drug sellers, a common feature in low- and middle-income countries (LMICs), highlights the significant role they play in healthcare systems where formal services are not easily accessible or affordable (Smith et al., 2009).

Many respondents relied on informal care due to its availability and accessibility, quick symptomatic relief, and convenience, such as ease of access and comfort. However, this practice often delayed proper diagnosis and treatment, worsening their condition over time, as found in many other studies.

Underlying Influencing Factors of Making Decisions for Choosing Healthcare Services

Our findings show that financial constraints also led to short-term engagement with private practitioners, with patients eventually returning to UHCs due to affordability and the availability of essential services. The long durations of care observed at UHCs reflect their central role in CRD management; however, challenges such as inadequate supplies of essential medications, limited privacy, and brief consultation times reveal significant gaps in service quality. Inadequate supplies for NCD treatment have been well-documented in studies such as Naheed et al. (2018) on hypertension pathways and Kabir et al. (2022) on healthcare systems in Bangladesh. Push factors, such as financial constraints in private care and the unavailability of diagnostic tools or medications at public facilities,

frequently caused patients to transition between providers. Restricted access to appropriate treatment due to cost and availability has been highlighted in previous studies on healthcare utilization in LMICs (Lewis and Newell, 2014).

Social networks, family members, and community people also played a role, as respondents often sought advice from family and community members before making healthcare decisions. Other studies found that social influence greatly influences decision-making in choosing particular healthcare points.

At the final point of care, the UHC, respondents generally expressed satisfaction with the services provided, particularly the availability of free or subsidized medications. However, concerns about inadequate consultation time, instances of disrespectful behavior, and privacy issues were noted.

Other studies on Upazila Health Complexes (UHCs) in Bangladesh reveal mixed levels of client satisfaction. While some clients appreciate the affordability and accessibility of services, many express dissatisfaction due to issues such as inadequate supply of essential medicines, overcrowding, lack of diagnostic facilities, and limited consultation times. For instance, Kabir et al. (2022) highlighted the gaps in essential medication supply and diagnostic services, while Hossain et al. (2014) pointed to overcrowding and understaffing as significant factors impacting patient satisfaction.

Impacts of Complex Care Pathways and Treatment-Seeking Behaviors on Patients' Health and Well-Being

These challenges impacted the patient experience, with some respondents seeking parallel care at other providers to address these gaps. Other studies on healthcare utilization in Bangladesh and similar low-resource settings support the finding that parallel care is sought when there is a lack of service delivery on the part of the patients. Naheed et al. (2018) established that often, patients tend to seek parallel care when public facilities fail to offer proper services, including essential medicines or privacy. On related lines, Giasuddin et al. (2012) noted that in their study, nearly 29% of patients sought care from multiple providers concurrently owing to dissatisfaction with service quality or needs being unmet at primary healthcare centers. By contrast, Lewis and Newell (2014) noted that patients sometimes continue dependence on one provider alone in spite of the presence of gaps in the

service either due to affordability or lack of other alternatives. These studies have highlighted the similarities and contextual variations in care-seeking behaviors in different healthcare systems.

CRD patients also reported significant emotional and financial impacts. The chronic nature of the disease, combined with persistent symptoms like breathlessness and fatigue, led to anxiety and emotional distress, with many viewing CRD as a lifelong burden. Similar findings have been reported in other studies, emphasizing the significant emotional and financial burdens associated with chronic respiratory disease (CRD). For instance, the World Health Organization (2017) highlighted that the persistent symptoms of CRD, such as breathlessness and fatigue, often lead to psychological distress, including anxiety and depression, as patients perceive their condition as a lifelong burden. Additionally, Barlow et al. (2002) noted that the chronic nature of such diseases frequently disrupts daily life, creating a sense of helplessness and frustration among patients. Financially, the costs of transportation, medication, and diagnostics created heavy burdens, particularly for those with comorbidities. These financial pressures forced difficult trade-offs between managing CRD and addressing other household needs, aligning with existing literature that highlights the role of socioeconomic factors in healthcare access and decision-making in LMICs (Braveman & Gottlieb, 2014).

Our findings show that cultural and social influences also shaped care pathways, with reliance on advice from social networks and traditional beliefs affecting initial care-seeking behaviors. Other studies have also found that community recommendations significantly influence healthcare-seeking behavior among NCD patients, particularly in the context of Bangladesh, where people live in close-knit communities (Naheed et al., 2018). These findings suggest opportunities for community-based interventions to improve awareness and encourage timely care-seeking for NCDs like CRD. Addressing systemic gaps, raising awareness about NCD corners, and improving the quality and accessibility of UHC services can significantly enhance the healthcare experience for CRD patients in resource-limited settings.

Challenges and Study Limitations

This study faced several challenges and limitations that affected the scope and quality of the research. Time and resource constraints were a significant limitation, as the researchers had a limited period to collect data, which restricted the number of participants and the depth of exploration into patient experiences. Additionally, resource and budget limitations made it difficult to expand the study to include multiple healthcare facilities or a larger geographical area. The study team also encountered challenges in engaging respondents as time was very short to build rapport with respondents. Some respondents were unwilling to give their time for interviews, as they were busy or uninterested in sharing their experiences. A few respondents initially agreed but later refused to sign the consent form, preventing their participation. Furthermore, some participants started the interview but left midway, leaving their responses incomplete, which created gaps in the data. These issues made it difficult to gather consistent and detailed information from every respondent. Finally, the study relied on self-reported data, which could be affected by recall bias, as respondents might not accurately remember all details of their healthcare journeys. Despite these challenges, the study provides valuable insights into the healthcare pathways of CRD patients. However, addressing these limitations in future research—such as allocating more time, securing adequate funding, and building stronger engagement with participants—can help improve the robustness and depth of similar studies.

Conclusion

Patients with CRD often face a complex and difficult journey when trying to access and utilize healthcare services. These challenges frequently result in delays in obtaining appropriate formal care, exacerbating their condition. While UHC serve as a primary point of healthcare, they are not yet fully equipped to provide high-quality CRD services. However, UHCs remain a more accessible and affordable option for CRD patients, especially for those from poor, rural, and socioeconomically disadvantaged backgrounds. Strengthening these centers to deliver specialized CRD care can significantly improve patient outcomes.

Our findings aim to inform policymakers and program planners about the urgent need to enhance awareness, accessibility, affordability and referral of healthcare for CRD patients. By addressing these

gaps, healthcare systems can be better equipped to manage NCDs and reduce the burden of CRD in Bangladesh.

Recommendations

Based on the findings of this study, a number of targeted recommendations can be made to better manage and improve outcomes of CRD in Bangladesh.

a) Improving awareness about the symptoms, diagnosis, available service facilities and treatment of CRD -

First, there is a general lack of awareness among the patients regarding the nature and seriousness of CRD. Poor recognition of symptoms or self-management practices based on traditional beliefs led to delayed seeking of formal care among many respondents. This can be done through community-based awareness creation on CRD, its signs, and early diagnosis and treatment. The campaign would utilize available local health workers, community leaders, and media on the availability of specialized care, such as NCD corners at UHCs and other available facilities.

b) Improvement of diagnosis facilities at UHC (and PHC) -

Another critical barrier concerns a very fragmented and resource-constrained health system. For diagnostic and treatment capacity enhancements, it is imperative that Primary Health Care (PHC) facilities ensure timely and accessible care for CRD patients. This includes the repair and replacement of non-functional diagnostic equipment like X-ray machines and ensuring a continuous supply of all essential medications for the management of CRD.

c) Improvement of quality of care at PHC (UHC) -

Despite many challenges, UHC remains a cornerstone of care for many patients. Addressing key issues—such as ensuring consistent medicine supply, enhancing diagnostic services, managing patient load, and fostering respectful interactions between patients and healthcare providers—can significantly improve patient satisfaction and build trust in the healthcare system.

d) Capacity building of informal health service providers -

Capacity-building and training of health providers, specially informal providers, on early symptom identification, comprehensive management of CRD will further ensure quality in services.

e) Improvement of an effective referral mechanism -

Smoothing the referral systems and reducing bureaucratic obstacles may help to avoid delays in seeking care. Thus, allowing more specialized care in a timely way, knowing how to ensure the accessibility of services at the NCD corner level should be emphasized, and more in line with how informal providers-traditional drug sellers-better align themselves within the formal health system in a way to support the pathway for earlier diagnosis and appropriate treatment in patients.

f) Integration of mental health support with NCD treatment in PHC -

Integrating mental health support in the CRD care of patients attending any facility is, besides this, essential in improving emotional disturbances many such patients undergo.

Overall, these targeted interventions-creation of awareness, strengthening PHC services, and improvement in the navigation of systems-can address key challenges identified through this study to provide timely, affordable, and high-quality care to CRD patients. National-level integrated/comprehensive healthcare policies are needed that address the three key dimensions of affordability, accessibility, and quality of care. The specific measures include increasing healthcare funding, targeted subsidies, and enhanced training programs for rural healthcare providers.

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Annexure

Annex 1 : Operational Definitions of concepts

i. **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 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.

ii. **Chronic Respiratory Disease :** Chronic respiratory diseases represent the most common of the non-communicable diseases worldwide, largely because noxious environmental, occupational, and behavioural inhalational exposures are ubiquitous (GBD, 2018). An operational definition of chronic respiratory disease typically encompasses a range of conditions characterized by persistent respiratory symptoms and airflow limitation. Other chronic respiratory diseases, besides COPD and asthma, include interstitial lung disease, pulmonary sarcoidosis, and pneumoconiosis etc.

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

iv. **Religious Healers** in the context of Bangladesh refers to spiritual healers which include but are not limited to Pir, Imam etc.

v. **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 : Area Map

https://keraniganj.weebly.com/

Annex 3 : Images from the field


ফার্মেসী
ঔষধ বিতরন কক্ষ


UHC/K

Annex 4 : Data Display Portion

THEME	SUBTHEME	QUOTES	
Factors influencing HCP Choice	**Decision maker for the respondent**	*" I went to every places by myself." (73 years old, male, suffering from CRD for 3 years)*	*" One of my relatives plus one of my neighbors went to that kobiraaj and they said they got well. They took me there." (51 years old, male, suffering from CRD for 1 year)*
	Affordability of services	*" My family goes to other pvt hospitals for their health problem. I do not have enough money that I will also go and do my treatment in pvt hospitals. I am a poor person, I get freemedicines from here. I remain well." (75 years old male, suffering from CRD for ⅞ years)*	*" No one gives me money for my treatment now. My daughter can barely pay for the foods on our table. People around gives me money now out of pity." (67 years old, female, suffering from CRD for 6/7 years)*

	Accessibility (distance and travel cost)		
	Availability of comprehensive services	*" They said I need to go downstairs to do Xray. But the xray machine is broken. They told us to go outside to do xray. Who is going to pay for the rickshaw fare to go there?They should have informed us the xray machine is broken here." (40 years old, male, suffering from CRD for 10/12 years)*	
	Previous experience with healthcare provider	*"Previously, I avoided government hospitals, but this time I found the staff and doctors very expert." (50 years old female, suffering from CRD for 4-5 years)*	

	Social Network	*" No matter how big a hospital is like Dhaka medical, wherever I go there I feel scared, I do not feel good. But here even if I do not get treatment or medicines, I like to come here. I do not know why I feel like this, may be because this place is known to me, the people that come here are known to me. Feels like this hospital is ours." (50 years old female, suffering from CRD for 1 year)*	
	Quality of care	*"The doctors always behave well with me, but medicine availability is a problem." (70 years old male, suffering*	*"The nurses and staff are polite but not attentive to urgent needs." (73 years old male, suffering from CRD for 3 years)*

		from CRD for 8 years)	

Annex 5 : Codebook

1. Care Pathway Stages

Code Name: Self-Management Practices
Short Definition: Strategies patients use to manage symptoms before formal care.
Long Definition: Activities that patients undertake independently to alleviate symptoms, usually guided by cultural beliefs or community advice, may include herbal remedies, over-the-counter medication, and life adjustments such as avoidance of dusty environments or modifications in the amount of physical exertion.

Code Name: Informal Care
Short Definition: Care from non-formal providers, such as drug sellers or healers.
Long Definition: Refers to health care services utilized through non-formal providers, such as drug sellers and traditional healers, often because they are more accessible, more affordable, and more convenient. These are symptomatic treatment options that cannot provide diagnostic or long-term care.

Code Name: Formal Care
Short Definition: Care from health facilities, such as UHCs or hospitals.
Long Definition: Refers to professional healthcare services received at formal healthcare facilities, including UHCs, tertiary hospitals, and private clinics, usually sought for advanced diagnostics, treatment, and specialized care.

2. Influencing Factors

Code Name: Accessibility
Short Definition: Ease of reaching healthcare providers.
Long Definition: Geographical and logistical factors determine how well patients can access healthcare services. It includes proximity to providers, transportation available, and the time it takes to reach facilities.

Code Name: Affordability
Short Definition: Financial reasons affecting the choice of care.
Long Definition: The financial constraints that limit patients from accessing healthcare services; it is a factor that greatly determines the quality of the provider, mainly because consultations, medicines, investigations, and conveyance to and from home contribute to the overall cost of choosing a particular provider.

Code Name: Cultural Beliefs and Social Influence
Short Definition: The role of culture and community in healthcare choices.
Long Definition: Cultural norms, traditional beliefs, and advice from family, friends, and community members are strong influences in patients' decisions on care-seeking behaviors, often based on informal providers or self-management practices.

3. Barriers and Challenges

Code Name: Delays in Diagnosis
Short Definition: Factors delaying CRD diagnosis.
Long Definition: Refers to various barriers at both the systemic and individual levels, such as lack of awareness, reliance on informal care, financial constraints, and inaccessible diagnostic facilities, contributing to the delay in diagnosing chronic respiratory diseases.

Code Name: Gaps in Health Care
Short Definition: Problematic issues in health facilities.

Long Definition: Some gaps within the health care system include lack of medicine, destroyed diagnostic equipment, overpopulated facilities, and short consultation times; such factors impact the quality and effectiveness of care provided.

4. Patient Outcomes

Code Name: Physical Impact
Short Definition: The physical effects of CRD on patients.
Long Definition: The physical health consequences of chronic respiratory disease in patients include symptoms such as persistent breathlessness, fatigue, and a decline in functional capacity-usually with deteriorating health over time.

Code Name: Emotional and Psychological Impact
Short Definition: The emotional challenges from having CRD.
Long Definition: This will address the psychological anguish that the patients will go through, including anxiety, depression, and helplessness because of or exacerbated by the chronicity of the illness and barriers to timely and effective care.

Code Name: Financial Burden
Short Definition: Economic strain caused by CRD.
Long Definition: The financial burdens the patients have to face due to the continuing costs of medication, diagnostics, transport and follow up that many times results in compromising health over other basic needs of life.

5. Coping Mechanisms

Code Name: Support from Family and Community
Short Definition: Supportive family and social network is present.
Long Definition: The contribution of family members, friends, and community networks in providing emotional, financial, and practical support to patients, including caregiving, advice on treatment, and financial assistance for healthcare expenses.

Code Name: Adaptation Strategies
Short Definition: Adjustments to live with CRD.
Long Definition: Strategies adopted by patients to cope with their condition; environmental triggers are avoided, physical exertion is reduced, and daily routines are changed to cope with symptoms to improve the quality of life.

6. Recommendations

Code Name: Awareness and Education
Short Definition: There is a need for raising awareness about CRD.
Long Definition: Refers to the need for community-based campaigns and educational initiatives to raise awareness about CRD, its symptoms, and available healthcare services, including the role of NCD corners, to encourage timely diagnosis and treatment.

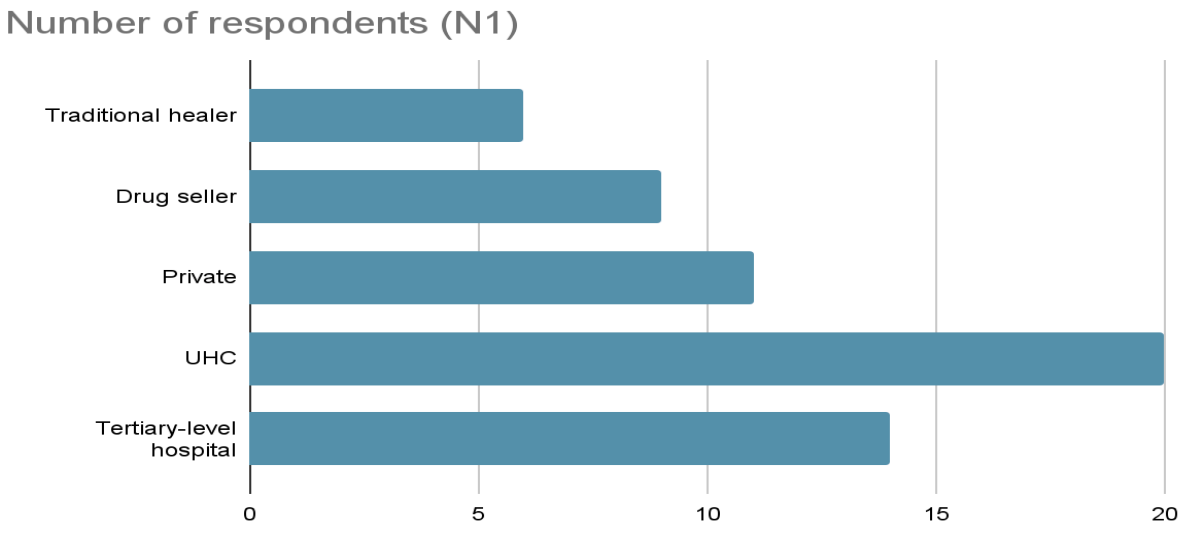
Code Name: System Improvements
Short Definition: Improvements to health facilities.
Long Definition: Refers to systemic changes in infrastructure, such as diagnostic and treatment facilities at UHCs, the availability of essential medicines, and staffing and facility management gaps that are yet to be accomplished in order to enhance the quality and patient satisfaction of healthcare provided.

Annex 6 : Themes and Subthemes

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	5. Accessibility 6. Affordability 7. Acceptability 8. Availability of comprehensive care 9. Social Network 10. Familiarity 11. Popularity of HCP/Faith in HCP
Experience at all points of care	1. Best worst service points 2. Challenges 3. Satisfaction with last consultation
Impact	1. Health and well-being 2. Financial

Annex 7 : Number of respondents consulting each provider category in any point of care in their care pathway



Annex 8 : COREQ Check List

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
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?	
Relationship with participants			

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	
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	

Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	

Field notes	20	Were field notes made during and/or after the inter view or focus group?	
Duration	21	What was the duration of the inter views or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	**Item No.**	**Guide Questions/Description**	**Reported on Page No.**
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	

Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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.

Annex 9 : Study Tool in 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 Service holder……..6 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	Probings
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 Asymptomatic ……..…7 Often asymptomatic…..…8 Headaches……...9 Dizziness……10 Shortness of breath, especially during physical activities……..11 Wheezing……12 Chronic cough…….13 Chest tightness……..….14 Others (Specify).....99	● 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?
	B4. For how long did you manage this disease by yourself before seeking healthcare?	……month/years	

Motivating factors, challenges, costs and experience with service **Experience with the UHC**	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 Upzilla health complex...9 Union 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?
	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 the UHC	For Medicine……1 For Investigations……2 Travel Fare……..3 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?

Annex 10 : Study Tool in Bangla

গবেষণার শিরোনাম: দীর্ঘস্থায়ী রোগের (দীর্ঘস্থায়ী শ্বাসযন্ত্রের রোগ, উচ্চ রক্তচাপ, ডায়াবেটিস) রোগীদের কাছে থেকে চিকিৎসা পদ্ধতি বোঝা: বাংলাদেশের একটি উপজেলায় সরকারি হাসপাতালে অনুসন্ধানমূলক গবেষণা থেকে অন্তর্দৃষ্টি।

তথ্য সংগ্রহের সরঞ্জাম

প্রস্থান সাক্ষাৎকার প্রশ্নাবলী এবং নিবিড় সাক্ষাৎকার নির্দেশিকা

সাক্ষাৎকারের তারিখ:	
সাক্ষাৎকারের স্থান	
সাক্ষাৎকার গ্রহণকারী:	
নোট গ্রহণকারী:	
সাক্ষাৎকার শুরুর সময়:	
সাক্ষাৎকার শেষের সময়:	

A. সামাজিক-জনসংখ্যাগত

উত্তরদাতার প্রোফাইল	
A1. আপনার নাম কী?	…….
A2. আপনার বয়স কত?	……বছর
A3. লিঙ্গ	মহিলা……..……..…… ……১ পুরুষ……..……..…… ……২ অন্যান্য…… …৯৯
A4. আপনি কোথায় থাকেন (বাসস্থানের এলাকা)?	শহর…… ……১ শহরতলী…… …....২ গ্রাম…… …….৩
A5. আপনার বৈবাহিক অবস্থা কী?	বিবাহিত…… …..…১ অবিবাহিত…….. …….২ বিধবা…….. ……৩ বিচ্ছিন্ন…… …....৪ তালাকপ্রাপ্ত…… ……৫
A6. আপনার ধর্ম কী?	ইসলাম…… … ১

	খ্রিস্টান…….... …২ হিন্দু…… …৩ বৌদ্ধ…….. …৪ অন্যান্য……..৯ ৯
A7. আপনার শিক্ষাগত যোগ্যতা কি ?	কোনও আনুষ্ঠানিক শিক্ষা নেই……...…… ১ প্রাথমিক শিক্ষার নিচে……..…২ প্রাথমিক শিক্ষা সম্পন্ন (পঞ্চম শ্রেণি)/ ইবতেদায়ি……..৩ মাধ্যমিক শিক্ষা সম্পন্ন (এসএসসি)/ দাখিল……৪ উচ্চ মাধ্যমিক শিক্ষা সম্পন্ন (এইচএসসি)/ আলিম……৫ স্নাতক/ডিপ্লোমা/ফাযিল সম্পন্ন……..…৬ মাস্টার্স বা তার উপরে/ কামিল……..…..৭ অন্যান্য (উল্লেখ করুন).....৯৯
A8. আপনার বর্তমান পেশা কী?	গৃহিনী…… …. ১ কৃষি ও চাষাবাদ……..……..…২ শ্রমিক ও নির্মাণ……..৩ ব্যবসা ও বাণিজ্য……৪ সরকারী চাকুরিজীবী ……৫ বেসরকারী চাকুরিজীবী……..৬ অনানুষ্ঠানিক খাত (রিকশাচালক, পথের বিক্রেতা)…...৭ অবসরপ্রাপ্ত……..… ৮ বেকার…… ..৯ অন্যান্য (উল্লেখ করুন).....৯৯
A9. আপনার মাসিক আয় কত?	…….. টাকা
A10. আপনার পরিবারের মোট সদস্য সংখ্যা কত?	……..
A11. আপনার পরিবারের গড় মাসিক আয় কত?	…….. ……টাকা

A12. যোগাযোগ নম্বর	

B. নিবিড় সাক্ষাৎকার নির্দেশিকা

ডোমেইন	প্রশ্নসমূহ	প্রতিক্রিয়া	অনুসন্ধান
স্বাস্থ্য পরিস্থিতি সম্পর্কে উপলব্ধি	B1. আজ আপনি কোন সমস্যার জন্য উপজেলা স্বাস্থ্য কমপ্লেক্সে চিকিৎসা নিতে এসেছেন?	উচ্চ রক্তচাপ……..……১ ডায়াবেটিস……২ দীর্ঘস্থায়ী শ্বাসযন্ত্রের রোগ (COPD/অ্যাজমা)……..……৩	• আপনি আজকে কেন উপদেলা স্বাস্থ্য কমপ্লেক্সে এসেছেন? • কেন আপনি আজকের জন্য উপজেলা স্বাস্থ্য কমপ্লেক্সে বেছে নিলেন? কেন অন্যান্য সেবা প্রদানকারী না?
	B2. আপনি কত দিন ধরে এ রোগে ভুগছেন?	……মাস/বছর	
	B3. রোগের শুরুতে লক্ষণগুলো কী কী ছিল? (রোগ অনুযায়ী একাধিক উত্তর হতে পারে)	বারবার প্রস্রাব……১ বার বার পানি পান করা ……২ ওজন কমে যাওয়া ……৩ ক্লান্তি……..…৪ দৃষ্টি অস্পষ্ট……..……৫ দীর্ঘস্থায়ী ক্ষত থাকা ……..৬ কোনও লক্ষণ নেই……..……৭ প্রায়শই লক্ষণহীন……..……৮ মাথাব্যথা……...৯ মাথা ঘোরা……১০ শ্বাসকষ্ট বিশেষত শারীরিক ক্রিয়াকলাপের সময়……..১১ শ্বাসের সাঁই সাঁই শব্দ……..১২ দীর্ঘস্থায়ী কাশি……..…১৩ বুকে চাপ অনুভব……১৪ অন্যান্য (উল্লেখ করুন).....৯৯	• স্বাস্থ্যসেবা নেয়ার আগে আপনি কীভাবে আপনার শারীরিক অবস্থার যত্ন করেছিলেন? (যেমন স্ব-যত্ন, পরিবারের সদস্যদের বা প্রতিবেশীদের কাছ থেকে পরামর্শ?) • সে গুলো কি পদ্ধতি ছিল? • এ পদ্ধতি অবলম্বনের পর কি আপনার অবস্থার উন্নতি বা অবনতি হয়েছিল?
	B4.কত দিন আপনি এ রোগের জন্য নিজে নিজের যত্ন নিয়েছেন?	……..…মাস/বছর	

প্রেরণাদায়ক কারণ, সমস্যা, খরচ এবং সেবার অভিজ্ঞতা	B5. এখন পর্যন্ত আপনি কোন কোন স্বাস্থ্যসেবা প্রদানকারীর কাছে গিয়েছিলেন?	ইউনিয়ন স্বাস্থ্য কমপ্লেক্স……১ জেলা হাসপাতাল / মেডিকেল কলেজ হাসপাতাল……..২ গ্রাম ডাক্তার/পল্লী চিকিৎসক……..৩ কবিরাজ……৪ পীর/ফকির……..……৫ ঔষধ বিক্রেতা……৬ অনিবন্ধিত চিকিৎসক(ডিএমএফ/ স্যাকমো)……..৭ কমিউনিটি ক্লিনিক……..৮ উপজেলা স্বাস্থ্য কমপ্লেক্স……৯ এনজিও ক্লিনিক……১০ বেসরকারি হাসপাতাল/চেম্বার…..১১ অন্যান্য (উল্লেখ করুন).....৯৯	• অনুগ্রহ করে ধারাবাহিক ভাবে বর্ণনা করুন যে আপনি কার কার কাছ থেকে চিকিৎসা নিয়েছেন? • এ সিদ্ধান্তের পিছনে কারণগুলি কি কি ছিল? • অনুগ্রহ করে আপনি প্রতিটি সেবা প্রদানকারীর কাছ থেকে প্রাপ্ত চিকিৎসা পদ্ধতি বর্ণনা করুন • এই সেবা প্রদানকারীর কাছ থেকে সেবা গ্রহণের ক্ষেত্রে আপনি কি কি সমস্যার সম্মুখীন হয়েছেন? • প্রতিটি সেবা প্রদানকারীর কাছ থেকে পাওয়া চিকিৎসা পদ্ধতিগুলোর মধ্যে আপনি কি কি ধরনের পরিবর্তন অনুভব করেছেন? • প্রতিটি সেবার সময়কাল কতছিল? • এই প্রতিটি সেবার আনুমানিক খরচ কতছিল? • এ সকল পরিসেবার অভিজ্ঞতা কেমন ছিল? (ভালো বা খারাপ) • কোনটি সবচেয়ে ভালো চিকিৎসা পদ্ধতি ছিল এবং কেন আপনি তা মনে করেন?

			• কোনটি সবচেয়ে খারাপ চিকিৎসা পদ্ধতি ছিল এবং কেন আপনি তা মনে করেন? • সময়ের সাথে সাথে রোগটি কীভাবে বেড়েছে?
	B6. এ প্রতিষ্ঠানে আসার সিদ্ধান্ত কে নিয়েছেন? (একাধিক উত্তর হতে পারে)	নিজে……..১ পরিবারের সদস্য……..…..২ প্রতিবেশী……..৩ স্বাস্থ্যসেবা প্রদানকারী……৪ অন্যান্য (উল্লেখ করুন).....৯৯	• উপজেলা স্বাস্থ্য কমপ্লেক্স থেকে চিকিৎসা নেওয়ার পিছনে কারণগুলি কী কী? • উপজেলা স্বাস্থ্য কমপ্লেক্সে রেফার করা হলে রেফারেল প্রক্রিয়া কী?
	B7. প্রতিষ্ঠানের এনসিডি কর্নার/বহির্বিভাগ এ কত বার গিয়েছিলেন?	…… ……..	
উপজেলা স্বাস্থ্য কমপ্লেক্সে অভিজ্ঞতা	B8. আপনার রোগ বিষয়ে কোন প্রশ্ন জিজ্ঞাসা করতে এবং কোন বিভ্রান্তিগুলি পরিষ্কার করার জন্য আপনি কি উপজেলা স্বাস্থ্য কমপ্লেক্সে পরামর্শের সময়কে পর্যাপ্ত মনে করেন?	হ্যাঁ……১ না……২	আপনি কেন এমন মনে করেন?
	B9. আপনি কিভাবে উপজেলা স্বাস্থ্য কমপ্লেক্সের সেবা প্রদানকারীদের দক্ষতা/গুণ/যোগ্যতা মূল্যায়ন করবেন?	অত্যন্ত ভালো……১ ভালো……২ সাধারণ……৩ খারাপ……..৪ খুব খারাপ……৫	আপনি কেন এমন মনে করেন?

	B10. আপনার কি মনে হয়েছে যে উপজেলা স্বাস্থ্য কমপ্লেক্সের সেবা প্রদানকারীরা আপনার সাথে সম্মান ও মর্যাদার সাথে আচরণ করেছেন?	হ্যাঁ..... ১ না.....২	আপনি কেন এমন মনে করেন?
	B11. সেবা নেয়ার সময় কি আপনার গোপনীয়তা রক্ষা করা হয়েছিল?	.হ্যাঁ..... ১ না.....২	আপনি কেন এমন মনে করেন?
	B12. সেবা প্রদানকারী কি আপনাকে চিকিৎসা পদ্ধতি এবং পরীক্ষা সম্পর্কে বিস্তারিত বুঝিয়ে বর্ণনা করেছিলেন?	হ্যাঁ..... ১ না.....২	আপনি কেন এমন মনে করেন?
আর্থিক অবস্থার উপর প্রভাব	B13. চিকিৎসার সময়ের খরচের জন্য নিম্নলিখিতগুলির খরচ তালিকা করতে পারেন? **(শুধু উপজেলা স্বাস্থ্য কমপ্লেক্সের জন্য)**	ঔষধের জন্য.....১ পরীক্ষার জন্য.....২ ভ্রমণের খরচ.....৩ অন্যান্য খরচ.....৪	
	B14. এখন পর্যন্ত চিকিৎসার জন্য আপনার মোট কত খরচ হয়েছে?	..... টাকা	
	B15. এই ব্যয় কি আপনার জন্য আর্থিক বোঝা হয়েছে?	.হ্যাঁ..... ১ না.....২	• কেন আপনার কাছে এইটি একটি আর্থিক বোঝা মনে হয়েছে? • অনুগ্রহ করে আপনার পেশা, উপার্জন, পরিবারের ব্যয়ের উপর আপনার এ অসুস্থতার প্রভাব বর্ণনা করুন
স্বাস্থ্য এবং সুস্থতার উপর প্রভাব	B16. আপনার পরিস্থিতি সামাল দিতে কি আপনাকে ঋণ নিতে হয়েছে?	হ্যাঁ..... ১ না.....২	
	B17. আপনার অসুস্থতার খরচ কি আপনার পরিবারের ব্যয়ের উপর প্রভাব ফেলেছে?	হ্যাঁ..... ১ না.....২	

উন্নতির জন্য পরামর্শ	B18. প্রথমবার যখন আপনার রোগ নির্ণয় হয়েছিল তখন থেকে এখন পর্যন্ত আপনার স্বাস্থ্যের অবস্থায় কোনো উন্নতি হয়েছে বলে আপনি মনে করেন কি?	হ্যাঁ…… ১ না……২	• আপনি কেন মনে করেন যে স্বাস্থ্যসেবা গ্রহণ করার কারণে এই অনুভূতিগুলি আরও খারাপ হয়েছে?
	B19. এই অবস্থার কারণে আপনার কি উদ্বেগ বা বিষণ্ণতার অনুভূতি হয়েছে?	হ্যাঁ…… ১ না……২	
	B20. স্বাস্থ্যসেবা গ্রহণকালে কি এই অনুভূতিগুলি আরো খারাপ হয়েছে?	হ্যাঁ…… ১ না……২	
	B21. আপনার মতো একই রোগে আক্রান্ত ব্যক্তিদের যত্নের উন্নতির জন্য আপনার কোনো পরামর্শ আছে কি?	……..	• এ রোগে আক্রান্ত ব্যক্তিদের যত্নের উন্নতির জন্য আপনার কি কোনো পরামর্শ আছে? • কেন এ পরামর্শ দিচ্ছেন?

Annex 11 : Information Sheet and Consent Form in English

Information Sheet

Introduction: Greetings, My name is Sadia Sikder, and I come from BRAC James P Grant School of Public Health, BRAC University. We are conducting a study on Understanding health care pathways of patients with chronic diseases (Chronic respiratory disease): Insights from an Exploratory Study in a Sub-district Level Government Hospital in Bangladesh.

Serial no.: [Protocol number]

Aim: To understand the care pathways of patients with chronic disease (Chronic respiratory disease, Hypertension, Diabetes) at a Sub-district Level 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 Sadia Sikder, Sadah Hasan, 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: 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.

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? *Please note that at any point during the interview, you can ask the interviewer to turn off the recording device.*	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
(If you need to contact the/collect data from the respondent again, need to state here and ask permission…)		
Do you have any questions?	Yes	No
State the question		

Interviewer name:	**Respondent's name:**
Interviewer signature:	**Respondent's signature/thumbprint:**
Date:	**Date:**

Annex 12 : Information Sheet and Consent Form in Bangla

তথ্য পত্রক

ভূমিকা : শুভেচ্ছা, আমার নাম সাদিয়া সিকদার/সাদাহ হাসান/সুচনা রানী কায়রি, এবং আমি ব্র্যাক জেমস পি গ্রান্ট স্কুল অফ পাবলিক হেলথ, ব্র্যাক ইউনিভার্সিটি থেকে এসেছি। আমরা দীর্ঘস্থায়ী রোগ (দীর্ঘস্থায়ী শ্বাসযন্ত্রের রোগ, উচ্চ রক্তচাপ, ডায়াবেটিস) রোগীদের স্বাস্থ্যসেবার পথ বোঝার উপর একটি সমীক্ষা পরিচালনা করছি: বাংলাদেশের উপ-জেলা পর্যায়ের হাসপাতালের একটি অনুসন্ধানমূলক গবেষণা থেকে অন্তর্দৃষ্টি।

লক্ষ্য: বাংলাদেশের একটি উপ-জেলা সরকারি স্বাস্থ্য সুবিধায় দীর্ঘস্থায়ী রোগ (দীর্ঘস্থায়ী শ্বাসযন্ত্রের রোগ, উচ্চ রক্তচাপ, ডায়াবেটিস) 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 30-45 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 স্বেচ্ছায়। কোনো নেতিবাচক পরিণতি ছাড়াই আপনি যে কোনো সময় প্রত্যাখ্যান 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।

সম্মতি ফর্ম

অধ্যয়নের শিরোনাম: দীর্ঘস্থায়ী রোগে আক্রান্ত রোগীদের স্বাস্থ্যসেবার পথ বোঝা (দীর্ঘস্থায়ী শ্বাসযন্ত্রের রোগ, উচ্চ রক্তচাপ, ডায়াবেটিস): বাংলাদেশের একটি সাব-ডিস্ট্রিক্ট লেভেল সরকারি হাসপাতালের একটি অনুসন্ধানমূলক গবেষণা থেকে অন্তর্দৃষ্টি।

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

আপনার আন্তরিক সহযোগিতার জন্য আপনাকে ধন্যবাদ।

আপনি কি সাক্ষাত্কারের 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 তোলার 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:

ইন্টারভিউয়ার স্বাক্ষর:

তারিখ:

উত্তরদাতার নাম:

উত্তরদাতার স্বাক্ষর/আঙুলের ছাপ:

তারিখ:

Annex 13 : Timeline: Gantt chart

Major Activities	**M1**	**M2**				**M3**				**M4**	
	Oct	**Nov**				**Dec**				**Jan**	
	W4	**W1**	**W2**	**W3**	**W4**	**W1**	**W2**	**W3**	**W4**	**W1**	**W2**
Development of ideas											
Protocol development											
IRB clearance											
Data collection											
Data entry											

Data analysis											
Report writing											
Dissemination											