Original Research Paper

Factors Influencing professional identity formation in public health professionals – a qualitative meta-analysis

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Abstract

Background: There is a lack of synthesis in the existing literature concerning Professional Identity Formation (PIF) in public health professionals. The community of practitioners in public health may lack an understanding of opportunities for supporting PIF in public health education and practice. Hence, the purpose of the present Qualitative Meta-Analysis (QMA) was to gain insight into situations and factors that facilitate and challenge PIF among public health professionals. **Material and Methods:** A QMA was conducted to address the study objectives. We retrieved articles on PIF using a systematic search strategy across Medline, Scopus, and Google Scholar. Inclusion criteria included original qualitative and mixed methods research on PIF among public health students or professionals from various backgrounds, grey literature such as thesis, and studies in English, or with English translations, published in peer-reviewed journals. Narratives, participant quotes, categories, and themes from the results and discussion sections were used for thematic and content analysis. Reporting followed the PRISMA-ScR checklist. **Results and Conclusion:** We derived five main meta-categories: 1) nature of public health practice and professional identity; 2) professional identity formation in the context of public health, which had three meta-categories on the role of the university in PIF, requirement of reconciliation with various other identities, and influence of job profile on professional identity; 3) facilitators of PIF included meta-categories of facilitators related to curricular aspects and while at work; 4) barriers related to PIF included meta-category related to curricular aspects and while at work; and finally, 5) perspectives of self and stakeholders included factors related to self, employers, and society. The results will provide a framework for future research and curriculum development in public health courses aimed at supporting PIF among students.

Keywords:
Public health, Professional Identity Formation, Qualitative Meta-Analysis

Date submitted: 12-December-2024

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Citation: Dongre A, Loganathan V, and Pandya H. Factors Influencing professional identity formation in public health professionals – a qualitative meta-analysis. Educ Health 2024;38:1-13

Online access: www.educationforhealthjournal.org
DOI: 10.62694/efh.2025.234

Published by The Network: Towards Unity for Health

Introduction:

Professional identity formation (PIF) *is a complex and transformative process of internalizing a profession's core knowledge, skills, values, and beliefs resulting in an individual who thinks, acts, and feels like a member of a professional community.*[1] It is not a fixed mental status but a longitudinal, ongoing, socially negotiated process. It begins with students' entry into the course and then continues throughout life.[2] PIF provides the framework for ethical and scientific practice within a cultural context. Weak PIF can lead to skepticism, job dissatisfaction, less innovation, and low retention,[3] ultimately impacting public health services. Most literature on PIF focuses on medical undergraduates in the West.[4] As there is a lack of synthesis in the existing literature on PIF, a community of practitioners in public health may lack an understanding of opportunities for supporting PIF in public health education and practice. Qualitative Meta-Analysis (QMA) presents a promising option to bridge this gap.

QMA is defined as "*aggregation of group of studies for the purpose of discovering the essential elements and translating the results into a product that transforms the original results into a new conceptualization.*[5] In more simple terms, Sandelowski et al. called meta-synthesis an "integration that is more than the sum of parts as they offer the opportunity for novel interpretations of findings."[6] Such reviews might help explore the research gaps and inform the development of methods for future primary studies that contribute to the development of such collective understanding.[7] Hence, the purpose of the present QMA was to gain insight into situations and factors that facilitate and challenge professional identity formation among public health professionals. The results may develop the framework for future research and curriculum development in public health courses that support professional identity formation among their students.

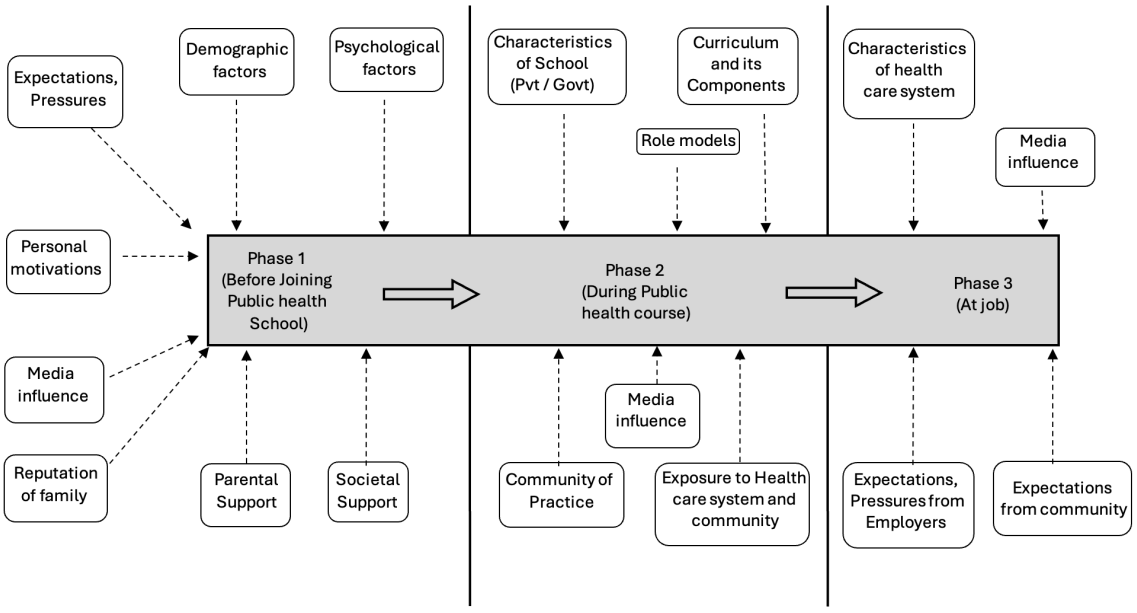
Material and Methods

Planning and pre-registering the qualitative meta-analysis: We referred to Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) for evidence-based reporting. The present QMA is registered with the Prospective Register of Systematic Reviews (ID: CRD42024609910). The steps followed in QMA are described below.[5]

Building the conceptual framework: Based on the existing literature,[8] we developed a conceptual framework of plausible factors that might play a role in professional identity formation among health professionals (Figure 1). These factors were considered 'sensitizing concepts' or 'initial ideas' to develop a search strategy for the present QMA.[9] Factors influencing PIF might include demographic factors, psychological features, family reputation, support system around the individual, expectations and pressures the individual experiences, personal ambitions, and finally, the media influence. With this personal identity, students enter public health school. School characteristics, curriculum exposure, community of practice, and interactions with role models and mentors might shape identity formation. Once certified, students are exposed to the healthcare system and its expectations and pressures.

Developing the search strategy: We included primary studies using qualitative and mixed methods research on professional identity formation among public health professionals, published in English globally. We searched electronic databases such as Medline and Scopus and used Google Scholar to review all articles in the first ten pages. We brainstormed appropriate search terms and decided on keywords related to the topic of interest and postgraduate public health courses/job work. We used a broad search strategy to ensure sensitivity and avoid missing potential studies for inclusion.

Figure 1: Conceptual framework of potential factors affecting PIF among public health professionals



PubMed: *("social identification"[MeSH Terms] OR "professional identi*"[Title/Abstract] OR "Professional identity"[Title/Abstract:~4] OR "Professional identification"[Title/Abstract:~4] OR "Professional identifications"[Title/Abstract:~4] OR "Professional identity formation"[Title/Abstract:~4] OR "Professional identity formations"[Title/Abstract:~4] OR "Professional identity development"[Title/Abstract:~4])*

Scopus: *"professional identity" OR "professional identity formation" OR "professional identity development" OR "professional identity construction" OR "professional socialization" "public health*

Google Scholar: *"professional identity" OR "professional identity formation" OR "professional identity development" OR "professional identity construction" OR "professional socialization" "public health"*

Selection of primary studies and their appraisal: We selected primary studies based on the following inclusion criteria: original qualitative and mixed methods research on professional identity formation among public health students or professionals from various backgrounds (public health, nursing, dental, and social work); grey literature such as thesis work; studies in English and other languages with English translations; and studies of all time published in peer-reviewed journals. Exclusion criteria were articles based on reviews/viewpoints [3]; scoping reviews [1]; articles based on quantitative methods such as surveys and other methods [3]; articles based on analysis of reflections of undergraduates [1]; book/book chapters and conference proceedings; and articles on PIF from all other professions [3]. Figures in square brackets represent the number of primary documents.

In this qualitative meta-analysis QMA, we assumed that the experiences of professional identity formation among public health professionals from various graduate backgrounds (such as nurses, doctors, physiotherapists, and dentists), would be relatively similar. We chose to be purposive rather than exhaustive to achieve 'conceptual saturation'. Given the challenge of practicing saturation in the context of QMA, we preferred to locate and include all relevant studies for screening.[5] The selection process of articles for QMA was as per the PRISMA flow diagram given below (Figure 2). We (AD and VL) then assessed the full text of selected articles to decide eligibility using the Critical Appraisal Skills Program Qualitative Research Checklist.[5]

Data extraction: We included the qualitative findings from 14 selected documents (Table 1) presented under the 'Results' section of the published primary qualitative studies. These findings were in the form of narratives, participant quotes, categories, and themes. The 'Discussion' sections were also reviewed to check if there were any quotes or narration from the present study. The selected articles were imported into the Free version of QDA Miner Lite software. The software assisted in data organization, codebook development, coding, merging, and retrieval, as well as tracing the primary contributing studies.

Thematic synthesis and content analysis: We coded the entire qualitative result section of 14 documents (13 original articles and one thesis) as it was difficult to decide what were the relevant findings. We followed the steps to thematic

Figure 2: PRISMA flowchart to demonstrate the flow of search resulting in the inclusion of articles related to PIF in public health

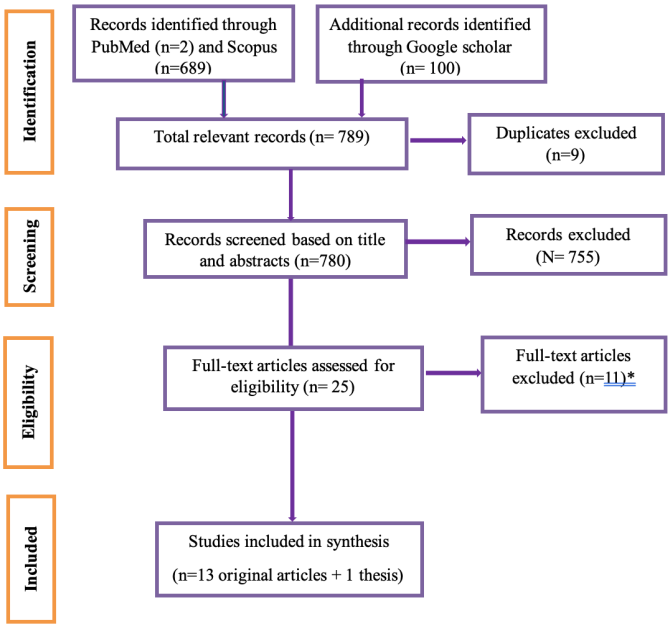


Table 1: Details of selected articles used in the qualitative meta-analysis

Sr. No	Authors	Year	Journal	Title	Region	Target Group	Study design	Objectives	Code contribution in QMA (n=194)
1	Zola et al32	1968	Social Sci and Med	Work perceptions and their implications for professional identity: an exploratory analysis of public health nurses	USA	Public health nurses	Review of data	This paper is based on presentation of serendipitous data to study problems of professional identity among public health nurses.	32 (16.5%)
2	Biehl et al19	2021	Int. J. Environ. Res. Public Health	Professional Identity Formation in Health Promotion Practitioners: Students' Perspectives during an Undergraduate Program in Switzerland	Switzerland	UG programme on HP	Qualitative	Which promoting and inhibiting factors do the students indicate regarding their PI formation?	21 (10.8%)
3	Dahl et al25	2014	Scandinavian Journal of Caring Sciences	The meaning of ethically charged encounters and their possible influence on professional identity in Norwegian public health nursing: a phenomenological hermeneutic study	Sweden	Public health nurses	Phenomenological study	To illuminate public health nurses' experiences of being in ethically charged encounters and to reflect upon how these experiences can influence their professional identity.	19 (9.8%)
4	Drevdahl et al18	2019	Nursing Inquiry	Being a real nurse: A secondary qualitative analysis of how public health nurses rework their work identities	USA	Public health nurses	Qualitative interviews	We examine how a public health nurse's identity as a real nurse balances a contradictory work identity in which the public health nurse is expected, at times, to tend to population health and at other times, to focus on providing direct care.	19 (9.8%)
5	Wood A22	2016	Medical Teacher	Learning, assessment and professional identity development in public health training	UK	Registrars of public health training course	Face to face interview after administering pre-interview questionnaire	To explore the influences of workplace, learning and assessment on professional identity development for registrars on the public health training program in one English region	15 (7.7%)
6	Okura et al14	2013	Open Journal of Nursing	Factors that affect the process of professional identity formation in public health nurses	Japan	Public health nurses	Mixed Methods	To describe how PHN identity is established over time, from the viewpoint of occupational development, and how PHN identity is affected.	14 (7.2%)
7	Iwasaki et al17	2018	Public Health Nurs.	The structure of the perceived professional identity of Japanese public health nurses	Japan	Public health nurses	Grounded theory	To understand the structure of perceived professional identity of PHNs in Japan at a conceptual level.	14 (7.2%)
8	Cianciara at al15	2018	Pol J Public Health	Looking for professional identity of public health workers in Poland	Poland	MPH students	Qualitative interviews	To indicate some professional identity components for public health workers.	13 (6.7%)
9	Dahl et al26	2015	PhD Thesis	The meaning of professional identity in public health nursing	Norway	Public health nurses	Qualitative interviews	To explore the meaning of professional identity in public health nursing	9 (4.6%)
10	Bayne-Smith et al23	2014	Issues in Inter-disciplinary studies	Professional identity and participation in interprofessional community collaboration	USA	Six professions (Medicine, nursing, social work, public health, and psychology)	Qualitative Interviews	The purpose of this article is to explore how individuals representing six different professions (informants) understand the relationship between professional identity and interprofessional community collaboration (IPC).	8 (4.1%)
11	Furman et al16	2023	Pol J Public Health	A qualitative analysis of reasons for satisfying professional career after completing higher education studies of public health	Poland	Public health professional	Qualitative interviews	The goal of this study was to find the benefits resulting from studying public health, based on the experiences of IPH JU MC graduates	8 (4.1%)
12	Machin et al20	2011	Journal of Advanced Nursing	Maintaining equilibrium in professional role identity: a grounded theory study of health visitors' perceptions of their changing professional practice context	UK	Health visitors	Qualitative interviews-Grounded theory	This article reports the study of a group of United Kingdom health visitors' interactions with their changing practice context, focusing on role identity and influences on its stability.	8 (4.1%)
13	Dahl et al21	2015	Scandinavian Journal of Caring Sciences	Meanings of knowledge and identity in public health nursing in a time of transition: interpretations of public health nurses' narratives	Sweden	Public health nurses	Qualitative interviews	To illuminate the meaning of public health nursing knowledge and professional identity in a continuously changing public health nursing practice.	7 (3.6%)
14	Synnevag et al24	2019	International J of Integrated Care	Legitimising inter-sectoral public health policies: A challenge for professional identity?	Norway	Public health workers	Qualitative interviews	To investigate legitimacy of the HiAP approach in Norwegian municipalities	7 (3.6%)

synthesis suggested by Thomas and Harden (2008).[10] 1) *Line-by-line coding* of findings using a mix of inductive and deductive approaches: We used descriptive coding and developed 194 codes to tag the meaning units (MU) relevant to professional identity formation. Meaning Units (MU) "*is the smallest piece of data that can stand on its own and enable the reader to determine its meaning*".[5] The details on the contribution of 194 codes of various articles are given in Table 1; this step was completed using a Free version of QDA Miner lite software; 2) *Formation of meta-categories*: We manually sorted and classified 194 codes from selected studies outside the software based on their similar meanings and contextual relationships among codes. We thus organized 10 provisional meta-categories as part of axial coding (Figure 3). These provisional meta-categories were: 1) nature of public health courses; 2) titles and terminologies used; 3) PIF in the context of public health; 4) facilitators; 5) barriers or challenges; 6) barriers in curriculum; 7) both positive and negative factors; 8) employee perspectives; 9) employers' perspective; and 10) public perception. MUs could convey more than one meaning, and different MUs could convey the same meanings. Hence, the provisional meta-categories were again reviewed by the first two authors (AD and VL), and codes with similar meanings were merged inside the software. 3) Finally, we re-organized ten provisional meta-categories into five overarching main meta-categories (Figure 3). The results were reviewed by the last author (HP). The distribution of codes against the main meta-categories is given in Table 2.

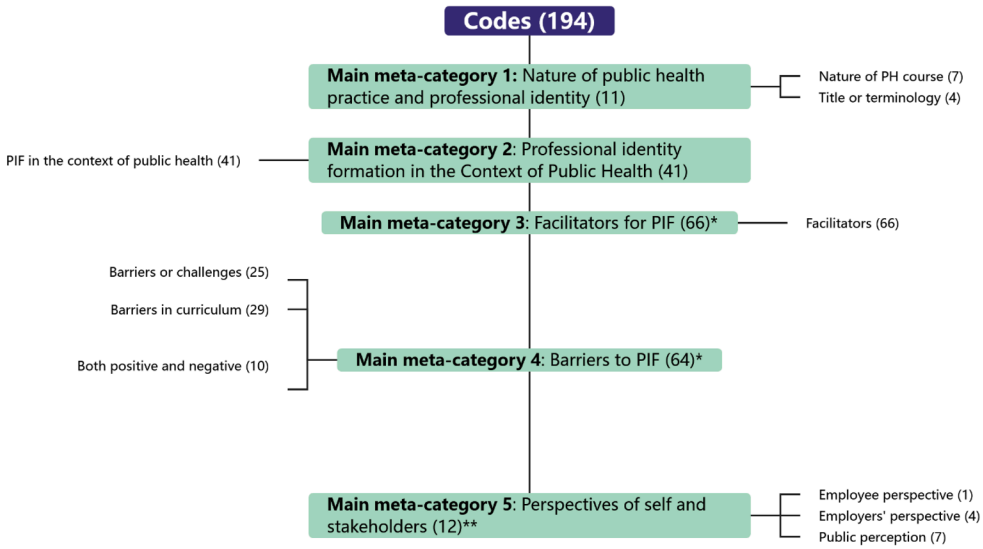
We wrote descriptions of these themes in consensus. Statements in *Italics* represent quotes from primary studies. In addition to describing meta-categories, the results are organized in figures that classify facilitators and barriers against curricular components and workplace practices such as competencies, course content, teaching-learning, educational environment, assessment, peers, and mentors. Understanding the influence of these interactions in the education environment is crucial in understanding professional identity development.[2] The width and size of the arrows for categories represent their prominence based on the number of codes they contained. This step aimed to infer meaning in the form of analytic themes and to consider the implications of the findings in the form of recommendations to develop interventions.

Reporting framework and credibility check: We followed the 'Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) framework for the meta-analysis.[11] We ensured the triangulation of researchers to improve rigor and group reflexivity.[12] To ensure peer validation, we presented our QMA steps—which included the search strategy, article selection, localization/ extraction, delineation of MUs, provision of feedback, and team discussion of changes—as well as the final QMA results obtained from synthesizing

Table 2: Distribution of codes contributing to main meta categories from selected articles

Articles	**Main meta-category 1** Nature of public health practice & PIF	**Main meta-category 2** PIF in the context of public health	**Main meta-category 3** Facilitators to PIF	**Main meta-category 4** Barriers to PIF	**Main meta-category 5** Perspectives of self and stakeholders	**Total**
Zola et al[32]	1	-	24	6	1	32
Machin et al[20]	-	3	1	4	-	8
Wood A[22]	-	3	1	10	1	15
Drevdahl et al[18]	1	9	2	5	2	19
Bayne-Smith et al[23]	-	2	5	-	1	8
Furman et al[16]	-	2	1	5	-	8
Synnevag et al[24]	-	-	-	1	6	7
Dahl et al 2015[26]	-	5	2	1	1	9
Dahl et al 2014[25]	-	-	9	10	-	19
Dahl et al 2015[21]	1	-	1	5	-	7
Biehl et al[19]	4	3	7	7	-	21
Cianciara at al[15]	4	3	1	5	-	13
Okura et al[14]	-	2	9	3	-	14
Iwasaki et al[17]	-	9	3	2	-	14
Total	**11**	**41**	**66**	**64**	**12**	**194**

Figure 3: Development of main meta-categories from codes and provisional meta-categories



primary studies to independent public health professionals from three public health organizations in India. This was done to assess how well the results apply to our context.

Ethical Implications: The present QMA did not require submission to the ethics committee clearance as per the addendum to National Ethical Guidelines for Biomedical and Health Research involving human participants by the Indian Council of Medical Research (2024).[13]

Results:

Out of 14 documents included, 12 were primary qualitative research, and one each was mixed methods and secondary text review. Out of 14 documents, seven were based on Public Health Nurses, one each on Master of Public Health and Health Promotion, four studies on public health professionals, and one mixed professions (medicine, nursing, social work, and public health) (Table 1).

We derived five main meta-categories: 1] nature of public health practice and professional identity (n=5); 2] professional identity formation in the context of public health, which had three meta-categories on the role of the university in professional identity formation, requirement of reconciliation with various other identities, and influence of job profile on professional identity (n=10), 3] facilitators of PIF included meta-categories of facilitators related to curricular aspects and while at work (n=13), 4] barriers related to PIF included meta-category related to curricular aspects and while at work, (n=13) and finally, 5] Perspectives of self and stakeholders included factors related to self, employers, and society (n=6). The number in brackets represents the number of articles contributing codes to that category.

Main meta category 1: Nature of Public Health Practice and Professional Identity (PI)

Identity development is not a linear process achieved solely through skill acquisition or a single goal acquisition,[14] but "*it is a way of thinking about individuals' professional work and its development in the process of socialization*".[15] The role of public health professionals extends beyond providing medical assistance, including counseling.[16] Their practice involves addressing community health problems, developing projects and policies, and ensuring changes in the community.[17] In some settings, they focus on the population and direct individual care.[18] Public health professionals often work in various institutions on broad assignments that involve multitasking and holistically considering individual patients and communities.[16] Their role involves applying theoretical knowledge to the personal lives of individuals.[15]

Over the years, public health practice has become increasingly interdisciplinary[19] and interprofessional, intersecting with fields such as medicine, pharmacy, midwifery, private health sectors, insurance companies, government offices,

ministry, and even with unrelated sciences.[16] Public health professionals often need to defend their work roles in an interprofessional context.[20] Jurisdictional boundaries provide control over specific knowledge bodies that define the profession [21] and the professional identity. Since public health lacks exact boundaries,[15] students face challenges developing their professional identity. Nonetheless, despite difficult job situations, they tend to achieve some form of identity.[19]

Main meta category 2: Professional Identity Formation (PIF) in the Context of Public Health

Meta category 2.1: Role of University in PIF among public health professionals

Newly joined professionals struggled to define their professional identity as it was not initially discussed with them.[22] Students who understood their professional expectations and challenges, such as low societal recognition or job insecurity, were better prepared.[19] Initially, they felt out of place and unclear about what was expected. They thought that passing examinations would make them professionals, but later realized it involved understanding jargon (the right words), producing (desired) work, and receiving feedback from colleagues.[22] As they progressed, their new roles began to define them.[16] Hence, universities play a crucial role in professionalizing these workers.[15]

Meta category 2.2: Requirement of reconciliation with various identities

In public health, professionals have to shift their identities from roles such as a doctor, nurse, dentist, and social worker, etc., to public health professionals, or they may play dual roles.[17] This transformation involves changes in practice, position, and professional interests.[23] Public health professionals might need to balance their past work identity with their new roles, shaped by individual experiences, education, abilities, and peer relations.[18] Additionally, they may need to defend their work in interprofessional settings with role interchangeability (identity portability).[20] Identity development is a dynamic and ongoing process and involves reconciling competing professional identities.[18] During this process, they may have to perform tasks that are of little interest to them (mandated identity) and reconcile their past identity with their emerging roles as public health professionals [contradictory identity].[18]

Meta category 2.3: Influence of job profile on PIF

Professional identity (PI) develops with socialization and strengthens with work experience.[15] It is a key determining self-worth,[18] crucial for adopting professional roles in real work settings.[19] PI affects job satisfaction and work retention and helps distinguish one's professional group's efforts.[18] Notably, it was felt that visible and tangible work tends to enhance identity, but most of the work of public health professionals, such as developing projects, measures, and policies for the community, remains invisible to public health authorities and the community.[18] Therefore, their roles need better definition and encapsulation in the curriculum to improve identity formation.

In the United States, public health nurses often felt they performed more clinical work, mainly immunizations, than actual public health from a population perspective.[18] According to Bayne-Smith (2014),[23] public health nursing involves teaching caregivers to care for sick people at home. Synnevag et al. (2019)[24] emphasized the importance of ownership and awareness of public health goals among staff, expressed through their work. They noted that a lack of professional understanding could lead to conflicting perceptions of their organization, affecting its legitimacy.

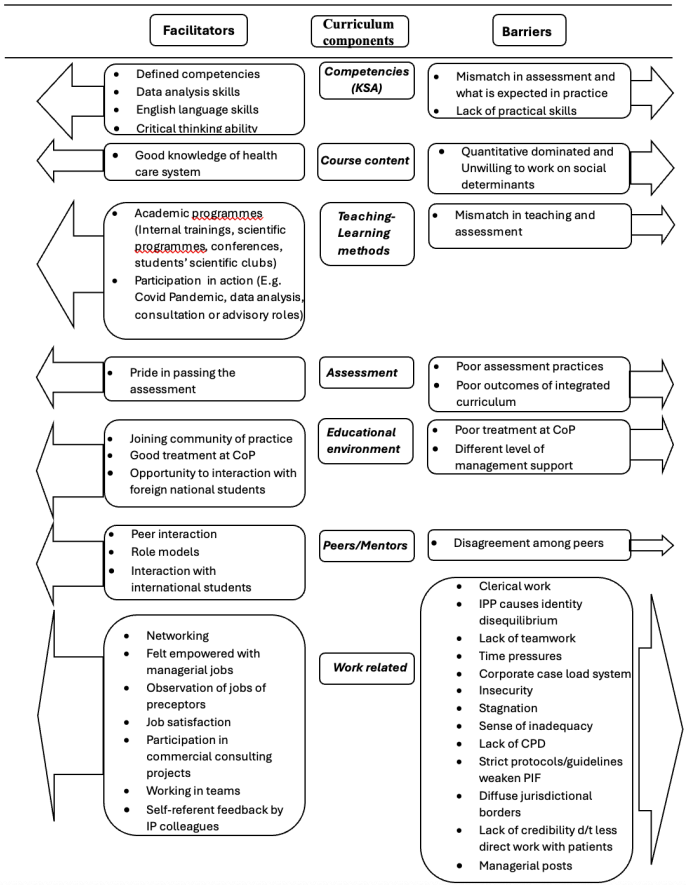
Main meta category 3: Facilitators for PIF

Meta category-3.1: Facilitators to PIF related to curricular aspects

Passing course assessments was motivating for students.[22] At work, role models and preceptors' continuous observations helped them define their professional roles.[14]

According to primary study participants, involvement in college-implemented commercial consulting projects, participation in Covid-19 pandemic work, and data analysis of clinical trials offered them their first work experience.[16] This provided an opportunity to observe the work in real settings and interact with native English-speaking professionals, aiding their transition from academia to the business environment. They valued this as it helped them to identify and overcome shortcomings and correct errors. This exposure was useful in understanding the importance of teamwork, building networks, and preparing them to work in international organizations. Participation in compulsory practical placements (internships) at various places also helped to build their professional identity.

Figure 4: Facilitators and barriers in PIF across various curricular components and practice



Voluntary participation in students' scientific clubs and conferences, both as presenters and listeners, enhanced their skills in the public health field, including critical thinking, data analysis, and drawing conclusions.[16] Involvement in programs organized by local organizations was also beneficial. Peers discussion on all aspects of professional identity formation helped students reflect on their professional issues and identity formation.[19] Besides individual support, support groups for community engagement gave them a broader understanding of their community.[14] Providing professional advice on consultation stimulated their professional identity,[17] and joining a community of practitioners, including policymakers and leaders, was motivating.[16]

Meta category 3.2: Facilitators to PI while at work

Clarity of roles concerning jurisdictional borders can strengthen professional identity at a time when healthcare policy promotes economic values, professional neutrality, and increased collaboration.[21] Professionals can confirm and develop their identity by meeting in a community of practice, where they can narrate and critically reflect on activities, becoming aware of their roles in relation to professional and institutional directives and practice demands.[21] Introspection of daily activities and advice from preceptors and seniors, helps build a professional identity.[14]

Main meta category 4: Barriers to PIF

Meta category 4.1: Barriers related to curricular aspects

Public Health courses are organized differently across countries under various modules such as Health Economics, Biostatistics, Epidemiology, Health Policy, etc.[16] Amongst these competencies, data analysis skills are highly valued for drawing relevant conclusions and informing research approaches.[16]

Wood[22] noted poor integration between personal development and identity formation in public health, highlighting a lack of integration between

knowledge acquisition and assessment – "*You look at the examiners' comments and think where did all that come from? How was I supposed to know that?*" He observed that students relied heavily on books and websites, with a mismatch between assessment and workplace expectations. *"It's not relevant—you know the exam is the exam and work is work*". Wood[22] further noted issues with the test format and how test questions were administered. Students saw the examination as 'something to get through'; hence, by not learning thoroughly, '*you feel less part of something, you feel a bit of a fraud'*. Cianciara et al.[15] reported that university studies did not provide the knowledge or practical skills needed for current jobs, emphasizing a gap in applied learning.

Initially, students felt insecure about their professional profile as they are broadly trained as generalists, leading to uncertainty about their profession and theory-practice transfer.[19] However, this sense of uncertainty and complexity tended to reduce over time. In Japan, Okura et al.[14] noted an increase in nursing universities that train students using an integrated curriculum. The shorter training duration results in many public health nurses starting their jobs without a clear idea of how to do their jobs. Even after achieving proficiency, a plateau stage needs to be addressed through continuous skills enhancement.

Meta category 4.2: Barriers to PI while at work

Machin et al.[20] identified barriers to professional identity, including peer disagreement causing discomfort and identity displacement. The diffusion of professional boundaries in interprofessional teams was a concern, affecting the profession's unique nature and leading to professional disequilibrium. The corporate caseload system impacts communication, causing stress and a sense of 'malaise and stagnation.'[18] Reconciling role expectations with identity is challenging. Public health nurses felt that doing solely population work was inadequate; providing direct clinical care to patients enhances credibility as they feel they are doing some real service.[18] Both physicians and nurses noted the dominance of physicians as a negative factor impeding inter-professional collaborations.[23]

Professionals felt that public health work is based on broad objectives and is becoming increasingly interprofessional, with a heavy reliance on quantitative data for decision-making and limited focus on social determinants of health.[16] It was felt that interprofessional work adversely affects professional identity due to dominance by one profession, devaluing other's roles.[19] Public health nurses reported using moral strength to overcome prejudice and feelings of inadequacy, endure abusive comments, and provoke feedback while performing their professional duties,[25] which can adversely impact identity development. Excessive use of protocols and tools may lead to instrumentalization of public health practice and weaken professional identity in the long run.[21]

Main meta category 5: Perspectives of self and stakeholders

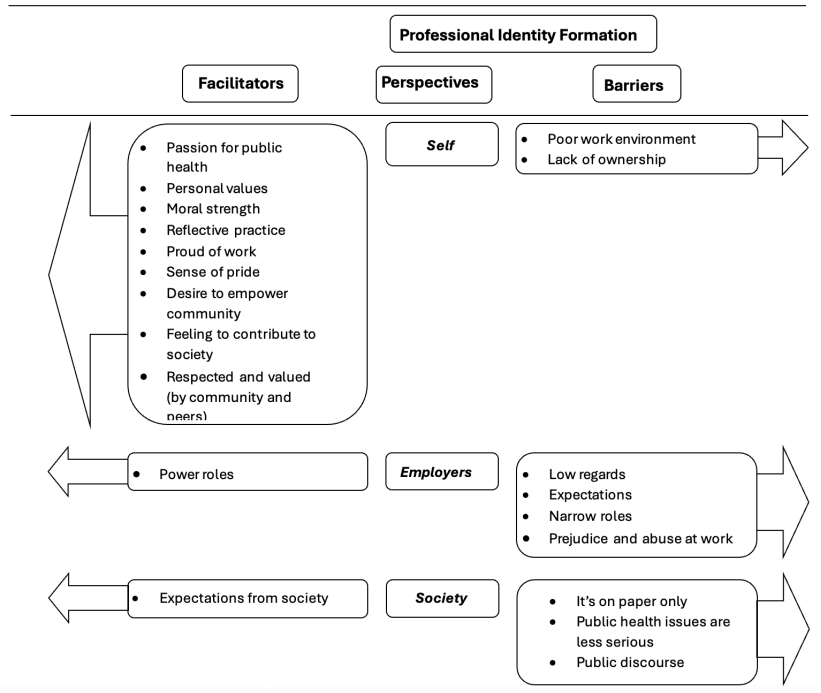
Meta category 5.1: Factors related to self

Some students chose public health out of a passion for policy and advocacy to keep people healthy. Their focus gradually shifted from clinical to preventive work and population health. So…"*It wasn't that I chose public health, public health chose me*".[18] Having faith and confidence in their work was encouraging.[14] Pursuing public health nursing over hospital-based care was found to be more gratifying as the former allowed for developing relationships with patients and their families. Hospital nursing, being under the physicians' control, tends to become monotonous over time. Public health nursing poses unique challenges, requiring judgment and independent care in isolated settings, like family homes or school clinics. This high degree of responsibility is personally and professionally satisfying, allowing for autonomy in making judgments and decisions.[16]

Furkman and Bochenek[16] noted that the professional identity of public health graduates is shaped by their collaborations with people and professionals. Key characteristics of this identity include a sense of responsibility, an obligation to build trust, and a commitment to engaging in difficult situations. Value conflicts mobilize the courage essential for moral strength, which is crucial for a strong professional identity.[26]

Dahl[26] noted that ethically charged lived-in experiences, and feeling valued, appreciated, and needed by families made public health nurses proud of their work. Consequently, they considered responsibility and trust as the core values of their professional identity. They felt trusted and appreciated for their work and hence acquired

Figure 5: Facilitators and barriers in PIF across self, employer, and general community perspectives



positional power to make a difference in the lives of patients and their families. They might need to show commitment and emotional involvement to care for the case. Dahl et al.[25] described both positive and negative aspects of shame. When understood positively, shame is derived from personal ethical values of acting with good intentions, enabling ethical readiness. Authors raised questions about "*whether professional identity is strengthened by following the institutional requirements or by following the profession's values of individualized care*?"

Meta category 5.2: Employers' perspectives

Due to a lack of standardized education in public health (except in the USA, Canada, and Australia), employers often undermine public health professionals' skills and abilities.[16] Poor morale and adverse working conditions negatively impact professional identity.[22] Excessive clinical orientation (e.g., immunization) with less emphasis on population-based preventive services, poor legitimacy,[18] and lack of ownership, further harm professional identity. Organizational legitimacy suffers when multiple actors have conflicting understandings of their organization and its function.[24]

Discussion:

The present QMA synthesized a conceptual model representing facilitators and barriers for PIF, including personal motives, curriculum influence, a community of practice, societal aspects, healthcare system characteristics, and various expectations and pressures during student and professional life. As students reconcile these competing discourses, public health educators should not let them progress independently but reflect on role modeling and create an enabling educational environment.[27] According to Erikson's identity crisis theory, reconciling biological and sociocultural forces leads to positive outcomes like hope, purpose, and wisdom.[2] Kratzke and Cox[28] recommend pedagogical strategies for universities to help students understand profession-related connections, characteristics, roles, values, standards, and culture over time. The present QMA support strategies include faculty development to support PIF, formal orientation on PI, role modeling, professional networking, and peer support.

Self-image is crucial for professionals to remain resilient and purposeful even in challenging circumstances.[29,30] The present QMA found that self-motivation and commitment are strong motivating forces for public health professionals, helping them overcome barriers and challenges from employers and the general community. Key work-related factors such as a sense of inadequacy, insecurity,

lack of teamwork, diffused professional boundaries, and disequilibrium due to inter-professional practice were reported as a challenge to PIF. These findings emphasize the need to develop a curriculum that espouses the co-existence of interprofessional and profession-specific professional identities.[31] Additionally, Continuing Professional Development led by employers is necessary to manage employee's perspectives and develop the right professional identity for their job profiles. A well-structured appraisal of self-reflection at the student and employee level, with supportive feedback, could also support PIF.[28]

Notably, the present QMA confirms the influence of various factors on PIF from conceptual frameworks such as personal motives, curricular components, community of practice, influence of community, type of health care system, and role of expectations and pressures. However, we found no original article exploring the influence of factors such as existing personal identity, the credibility of family, parental and social support, media influence, and school characteristics on PIF amongst public health professionals. Although the present QMA has explored various factors for PIF, there is no empirical clarity on their inter-relationship. Understanding these relationships is crucial for integrating and explaining the pathways or stages in the development of PIF, which can inform educational interventions that support PIF and evaluate its impact.

To the best of our knowledge, this is the first QMA on this topic that integrates findings from diverse global contexts. Most of the existing studies were from the Western individualist culture, except for one study from Japan. Despite the Western influence on public health practice in Asia, there could be significant differences in how Asian students construct their PIF considering their unique interpersonal, societal, and contextual factors. During peer validation, experts found the findings relevant to the Indian context. However, their applicability to other contexts may vary due to differing experiences. This area remains under-theorized and under-researched in the Asian and Indian contexts.[2]

Although credibility checks were performed to ensure methodological integrity in QMA synthesis and reporting, researchers' demographic, educational and public health backgrounds may have influenced the research questions, article coding, and summary result interpretations. We acknowledge that most processes leading to final interpretations in a QMA are subjective, making it challenging and inappropriate to develop an objective criterion for judging the analysis process. In systematic reviews, sensitivity analysis examines the impact on synthesis by including and excluding findings from studies of different quality. However, conducting sensitivity analysis in this QMA was challenging as it was based on constructivist philosophy where different studies contributed varying information to the construct of PIF.

In conclusion, the present QMA synthesized and organized the various factors influencing professional identity among public health professionals. This has implications for public health curricula, continuing professional development plans, and further research to address gaps in PIF in public health. Although peers found the QMA findings relevant in India, there is limited understanding of what constitutes a 'good' public health professional and the processes that lead to developing this. This synthesis and organization of facilitators, barriers, and gaps can act as a springboard for more research in the less explored African and Asian regions.

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