

SS40

April /May 2024

ICOH Morocco, Special Session on BOHS

Opportunities in Basic Occupational Health Services and similar innovations in health care

A global view

Frank van Dijk, Suvarna Moti

Foundation LDOH

v.dijk.workandhealth@gmail.com,
pathare_suvarna@outlook.com

6 April 2024 def.

See <https://creativecommons.org/>



ldoh
LEARNING AND DEVELOPING OCCUPATIONAL HEALTH

No conflict of interest to report

- Frank van Dijk
- Suvarna Moti

A new structure for occupational health care

Expert-based Occupational Health Services

for large and medium-sized companies

Basic Occupational Health Services

for workers in small companies and agriculture,
self-employed and informal workers

integrated in Primary or Community Health Care



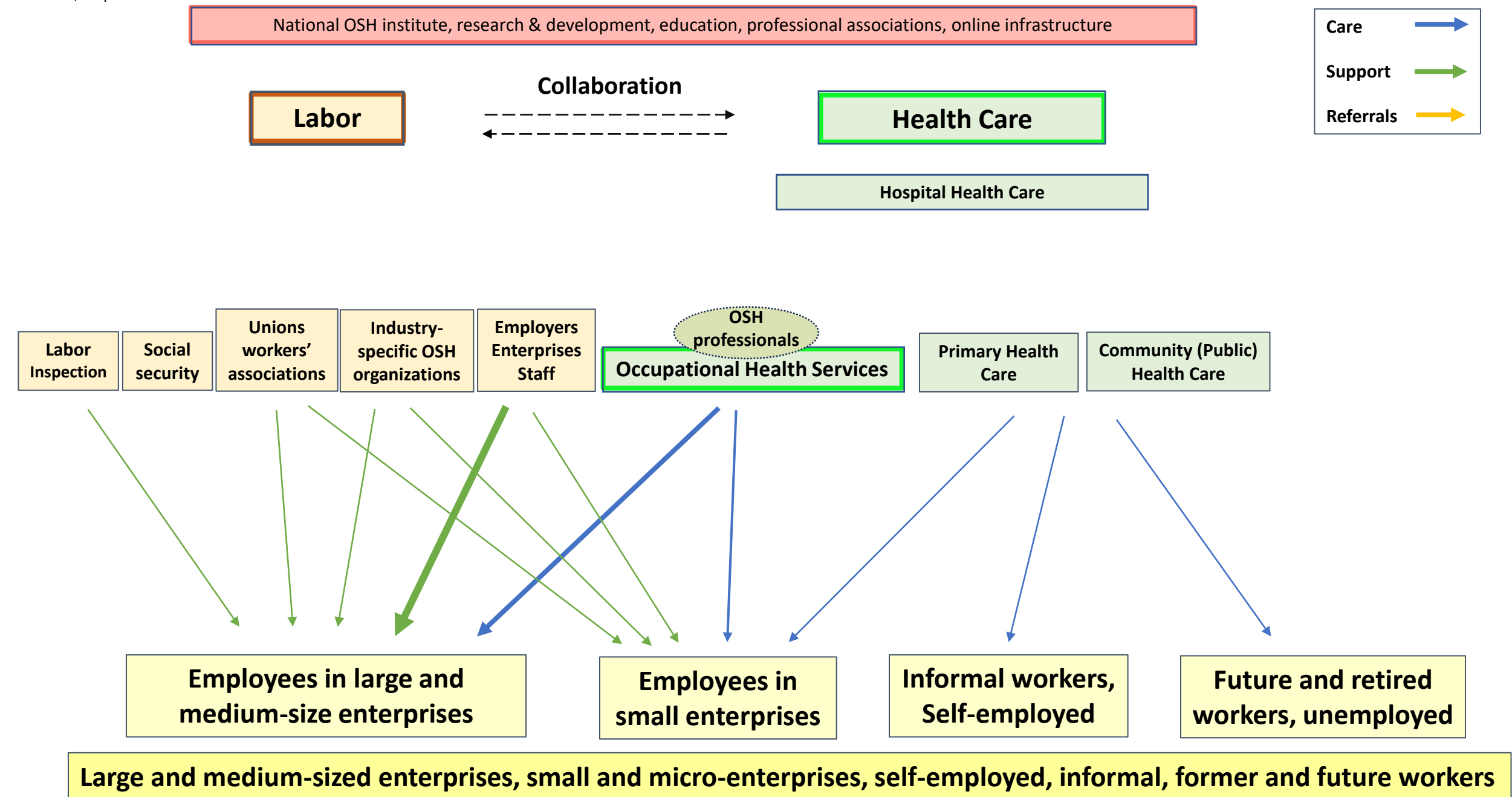


Figure 1. Current structure of OSH care and support for all workers

- 1. Introduction of BOHS in Primary or Community Health Care supported by OSH experts and referral options**
- 2. Strengthening expert-based Occupational Health Services**
- 3. Strengthening Specialized Occupational Health Care in hospitals**
- 4. Improving support from Labor side to all workers and enterprises**
- 5. Improving collaboration between Labor and Healthcare sectors**

Employees in large and medium size enterprises

Employees in small enterprises

Informal workers, self-employed

Future and retired workers, unemployed

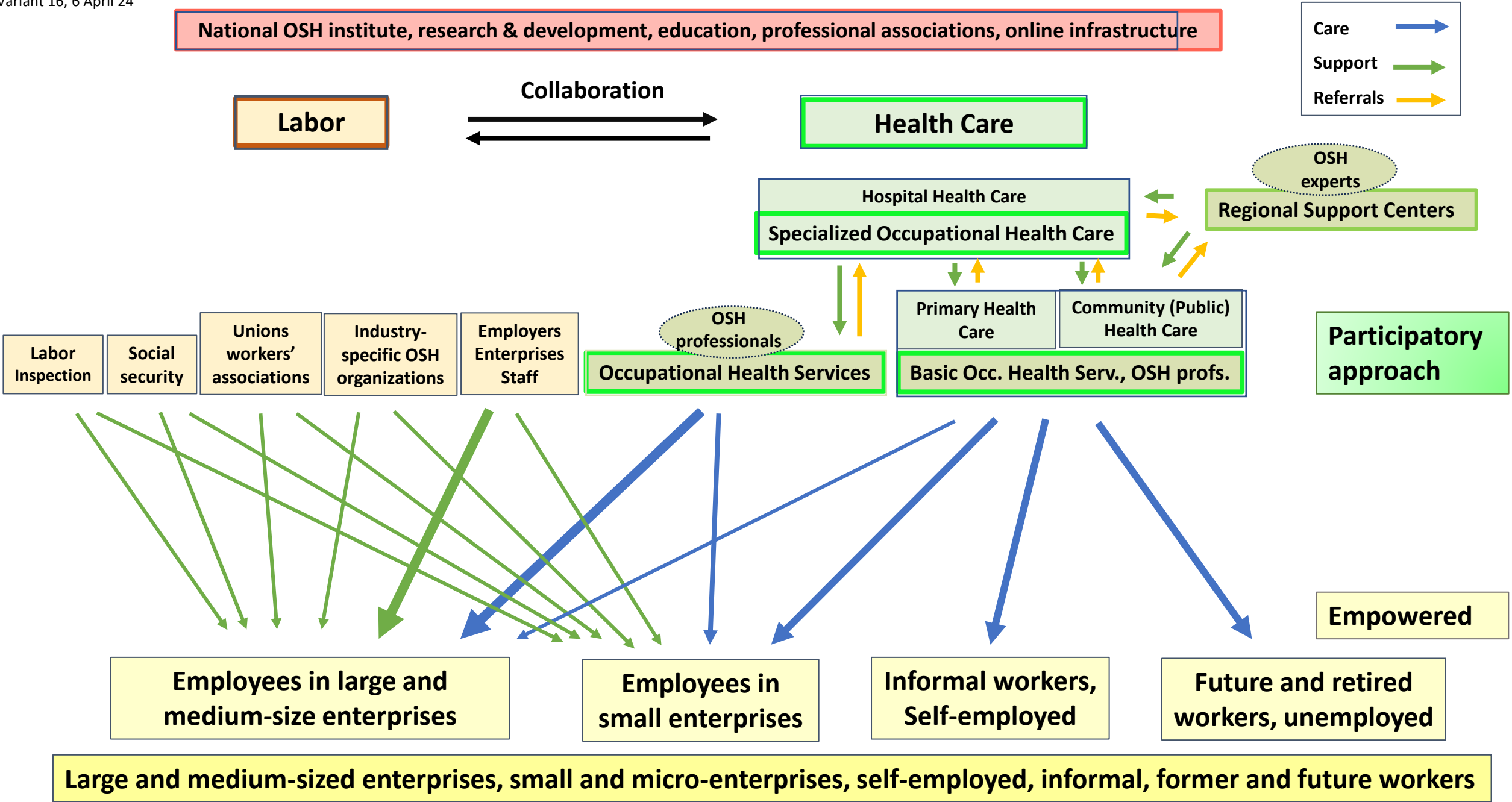


Figure 2. Future structure of OSH care and support for workers

The **BOHS Repository**, an online database, has been developed to support the aim of universal occupational health coverage

Van Dijk FJ, Moti S. *Repository for publications on basic occupational health services and similar innovations in the world*. Leiden: LDOH Foundation; 2022.

Free available at <https://shop.ldoh.net/>, and at <https://iaohmumbai.org>.

Next, a scientific article has been published in 2023 offering background information

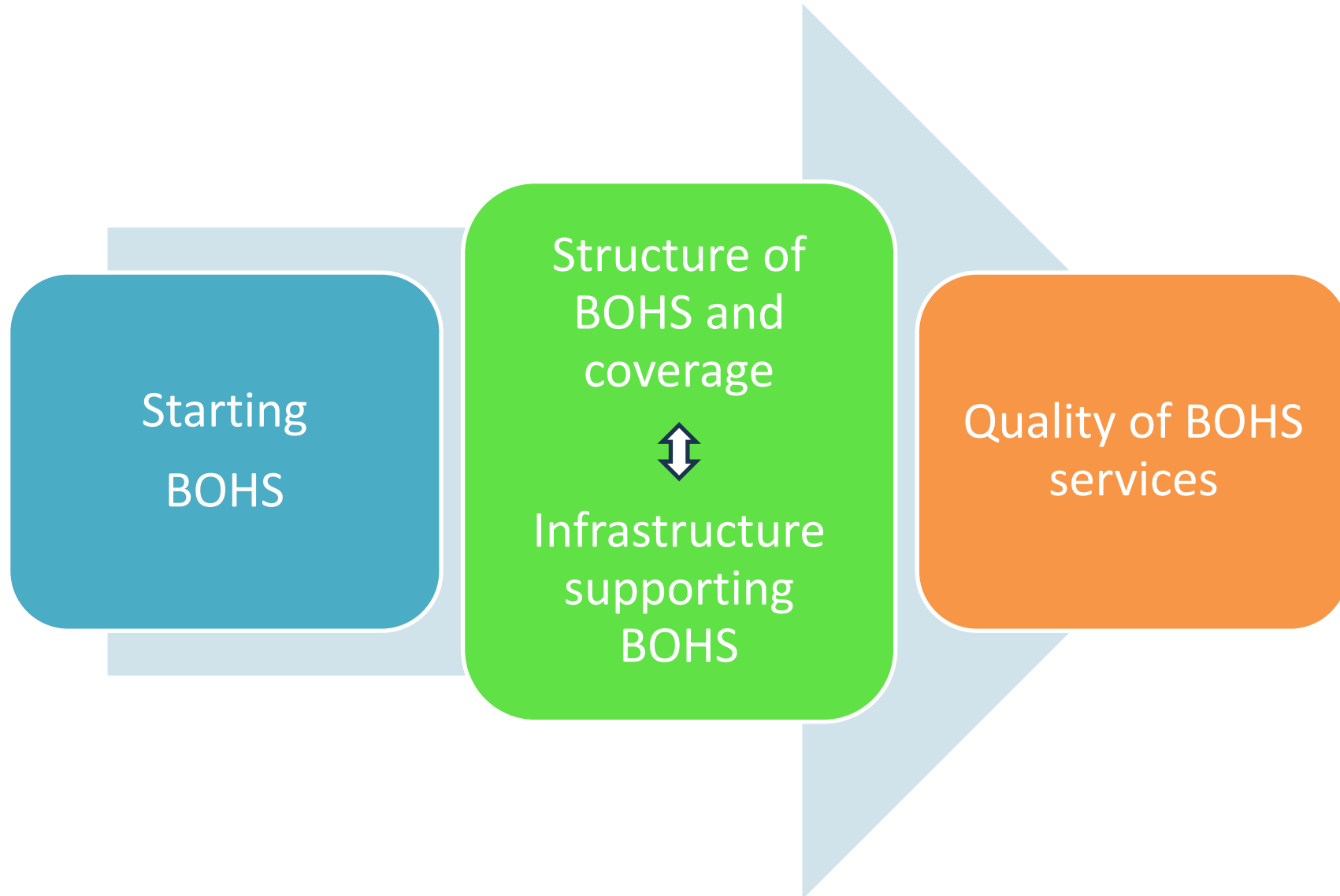
Van Dijk FJ, Moti S. *A Repository for Publications on Basic Occupational Health Services and Similar Health Care Innovations*. Saf Health Work. 2023; 14: 50-58.

Free available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10024225/>

						Concise standard version Repository 7 Sept 2022 df		
last remarks Türkiye towards Asia, USA					Authors: Frank van Dijk and Suvarna Moti	Concise version of the Repository of references to publications on Basic Occupational Health Services and similar initiatives in the world		
						See also the complete version of the Repository that includes as well a brief introduction, and a description of the content of all publications		Frank van Dijk: v.dijk.workandhealth@gmail.com Suvarna Moti: *****
						The repository is a non-commercial initiative and is published as an Open Access publication under Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).		
Archive number	Author or Institute	Year of publi- cation	Kind of source	Open Access or Not Open Access	Copyright regulations or Creative Commons or otherwise	Core bibliographic data	Global, regional or national perspective	Hyperlinks
Number	AUT = author NAT = national institute INT = internat. institute	A = < 1990 B = 1990-1999 C = 2000-2009 D = 2010-2019 E = 2020-2022	Book, Doctoral Thesis, or Guide Report Article Editorial, Book review, or Letter to editor Policy document or statement Lecture(s) or Session Newsletter or Interview	OA = Open Access or NOT OA = Not Open Access	Copyright Creative Commons (CC) (no severe restrictions) No severe restrictions, other than CC, still conditions possible Copyright regulation uncertain	Vancouver bibliographic notation of the publication	Global Regional or Country name	Hyperlinks
						Section 1: Publications using a global perspective		
	WHO					WHO		
17	INT	C	Book	OA	Copyright	WHO Regional Office for the Eastern Mediterranean. Occupational Health. A manual for primary health care workers. Cairo; WHO: 2001. 171 pages	Global	https://apps.who.int/iris/handle/10665/116326
18	INT	C	Report of session of committee OH	OA	Copyright regulation uncertain	ILO. Summary report of Thirteenth Session of Joint ILO/WHO Committee on Occupational Health 9-12 December 2003. JCOH/2003/D.4. Geneva; ILO: 2003. 17 pages	Global	https://www.ilo.org/global/topics/safety-and-health-at-work/resources-library/publications/WCMS_110478/lang-en/index.htm
19	INT	C	Article in Newsletter	OA	Copyright	Eijkemans G. Occupational health services as a part of primary health care. Asian Pacific Newsletter on Occupational Health and Safety. 2004; 11, no 3: 51-53. (FIOH, Helsinki)	Global	https://scholar.google.com/scholar?cluster=16562602559926663698&hl=nl&as_sdt=0,5&as_vis=1
20	INT	C	Report of intercountry workshop	OA	Copyright	World Health Organization. Primary health care and basic occupational health services challenges and opportunities. Report on an intercountry workshop, Sharm El-Sheikh, Egypt, 12-14 July 2005. 2006, 37 pages	Regional Eastern Mediterranean (EMRO)	https://apps.who.int/iris/handle/10665/254052
21	INT	C	Policy document	OA	No severe restrictions	World Health Organization. WHA Resolution 60.26. Global Plan of Action on Workers' Health 2008-2017. Geneva: WHO; 2007. 46 pages	Global	https://www.who.int/publications/i/item/WHO-FWC-PHE-2013-01

149	Chen Y	2010	Article, Open Access, Copyright Wiley presumably	Chen Y, Chen J, Sun Y, Liu Y, Wu L, Wang Y, Yu S. Basic occupational health services in Baoan, China. J Occup Health. 2010;52:82-8.	China Baoan province Evaluation study Experiments National policy Tasks package Quality activities Evaluation output, outcomes	<i>A brief description including a few (shortened) citations. Use the links to read the abstract and article.</i> A new model of basic occupational health services (BOHS) has been developed in Baoan, a province in China, including capacity building, training and education, occupational health surveillance, risk assessment and control, and evaluation. Target groups included underserved migrant workers in small- and medium-sized enterprises (SMEs). The recognition of occupational diseases improved, as well as the coverage of working places and workers. This rather large-scale innovative BOHS implementation was cost-effective, and was well-accepted by workers and enterprises.	https://onlinelibrary.wiley.com/doi/epdf/10.1539/joh.O9005	QC2 link to abstract in PubMed, also accessing full text article: https://pubmed.ncbi.nlm.nih.gov/20032589/
150	He	2010	Letter to editor, Not Open Access, Full text is available, see links, Copyright presumably Taylor and Francis	He Y, Liang Y, Wang X. Basic occupational health services and stakeholders' participation. Int J Occup Environ Health.2010;16:99-100.	China Evaluation opinion Experiments National policy Management quality, participatory approach	<i>The letter to the editor has no abstract. The brief description uses a few citations from the Letter. Use the link to read the publication.</i> In China, Basic Occupational Health Services (BOHS) have been developed for workers in small-scale enterprises or in the informal sector. Stakeholders' participation is needed. IJOEH reported on a participatory model in Thailand including capacity building, risk analysis, problem solving, and monitoring & control. In China, the Work Safety Law and the Prevention and Control of Occupational Disease Act, were enacted in 2002, forming the foundation for pursuing BOHS. However, the work was not satisfactory as in most of the informal sector stakeholder involvement was low. The participatory model might be an appropriate strategy for China and other developing countries. To foster collaboration, coordination is needed to make an action plan. A public forum could be developed for the stakeholders such as workers and their representatives, academic professionals, and industrial hygienists. Building worker capacity is a key component. Local community health centers should be involved.	link to title (PubMed): https://pubmed.ncbi.nlm.nih.gov/20166325/ link to full text: https://www.researchgate.net/profile/Yonghua-He/publication/41484980_Basic_Occupational_Health_Services_and_Stakeholders%27_Participation/links/55482ea40cf2b0cf7aceb71d/Basic-Occupational-Health-Services-and-Stakeholders-Participation.pdf?origin=publication_detail	QC2
151	Zhang X	2010	Article, Open Access, © The Japanese	Zhang X, Wang Z, Li T. The current status of	China Need study	<i>The brief description using a few citations from the abstract. Use the link to read the full abstract and article.</i> Major health problems among Chinese workers are summarized, various strategies and measures, and current challenges.	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2921040/	QC2

Opportunities and challenges were studied in four BOHS development themes



BOHS

Development opportunities and challenges, in

4 themes and 16 subthemes

Start of BOHS

1. General description status quo
2. Available information on risks, effects, workers' health care
3. Public awareness of risks, effects, workers' health care
4. Experiments in BOHS
5. Start national policy, strategy promoting BOHS

BOHS structures and implementation

6. Legislation, regulations and financing
7. Coverage of diverse worker populations
8. Tasks of BOHS (complete or not)

Infrastructure, education and support for BOHS

9. Good education and training facilities for students, practitioners, volunteers
10. Support by national and regional expertise centers
11. System for referrals to OSH experts, clinical and laboratory experts
12. Support by online facilities

Quality of BOHS in practice

13. Good mix of disciplines; use of volunteers; present competences
14. Management quality, OH engagement of staff, participatory approach, priorities
15. Quality of workers' health services (effective, evidence-informed, accessible)
16. Evaluation of BOHS output, outcomes, costs-benefits

BOHS

Development opportunities and challenges, in

4 themes and 16 subthemes

Start of BOHS

1. General description status quo
2. Available information on risks, effects, workers' health care
3. Public awareness of risks, effects, workers' health care
4. Experiments in BOHS
5. Start national policy, strategy promoting BOHS

BOHS structures and implementation

6. Legislation, regulations and financing
7. Coverage of diverse worker populations
8. Tasks of BOHS (complete or not)

Infrastructure, education and support for BOHS

9. Good education and training facilities for students, practitioners, volunteers
10. Support by national and regional expertise centers
11. System for referrals to OSH experts, clinical and laboratory experts
12. Support by online facilities

Quality of BOHS in practice

13. Good mix of disciplines; use of volunteers; present competences
14. Management quality, OH engagement of staff, participatory approach, priorities
15. Quality of workers' health services (effective, evidence-informed, accessible)
16. Evaluation of BOHS output, outcomes, costs-benefits

Start of BOHS

Frequent challenges

Low public awareness; lack of studies and case reports so missing basic information; no experiments; no interdisciplinary teamwork; no intersectoral collaboration; no national meetings, coalitions, strategies for good legislation; poor international support.

Opportunities

Awareness raising programs; financing studies; creating coalitions, strategy development, promoting better legislation; organizing support by national organizations and government, and by international organizations.

Experiments in BOHS

- 1. Siriruttanapruk, 2006 Thailand.** Thailand's Ministry of Public Health supported by ILO developed a new model. OSH services were integrated into Primary Care Units (PCU). After a five-day training course, activities in the community and outpatient services were implemented with the help of agricultural work groups and community workers. PCU staff now have the capacity to provide OSH services and health promotion activities to workers. Provincial health personnel provided better support to PCUs. Advocacy is necessary to create a national policy and support by sufficient budget and other resources. Local awareness raising is important.
- 2. Chen, 2010 China.** A model of BOHS has been developed, supported by the Ministry of Health. Report from Baoan, a recent industrialized district. Occupational hazards are shown. BOHS included capacity building, training and education, occupational health surveillance, risk assessment and control, and evaluation. Target groups included migrant workers in small- and medium-sized enterprises. Recognition of occupational diseases and coverage of working places/workers improved. The implementation, well-accepted by workers and enterprises, was cost-effective. Working environment surveillance was a key element. Awareness in workers and managers increased. Employers and government shared financing BOHS. Government paid for self-employed and informal workers. BOHS covered 1.9 out of 2.3 million workers in 2008.

Experiments in BOHS

3. **Zhang, 2010 China.** There is a lack of occupational health services for migrant workers. Supervision of small- and medium-scale enterprises needs improvement. In 2006 a 3-year BOHS pilot study is developed in six regions. Goals: survey the situation in OH services, promote the capacity of OHS service building and training in the CDC (Center for Disease Control and prevention) of each district, making plans and develop work assessments. The pilot was basically successful.
4. **He, 2010 China.** BOHS have been developed in China, but in the informal sector stakeholder involvement was low. The participatory model might be appropriate for China and other countries. A public forum could be developed for the stakeholders. Building worker capacity is crucial, and local community health center involvement.
5. **Liu, 2013 China:** biggest challenge for community healthcare centers is lack of human resources and need to empower employees.

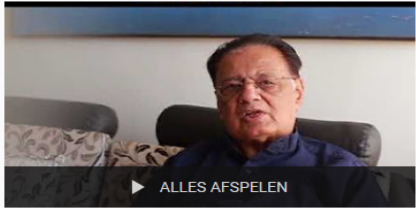
Experiments in BOHS

6. Parekh, 2018 India

Book and
24 training videos
for education of
primary and
community health
care workers

Challenges:
large-scale
implementation

Zoeken

 ALLES AFSPLEEN

IAOH - BOHS Training Videos

24 video's • 197 weergaven • Laatst geüpdatet op 12 jan. 2018

 Indian Association of Occupational Health [ABONNEREN](#)

- 01 - BOHS for Informal Industry Via Primary Care Ecosystem
Indian Association of Occupational Health
19:08
- 02 - Agriculture
Indian Association of Occupational Health
23:16
- 03 - Animal Husbandry
Indian Association of Occupational Health
24:10
- 04 - Toddy Tapping
Indian Association of Occupational Health
12:08
- 05 - Forestry Work
Indian Association of Occupational Health
15:08
- 06 - Commercial Fishing
Indian Association of Occupational Health
16:36
- 07 - Leather and Tanning Work
Indian Association of Occupational Health
24:43
- 08 - Weaving Work
Indian Association of Occupational Health
24:45
- 09 - Artisans
Indian Association of Occupational Health
23:02
- 10 - Salt pans
Indian Association of Occupational Health
16:28

BOHS for informal
industry

Agriculture

Animal Husbandry

Toddy tapping

Forestry Work

Commercial Fishing

Leather & Tanning

Etc

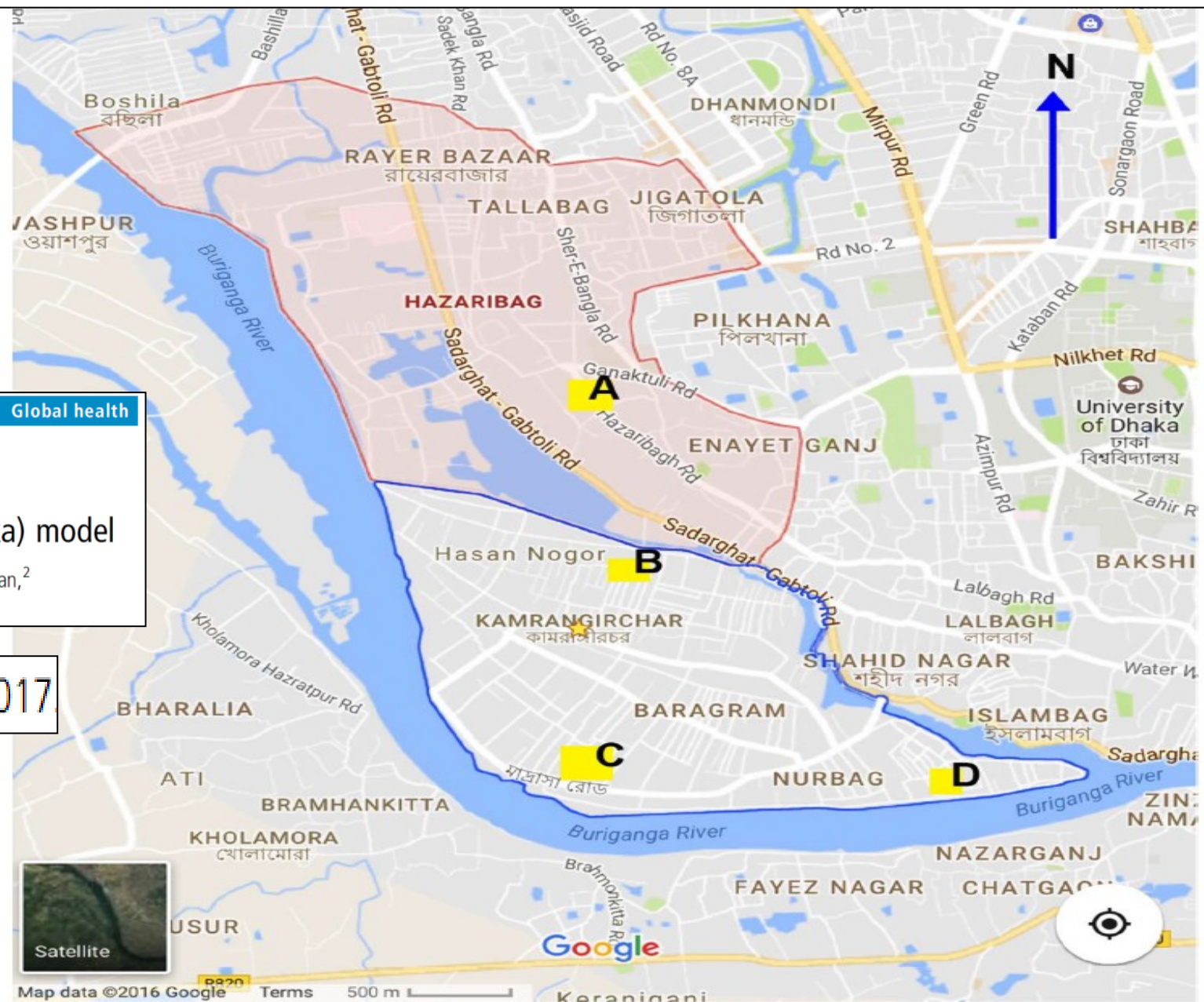
Experiments in BOHS

7. Garrido, 2020 Chili and Peru. Integrating basic occupational health services into primary care is encouraged by the Pan American Health Organization (WHO), concrete initiatives are scarce. Four universities in Chile and Peru piloted a new training program for PHC professionals on prevention of occupational risks. OH and PHC lecturers with representative(s) of one rural primary healthcare center started with a workshop on participatory diagnosis of working conditions. Next, they designed an active teaching intervention targeted at the main occupational health problem in the community. The teams evaluated the program very positive. Hazardous working conditions could be visualized, abilities for problem analysis and preventive actions improved. Challenges are time constraints and difficult geographical access. Lack of national strategies and poor legislation in L.A. Exception: Brazil.

8. Moyo, 2021 Southern Africa. African Union Development Agency (AUDA) supports training of occupational hygienists and doctors in four countries. OSHAfrica is active in guidance on OSH legislation and on education of OSH professionals. Zambia improved OHS provision structures. A big rehabilitation center is established In Zimbabwe by the National Social Security Association that also introduced mobile occupational health services to companies.

9. Muralidhar, 2017 Bangladesh

Médecins sans
frontières in Dhaka,
Bangladesh:
BOHS clinics



Global health

CASE REPORT

Basic occupational health services (BOHS)
in community primary care: the MSF (Dhaka) model

Venkiteswaran Muralidhar,^{1,2} Md Faizul Ahasan,² Ahad Mahmud Khan,²
Mohammad Shariful Alam²

Muralidhar V, et al. *BMJ Case Rep* 2017

Tanneries
Plastic recycling
Metal industry
Garment industry

Figure 7 Hazaribagh (red outline) and Kamrangirchar (blue outline). The locations of the clinics and the main industries they serve are (A) Hazaribagh, tannery; (B) Aminbagh, garments; (C) Huzurpada, metals and plastics; and (D) Thoda, plastics and metals.

Theme 2. BOHS structures and implementation

Frequent challenges

Outdated legislation only covering regular employees in large & medium-sized industrial enterprises; no enforcement; no BOHS financing; insufficient coverage; incomplete services, limited community tasks outside PHC center.

Opportunities

Renewing legislation covering all workers; law enforcement; sufficient financing (social security resources?); central supervision on delivery of services and coverage.

Legislation, regulations & financing

- 1. Siriruttanapruk, 2022 Thailand.** BOHS activities in Thailand are organized by the DOED, Division of Occupational and Environmental Diseases, part of the Ministry of Public Health (MOPH). The DOED developed a national OH service system by integration in the existing governmental healthcare system in a systematic way including several pilot project phases from 2004. Recently, the Department of Disease Control enacted the Control of Occupational Diseases and Environmental Diseases Act (2019) regulating the quality in all OH services, including the access for informal workers to OH services through PHC services. Financing is a problem because BOHS provision is still not formally covered by universal health coverage. Nevertheless, about 85% of the primary care units reports to perform BOHS services. In 2020, in the Quality Assessment Audit, 75% of PCUs were certified for basic or higher levels of BOHS standards.
- 2. Amorim, 2017 Brazil.** The 1988 constitution and the regulations of the Organic Healthcare Law, assigned to the Unified Healthcare System (SUS) the responsibility of providing comprehensive occupational healthcare. The National Occupational Health Policy (PNSTT) published in 2012, points the way how important worker care is within the scope of Primary Care, considered the coordinator of care and the ordering force of the network.
- 3. Moyo, 2021 Southern Africa.** Occupational health legislation is fragmented and not adequate. Adoption of the BOHS model will improve access to OHS. A radical transformative approach by governments is needed challenging the status quo.

Theme 3. Infrastructure, education and support for BOHS

Frequent challenges

Limited education in OM in medical curricula; limited facilities for professional education of OSH professionals; no national institute; no regional support or referral opportunities; poor online facilities.

Opportunities

Integration of OH or OM in medical curricula; multidisciplinary education for all OSH professionals; training volunteers; advocating for a national OSH institute also developing websites & apps + Q&As + e-learning materials + webinars; international collaboration.

Support for BOHS by regional (national) expertise centers

1.Denny, 2012 Indonesia. BKKM, a center for occupational health referral services supporting community health care, improved knowledge and engagement in occupational health among workers and health officers. This is the outcome of a comparison study between West Java and Central Java. Local governments' political commitment to funding occupational health, improved as well.

2. Silva TL, 2014 Brazil. Family Health Teams in PHC are responsible for workers' health. They ask for more pedagogical and technical support from CEREST centers. Worker's Health Reference Centers (CEREST) are effectively supporting inclusion of occupational health in PHC practice. Important is the sensitization of the PHC professionals for issues involving workers' health, and the definition of the actions. Lack of support was a complaint as well. "We can't do everything alone". Other initiatives of the Ministry of Health: an Information Panel in Environmental Health and Workers' Health, and an online National Network of Comprehensive Care to Workers' Health (RENAST).

Support for BOHS by regional (national) expertise centers

3. Simmons, 2018 USA. In community health centers, clinicians want the ability to refer complex patients to occupational health specialists or obtain telephone advice. Also, referrals of patients with exposure questions for OSH services.

4. Samsuddin, 2019 Malaysia. Referral options for more complicated workers/patients in BOHS are limited because of limited expertise on OH in the curative health care. Many clinics are private and expensive. A tertiary referral center for occupational disease and poisoning is proposed through cooperation of university hospitals.

Theme 4. Quality of BOHS in practice

Frequent challenges

Poor quality of services; practitioners unaware of workers' health; missing occupational health nurses and other OSH professionals for support; overloaded PHC; not engaged management; top-down approach and poor evaluation.

Opportunities

Better education & training of PHC; more online and regional support; involvement of OH nurses (OHN); more OSH professionals for support; start education and support in participatory approach and evaluation policy.

Good mix of disciplines, competencies, focus on OH and PHC Nurses

1. Wittayapun, 2008 Thailand. The BOHS model in Thai primary care units is analyzed via focus groups with nurses, public health professionals and others. In-house and outreach activities are described. Final recommendation: appoint OHNs as mentors, consultants, educators and supervisors.

2. Kerdmuang, 2014 Thailand. Development of the Occupational Health Service Competency Scale, a self-assessment tool for nurses in Thai primary care units. Competences needed in primary health care differ from those in large companies. In PHC most attention is to small companies, OHNs are the main providers of health care services, offering comprehensive and continuous care to all people, requiring a high level of knowledge and traits.

Good mix of disciplines, competencies, focus on OH and PHC Nurses

3. Mori, 2016 Brazil. Recognition of occupational diseases by doctors and nurses in Primary Care in one municipality is studied. Only 3 of 16 professionals received professional training in occupational health. Practitioners reported inadequate knowledge and tools. Inexperience is causing feelings of difficulties and discomfort.

4. Metin, 2023 Türkiye. Delphi study panel. Responsibilities of OHN are creating a healthy and safe workplace, participation in periodic health examinations, maintaining effective communication with employees. Topics were specified for a certificate program (maximum 500 hr. training time).

5. Valencia-Contrera, 2023 Chile. Formulated the need to develop educational programs for OHNs in Latin America, after a status-quo study in Chile, Brazil, Colombia and Mexico.

Recommendations

Start BOHS	Develop awareness-raising programs by case reports in media and organize BOHS experiments. Create coalitions with primary and community health care, supported by workers' and employers' organizations. Develop proposals for new legislation and financing.
BOHS structure	Secure legislation integrating workers' health in primary or community health care to cover informal workers, agriculture, small companies, self-employed. Secure financing. Secure supervision on quality and coverage.
Infrastructure	Promote integration of OM in medical education and in professional education of primary/community health care disciplines. Organize OSH professionals and hospital clinicians for education, advice and referral functions supporting PHC in BOHS practice. Advocate for a national OSH institute, online information facilities and educational infrastructure.
Quality of BOHS	Organize office hours by competent OH nurses in PHC. Develop support by OSH experts, clinicians, laboratory facilities. Harmonize tensions between curative and preventive functions in PHC. Promote a participatory approach and evaluation.

BOHS working group and Repository

1. We will start an **International BOHS working group** for the promotion and study of BOHS and similar innovations in health care. *Who wants to participate?*
2. The **Repository for publications on BOHS** is a good point of departure when starting explorations and studies on BOHS. The Repository needs to be updated and enriched per country or region, per theme. *Volunteers are welcome!*

Amorim LA, Silva TLE, Faria HP, et al. Worker's Surveillance in the Primary Care: learning with Family Health team of João Pessoa, Paraíba, Brazil. Cien Saude Colet. 2017;22:3403-3413.

Chen Y, Chen J, Sun Y, Liu Y, Wu L, Wang Y, Yu S. Basic occupational health services in Baoan, China. J Occup Health. 2010; 52:82-8.

Denny HM. Impact of Occupational Health Interventions in Indonesia. Thesis University of South Florida USA: 2012. 136 pages

Garrido MA, Encina V, Solis-Soto MT, Parra M, Bauleo MF, Meneses C, Radon K. Courses on Basic Occupational Safety and Health: A Train-the-Trainer Educational Program for Rural Areas of Latin America. Int J Environ Res Public Health. 2020;17: 1842.

He Y, Liang Y, Wang X. Basic occupational health services and stakeholders' participation. Int J Occup Environ Health. 2010;16:99-100.

Kaewboonchoo O, Silpasuwan P, Jirapongsuwan A, Rawiworrakul T, Hansing S. Participatory capacity building in occupational disease surveillance among primary care unit (PCU) health personnel. Southeast Asian J Trop Med Public Health. 2011;42:1262-8.

Kerdmuang S, Kalampakorn S, Lagampan S, Jirapongsuwan A, McCullagh MC. Development and Psychometric Properties of the Occupational Health Service Competency Scale of Nurses Working at Thai Primary Care Units. Pacific Rim International Journal of Nursing Research. 2014;18:187-202.

Lazarino MSA, Silva TL, Días EC. Apoio matricial como estratégia para o fortalecimento da saúde do trabalhador na atenção básica (Matrix support as a strategy to strengthen workers' health in primary care). Revista Brasileira de Saúde Ocupacional. 2019; 44: e23. [Article in Portuguese].

Metin ZG, Yildiz AN. Update on occupational health nursing through 21st century requirements: A three-round Delphi study. Nurse Educ Today. 2023;12

Mori EC, Naghettini AV. Medical training and nurses of Family Health strategy on worker health aspect. Revista da Escola de Enfermagem da USP. 2016; 50: N spe 25 – 31.

Moyo D. An overview of occupational medicine and health services and associated challenges in southern Africa. Occup Health Southern Afr. 2021; 27:51-54.

Muralidhar V, Ahasan MF, Khan AM, Alam MS. Basic occupational health services (BOHS) in community primary care: the MSF (Dhaka) model. BMJ Case Rep. 2017;2017:bcr2016218293.

Parekh R, Moti S (eds). Indian Association of Occupational Health. BOHS for informal industry. Manual for primary care providers. Mumbai; IAOH: 2016. 391 pages.

Samsuddin N, Razali A, Rahman NAA, Yusof MZ, Mahmood NAKN, Hair AFA. The Proposed Future Infrastructure Model for Basic Occupational Health Services in Malaysia. Malays J Med Sci. 2019;26:131-137.

Silva TL, Dias EC, Pessoa VM, Fernandes LMM, Gomes EM. Occupational health in primary care: perceptions and practices in family health teams. Comunicação, Saúde, Educação. 2014;18:273 – 288

Simmons JM, Liebman AK, Sokas RK. Occupational Health in Community Health Centers: Practitioner Challenges and Recommendations. New Solut. 2018;28:110-130.

Siriruttanapruk S. Integrating Occupational Health Services into Public Health Systems: A Model Developed with Thailand's Primary Care Units. Bangkok; International Labour Office:2006. 87 pages.

Siriruttanapruk S, Praekunatham H. Integration of Basic Occupational Health Services into Primary Health Care in Thailand. Current Situation and Progress. WHO South-East Asia Journal of Public Health 11(1):p 17-23, Jan–Jun 2022.

Valencia-Contrera M, Rivera-Rojas F, Castro-Bastidas JD, et al. Undergraduate Occupational Health Nursing Education in Chile, Colombia, Brazil, and Mexico. Workplace Health Saf. 2024;72:75-78.

Wittayapun Y, Lagampan S, Kalampakorn S, Rogers B, Vorapongsathorn T. Application of the occupational health services model in Thai primary care units. AAOHN J. 2008;56:197-205.

Zhang X, Wang Z, Li T. The current status of occupational health in China. Environ Health Prev Med. 2010;15:263-70.

References



*Thank you
for your
attention!*



Palais des Congrès Marrakech - Maroc
www.ich2024.ma