

ORIGINAL ARTICLES

## Knowledge about Universal Health Coverage among TB-related community-based organizations in Vietnam and associated factors

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### ABSTRACT

**Objectives:** This study aims to assess the knowledge about Universal Health Coverage (UHC) among members of Tuberculosis (TB)-related community-based organizations in Vietnam and several associated factors.

**Methods:** A cross-sectional study was conducted in 2024 across three provinces in Vietnam: Hai Phong, Gia Lai, and Nghe An. A total of 301 key members of TB-related CBOs.

**Results:** The majority of participants (79.4%) had heard of UHC, with 63.6% obtaining information through community meetings. Only 34.2% provided a correct definition of UHC. Leadership roles were significantly associated with better knowledge [AOR=0.26, 95% CI = 0.08-0.80]. Misconceptions included equating UHC with free healthcare services or mandatory health insurance. Members aged 41–50 and outreach workers were less likely to correctly define UHC compared to younger members and leaders [AOR=0.40; 95%CI=0.18—0.91 and AOR=0.48, 95%CI=0.25-0.94, respectively].

**Conclusions:** Although the number of participants having heard of UHC is relatively high, the comprehensive knowledge of UHC remains limited among CBO members, impeding their advocacy capacity. Targeted educational interventions are essential to bridge knowledge gaps, particularly among outreach workers and less-educated members, to strengthen CBOs' roles in advancing Vietnam's UHC goals toward better support for TB-affected populations.

**Keywords:** Universal Health Coverage, Community-based Organizations, TB control, Vietnam.

## INTRODUCTION

Universal Health Coverage (UHC) is a fundamental goal of health systems worldwide, ensuring that all individuals receive essential health services without financial hardship (1, 2). UHC is centered on equity and equal access to healthcare services, including three key dimensions: Population Coverage, Service Coverage, and Financial Protection (3).

According to the World Health Organization (WHO), TB remains one of the leading causes of death from infectious diseases, with an estimated 10.6 million new cases and 1.3 million deaths worldwide in 2022 (4). The financial burden of TB care is substantial, for example, in the US, 49% of hospitalized TB patients incur an average daily cost of nearly \$1,500 per day (5). In China, the mean out of pocket (OOP) of TB care was about 2,400 USD (6). These financial barriers to



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diagnosis and treatment contribute significantly to TB-related mortality and morbidity, making equitable healthcare access through UHC an essential component of TB control strategies (7).

Despite efforts to expand UHC, studies suggested that public awareness and comprehension of UHC remain poor, limiting health care access and financial protection (8). Misconceptions about health insurance policies created barriers to UHC expansion, particularly among frontline health workers and community health volunteers (9). Research indicated that those with greater general knowledge about health insurance are more likely to participate in health insurance programs, which can reduce financial burdens (10). Factors such as age group, educational level, and family economic status were identified as predictors of health insurance awareness level (10).

Vietnam has made substantial progress in expanding UHC through its Social Health Insurance (SHI) scheme, yet challenges persist in ensuring full financial protection for TB patients, especially for drug-resistant TB treatment, which remains reliant on external funding (15). A lack of knowledge about social health insurance remained a significant barrier to enrollment in SHI among the TB-affected communities in Vietnam (16). Additionally, recent studies highlighted the limited knowledge of health insurance policies among students and residents (20, 21).

Community-based organizations (CBOs) play a crucial role in TB control and UHC promotion by disseminating information, supporting patient care and treatment adherence, and encouraging policy advocacy participation among TB affected populations (22). However, the extent of this knowledge gap among TB-related CBOs in Vietnam has not been systematically examined. Therefore, this study aims to assess the knowledge about Universal Health Coverage among members of TB-related community-based organizations in Vietnam and identify the associated factors.

## METHODS

**Study Design:** This is a cross-sectional study for baseline assessment, which is a part of the prospective evaluation on the interventions to support and empower community groups representing or working with people who are at risk for or living with TB.

**Study site and time:** The study was conducted from May to December, 2024 in three provinces: Haiphong, Gia Lai, and Nghe An. Data collection was carried out in July 2024.

**Study subjects:** Eligible study participants were key members of the community-based organizations, who were representing or working with people at risk for or living with TB. Members who declined to participate in the survey or did not complete the survey were excluded from the study.

**Sample size and sampling method:** In this study, consensus sampling method was used. All participants in the network sponsored by Center for Supporting Community Development Initiatives (SCDI) in Hai Phong, Gia Lai and Nghe An were selected. A total of 301 key members of CBOs participated in the baseline questionnaire-based survey.

### Study variables and qualitative research topics

*Dependent variables:* Knowledge about UHC, including: 1) Having heard of UHC: Binary (Yes/No); 2) Correct definition of UHC: Binary (Yes/No) comprises of 6 statements with Yes/No choices

*Independent variables:* Socio-demographic characteristics of participants including age, sex, province, marital status, educational level, occupation, and work position in CBO.

**Tools and methods of data collection:** We used a structured questionnaire to collect data. An online survey link using a secure online platform (REDCap) was created and conducted by a member of CBOs who was trained by the research team.

**Processing and analyzing data:** Data were cleaned, encoded then analysed using STATA 16.0. Socio-demographic characteristics and items responded were described in terms of frequencies and percentages. Variables with  $p \leq 0.05$  were entered into multivariable logistic regression analysis to investigate the association between socio-demographic characteristics of CBO members and their knowledge of Universal Health Coverage (UHC). The multivariate analysis results were presented using ORs, Adjusted ORs and 95% CIs, and statistical significance was set as  $p \leq 0.05$ .

**Research ethics:** The study was approved by the HMU-IRB. The HMU-IRB approval number was 993/GCN-HDDDCYSH-DHYHN dated February 27, 2024.

## RESULT

### Characteristics of Study Participants

The majority of CBO members were aged between 31 and 50, comprising 67.8% of the group. Those under 30 years old accounted for 19.6%, while those over 51 years old made up only 12.6%. Across all three provinces, most CBO members were male. In Hai Phong, males represented 55%, in Gia Lai 75.7%, and in Nghe An 61.0%. Overall, 61.8% of CBO members were male, while 38.2% were female. Most CBO members were married,

accounting for 57.5%, with 24.9% single, and the remaining 17.6% either divorced, living with a partner, or widowed. In terms of ethnicity, the majority of CBO members were Kinh people, representing 74.8%, while 18.6% belong to the Rai ethnic group. The remaining 6.6% belonged to other ethnic groups including Ba Na, Tay, Nung, and Muong.

CBO members were evenly distributed across three education levels: 35.6% having an education level Below high school level, 33.6% having completed high school, and 30.9% having higher education. Additionally, 11% of CBO members had full-time jobs, 21.3% had part-time jobs, and the largest group, 55.2% did self-business. The remaining 12.62% were unemployed, retired, or students.

In terms of role within CBO, 16.61% of those surveyed hold leadership positions, such as group leaders or deputy group leaders, while the remaining 83.4% are group members or community outreach workers. Most CBO members had less than 5 years of experience in community outreach, accounting for 58.8%. Meanwhile, 27.9% had 5-10 years of experience, and only 13.3% had over 10 years of experience.

### The knowledge about Universal Health Coverage among members of TB-related community-based organizations in Vietnam

**Table 1. Participants' knowledge about Universal Health Coverage**

Statement	Hai Phong		Gia Lai		Nghe An		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
<b>Having heard of UHC</b>								
Yes	96	(73.3)	70	(100.0)	73	(73.0)	239	(79.4)
No	35	(26.7)	0	(0.0)	27	(27.0)	62	(20.6)
<b>Source of Information</b>								
Annual meetings of the Vietnam Civil Society Platform on AIDS (VCSPA) / Community meetings organized by SCIDI	56	(58.3)	64	(92.8)	30	(42.3)	150	(63.6)
Training on UHC	36	(37.5)	27	(39.1)	22	(31.0)	85	(36.0)

Statement	Hai Phong		Gia Lai		Nghe An		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Social media, virtual platform	27	(28.1)	32	(46.4)	35	(49.3)	94	(39.8)
Webpage, e-newspaper	24	(25.0)	12	(17.4)	21	(29.6)	57	(24.2)
Others	1	(1.0)	0	(0.0)	1	(1.4)	2	(0.9)
Don't remember	6	(6.3)	0	(0.0)	7	(9.9)	13	(5.5)
<b>Knowledge of UHC</b>								
UHC means everyone receives free healthcare services	17	(17.7)	12	(17.1)	10	(13.7)	39	(16.3)
UHC will lead to lower quality medical services, the end of private healthcare, and no choice in services	2	(2.1)	2	(2.9)	3	(4.1)	7	(2.9)
UHC means everyone has health insurance	10	(10.4)	11	(15.7)	9	(12.3)	30	(12.6)
UHC means that all individuals have the right to access healthcare services	28	(29.2)	13	(18.6)	16	(21.9)	57	(23.9)
UHC means that everyone has access to the healthcare services they need, when and where they need them, without financial hardship	38	(39.6)	32	(45.7)	33	(45.2)	103	(43.1)
Don't know/Not sure	1	(1.0)	0	(0.0)	2	(2.7)	3	(1.3)
<b>Correct definition of UHC</b>								
No/Never heard	93	(71.0)	38	(54.3)	67	(67.0)	198	(65.8)
Yes	38	(29.0)	32	(45.7)	33	(33.0)	103	(34.2)

Table 1 presents the knowledge about Universal Health Coverage among members of TB-related community-based organizations in Vietnam.

**Knowledge about Universal Health Coverage (UHC):** 79.4% of CBO members heard of Universal Health Coverage (UHC), while 20.6% did not. Among those who heard of UHC, 63.6% learned about it from the annual VCSPA meetings/community gatherings organized by SCDI, and 36.0% heard about it through training sessions on the topic. Additionally, 39.8% learned about it from social media or online forums, 24.2% learned about it from websites and online newspapers, and 5.5% could not remember the source.

**Correct Definition of UHC:** Among those who heard of UHC, 43.1% of CBO members

provided the accurate definition of Universal Health Coverage, which is comprehensive health coverage for all. Meanwhile, 16.3% believed UHC means everyone receives free healthcare services, 12.6% thought UHC meant that everyone has health insurance, and 23.9% thought UHC meant all individuals have the right to access healthcare services. Another 2.9% believed it means everyone gets free healthcare services. Overall, a significant 65.8% of CBO members either misunderstood the concept of UHC or had never heard of it before, while only 34.2% provided the correct definition of UHC.

**Factors associated with knowledge about Universal Health Coverage among members of TB-related community-based organizations in Vietnam**

**Table 2. Association between socio-demographic characteristics of CBO members and having heard of UHC**

	<b>Factors</b>	<b>OR</b>	<b>[95% CI]</b>	<b>AOR</b>	<b>[95% CI]</b>
<b>Age</b>	≤ 30	1		1	
	31 - 40	1.70	(0.77- 3.74)	1.15	(0.47 - 2.83)
	41 - 50	1.49	(0.71- 3.10)	1.19	(0.49 - 2.91)
	≥ 51	1.65	(0.61 - 4.48)	1.60	(0.50 - 5.15)
<b>Sex</b>	Male	1		1	
	Female	0.70	(0.39 - 1.22)	0.71	(0.38 - 1.32)
<b>Marital Status</b>	Single	1		1	
	Others	0.52	(0.24 - 1.12)	0.45	(0.18 - 1.10)
	Married	1.96	(0.99 - 3.88)	1.74	(0.79 - 3.83)
<b>Education</b>	Secondary school and below	1		1	
	High school	0.78	(0.40 - 1.53)	0.91	(0.43 - 1.92)
	Vocational/College/ Undergraduate/Post graduate	0.90	(0.44 - 1.80)	0.91	(0.39 - 2.10)
<b>Occupation</b>	Fulltime	1		1	
	Parttime/Contractual work	3.04	(1.07 - 8.69)	3.28	(1.09 - 9.84)
	Self-business	1.89	(0.82 - 4.38)	1.83	(0.74 - 4.55)
	Others	0.84	(0.31 - 2.27)	0.98	(0.33 - 2.93)
<b>Work position in CBO</b>	Leadership board			1	
	Member/outreach worker	0.29	(0.10 - 0.84)	0.26	(0.08 - 0.80)

Table 2 showed the significant association between work position in CBO and having heard of UHC. Members or outreach workers

in CBOs were less likely to have heard of UHC than leaders [AOR=0.26, 95% CI = 0.08-0.80].

**Table 3. Association between socio-demographic characteristics of participants and knowledge of UHC by giving its correct definition**

	<b>Factor</b>	<b>OR</b>	<b>[95% CI]</b>	<b>AOR</b>	<b>[95% CI]</b>
<b>Age</b>	≤ 30	1		1	
	31 - 40	0.97	(0.50 - 1.88)	0.73	(0.34 - 1.59)
	41 - 50	0.46	(0.24 - 0.89)	0.40	(0.18 - 0.91)
	≥ 51	0.63	(0.27 - 1.48)	0.63	(0.24 - 1.66)
<b>Gender</b>	Male	1		1	
	Female	0.92	(0.56 - 1.50)	0.87	(0.50 - 1.50)
<b>Province</b>	Hai Phong	1		1	
	Gia Lai	2.06	(1.13 - 3.77)	1.29	(0.55 - 3.02)
	Nghe An	1.21	(0.69 - 2.12)	0.91	(0.48 - 1.72)

Factor		OR	[95% CI]	AOR	[95% CI]
Marital Status	Single	1		1	
	Others	0.76	(0.35 - 1.66)	1.14	(0.47 - 2.76)
	Married	1.28	(0.72 - 2.27)	1.55	(0.73 - 3.30)
Education	Under High school	1		1	
	High school	1.08	(0.60 - 1.98)	0.96	(0.51 - 1.82)
	Vocational/ College/ Undergraduate/ Post graduate	2.21	(1.23 - 3.97)	1.66	(0.83 - 3.29)
	Fulltime	1		1	
Occupation	Partime/Contractual work	1.05	(0.44 - 2.51)	1.25	(0.50 - 3.12)
	Self-business	0.92	(0.42 - 1.99)	0.88	(0.37 - 2.12)
	Others	0.63	(0.23 - 1.72)	0.78	(0.26 - 2.33)
	Leadership board	1		1	
Work position in CBO	Member/outreach worker	0.50	(0.27 - 0.94)	0.48	(0.25 - 0.94)

Table 3 indicates that individuals aged 41-50 had a lower probability of providing correct definition of UHC than those who under 30 years old [AOR=0.4, 95% CI = 0.18-0.91]. Additionally, working as a member or outreach workers were also less likely to have the correct definition of UHC compared with those who were leaders of the CBOs [AOR=0.48, 95% CI = 0.25-0.94]. These associations are statistically significant.

## DISCUSSION

Our findings indicated that most CBO members having heard of UHC, with primary sources of information being VCSPA meetings and community gatherings, as well as specialized training sessions (36.0%), and from social media, virtual platform (eg. facebook, zalo,...). In comparison, a 2020 survey in the Philippines found that television (80%) and radio (40.7%) were the main sources, while Facebook accounted for 26.6% (21). In Vietnam, community platforms, typically funded by non-governmental organizations (e.g., SCDI), were the primary sources of information about UHC, whereas governmental resources remain limited (22). Members in leadership roles within CBOs were significantly more likely to have heard of UHC compared to outreach workers, highlighting the pivotal role of

leadership positions in accessing and disseminating UHC-related information. However, among those having heard of UHC, only one-third correctly identified it as ensuring everyone has access to the healthcare services they need, when and where they need them. The majority hold misconceptions, most commonly confusing UHC with free healthcare services or mandatory health insurance. Similarly, Njeru et al. found varied interpretations of UHC among 291 healthcare workers in Makueni County, Nigeria. Among respondents, 40% associated it with free maternity care, 32% with free healthcare, and 28% with cost-sharing (23). In Ghana, a qualitative study conducted on 67 policy makers, managers of community-based health planning and service (CHPS) initiative in 2022 also revealed an inadequate understanding of UHC, which poses a significant challenge to achieving UHC in Ghana (24). In contrast, a study in Cameroon by Nwaini et al. showed stronger awareness, with over 95% of healthcare professionals recognizing UHC as ensuring all individuals and communities have access to a comprehensive range of quality health services (25).

Furthermore, 12.6% of participants equated the concept of UHC with the notion that UHC implies everyone has health insurance. While this reflects the critical role of insurance in resource

mobilization, risk pooling, and promoting equitable access (26), it also underscores the need to clarify that while health insurance is an important mechanism for achieving UHC, it is not synonymous with the broader goals of UHC, which include accessibility, quality of care, and overall financial protection (27).

This low level of understanding highlights a significant gap in knowledge among CBO members about the core principles of UHC. However, the proportion of correct answers pertaining knowledge of UHC in our study was higher compared to that in a survey conducted in the Philippines, where only 15.65% of respondents reported knowing the meaning of UHC (21). In general, the results suggest that while certain aspects of UHC, such as financial protection, are well-understood, there is a need to enhance awareness about its broader goals. Bridging this knowledge gap through targeted educational intervention is critical to fostering a comprehensive understanding of UHC among CBO members (28).

Our study found that members in leadership roles demonstrated better understanding and awareness than outreach workers. Younger participants were more likely to define UHC correctly than those aged 41–50, and higher education was also associated with better understanding. The association between socio-demographic characteristics and knowledge about UHC reported in our study aligns with findings from other contexts (29). For instance, a study in Ethiopia by Gelaw et al. found that individuals with higher educational status were less likely to engage in unhealthy lifestyles (30). Additionally, our findings are consistent with previous research suggesting that grassroots health workers like CBO members can foster the health knowledge, and recognizing them as essential to achieving health-related Sustainable Development Goals (31).

*Study limitations:* The cross-sectional design limits the ability to infer causal relationships between socio-demographic characteristics and the knowledge about UHC of the participants. The reliance on self-reported information introduces

the potential for recall biases, which may have influenced the accuracy of responses. The sampling method, selected participants may not fully represent the broader population of community-based organization members. Additionally, the study focused exclusively on three provinces in Vietnam, which may limit the generalizability of findings to other regions with different socio-economic and cultural contexts. Finally, the study did not assess the long-term impact of knowledge about UHC of CBO members on practical outcomes.

## CONCLUSIONS

This study revealed significant gaps in the understanding of Universal Health Coverage among members of TB-related community-based organizations in Vietnam. While most participants had heard of UHC, only a minority demonstrated a comprehensive understanding of its definition and core principles. Leadership roles and higher educational attainment were associated with better knowledge, underscoring the need for targeted educational interventions. Enhancing UHC awareness through structured training programs can strengthen CBOs' ability to advocate for health policies and support TB-affected communities.

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