

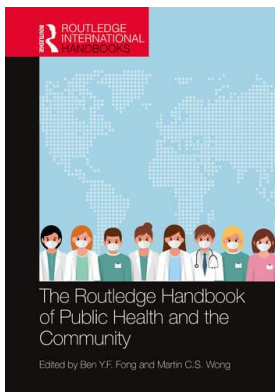
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Publisher: *Routledge*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London SW1P 1WG, UK



The Routledge Handbook of Public Health and the Community

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Online promotion of public health

Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9781003119111-22-26>

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Published online on: 30 Aug 2021

How to cite :- Cynthia S.Y. Lau, Ben Y.F. Fong. 30 Aug 2021, *Online promotion of public health from: The Routledge Handbook of Public Health and the Community* Routledge
Accessed on: 29 Jan 2023

<https://www.routledgehandbooks.com/doi/10.4324/9781003119111-22-26>

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ONLINE PROMOTION OF PUBLIC HEALTH

Cynthia S.Y. Lau and Ben Y.F. Fong

Promotion of public health in the community

According to the World Health Organisation Regional Office for Europe (2020), public health is the science and art of preventing disease, promoting health and prolonging life by the organised efforts of society.

Public health is promoted through the public health practice, which is the most direct contact where people can seek advice about public health issues from the providers. Although the public health workforce is well-trained, the required knowledge and disease pattern keep changing all the time. Therefore, they need to equip themselves with the most updated and advanced knowledge as part of the continuing professional development, so that they can provide accurate information, appropriate advice and state of arts strategies to the community such as a healthy city initiative.

Community education and engagement are important to the promotion of public health. The Chief Executive of the Hong Kong Special Administration Region (HKSAR), China, stated in the 2017 policy address that *establishing district health centres could increase the senses on the prevention of diseases and the abilities of personal health management* (The Government of Hong Kong Special Administration Region, 2017). These health centres organise health promotion activities, such as health talks and regular monitoring programmes in public housing estates, schools and elderly centres, to assist the residents to become healthier and stronger. The district-based primary health care services will also release the pressure of public hospitals (District Health Centre, 2020).

Technology keep advancing over time. According to a survey related to the penetration and usage of information technology, 90% of the respondents who were above 10 years old owned a smartphone. Nearly all of them used the Internet for online social activities, including using WhatsApp, messenger, Facebook, Instagram, etc. (98.4%) and searching for information (90.8%) (Census and Statistics Department, 2019). These data show that social marketing is a new inspiration in the promotion of public health. Some government organisations use the social media platform to disseminate prevention tips or updated statistics and information to the public, particularly during outbreaks like the COVID-19 pandemic. Furthermore, many mobile apps creators design mobile applications related to health. For example, exercise programmes, body health status monitors and online booking systems for medical consultations,

etc. are widely adopted. Some organisations also produce health promotion videos and bulletins to share public health messages in the social media and online advertisements.

Models of public health education

Development of public health education

The trend of public health education is divided into four generation for the development. Public health education mainly relied on knowledge-based interventions and Knowledge, Attitudes, Practises (KAP) surveys in the 1970s and 1980s. However, it was limited in the knowledge of behavioural change, which was a favoured outcome of the efforts in the public health education. In the 1990s, the approach shifted to skill-based health education interventions like problem solving. Despite the positive feedback, it still fell short of the behavioural change. Then behavioural theories with evidence-based practises like health belief model appeared in the 2000s. Public health education continued to use the theory-based trend and some educators are now using the multiple theories, with the behavioural changes observed by the technology (Sharma, 2017).

Many tertiary institutions all over the world are offering undergraduate and post-graduate programmes in public health. They are catered for health care professionals and anyone who is interested in the healthcare industry. Course outline of these programmes are generally based on four public health strategies. (i) *Health assessment and disease surveillance* are essential for health status monitoring in the population, management of outbreaks of diseases, health needs identification and assessment of the effectiveness of the programmes, services and intervention in public health. (ii) Health protection is related to the implementation of policies concerning people and the environment which affects people's health and life. The community should be protected by the law and regulations. (iii) Health promotion and education aim to develop personal skills and behaviours for better health. It can cover health advocacy in the practises and policy with building partnerships and developing coalition. (iv) The last strategy is preventive interventions which involve counselling, immunisation, early detection of diseases by mass screening and lifestyle modification (White, 2013).

Models of education in medicine and public health

New models of medical education have emphasis on integrating knowledge of medicine with that of nursing and public health. The model of education in medicine is based on the individuals and is about the behaviours, biology and the inclination of disease and health. Although the traditional model has already been used for more than a 100 years, there are some problems of its usage this century. For example, countries which are less resourceful are difficult to design qualitative and accessible systems while counties with more resources find it hard to have an affordable system with sustainability of quality and access. Therefore, more potentially transformational and innovative models are making more new impacts to the challenges in the world, particularly in the poor countries. Health and educational systems blended into the population and public health, and with increasing community-based emphasis are becoming the standard. On the other hand, mobile technologies are now affordable and help in saving the cost of learning materials. Access to new information leads to better understanding of the recent e-health and mobile challenges and paradigms, and hence globalisation of the new model (Garcia et al., 2014).

The model of education in public health is related to the population with the purposes of promoting interventions and improving health in order to enhance the quality of life of the citizens. Traditionally, public health has been dominated by epidemiologists and professionals are educated as the experts of infectious diseases. They are trained by a curative and disease approach, and thus have difficult adaptation to the complicated and new challenges in the complicated web of socioeconomic, political, medical, cultural, religious, environmental and even global issues in the new era (Fong et al., 2020). The outline of public health courses include competence-based curriculum, with global knowledge components and local realities such as the latest strategic development in public health and medicine. There are three levels of learning: informative, transformative and formative together with the evaluation component and technologies, they aim to enhance learning. Such learning models and the assessed outcomes, both qualitative and quantitative, can be transferred to other regional and global partners (Garcia et al., 2014).

Competency-based training

In Hong Kong, the Hospital Authority (HA) has established different training centres like Accident and Emergency and Infection Control to provide competency-based training to staff on the updated techniques. They have also created the e-Learning Centre on the Internet so that staff can attend courses anytime (Hospital Authority, 2020). During the COVID-19 pandemic in 2020, HA organised staff forums frequently to discuss on the current situation and research findings. Apart from the theoretical knowledge, staffs also have practises of the skills. In the United States, the National Center for Integrative Primary Healthcare develop competencies and courses in integrated health for the primary care practitioners including public health. Students can acquire experience in teamwork, and knowledge in interprofessional health care research and delivery. They can also apply and perform their teamwork in the learning environment. The Centre has developed many competencies and identified the skills required in the practise of public health (Taren et al., 2018).

Online training and education

Traditionally, education is conducted in the conventional mode of learning. Courses are delivered through the face-to-face setting with printed materials in lectures and tutorials. In recent years, the online mode which uses information technology in the learning process is becoming more and more widely adopted. During the COVID-19 pandemic in 2020, the online education mode was widespread worldwide to avoid community outbreaks from social activities. Electronic devices and software were available. A blended mode of education is thus developed and generally accepted as there are unique benefits from learning in different modes of education. It combines the strengths of the traditional face-to-face mode and online mode of teaching and learning. This mode of education is classified into two types: hybrid and web-facilitated courses, by the ratio of face-to-face and online learning. Hybrid courses involve more online teaching while web-facilitated courses are essentially face-to-face teaching (Allen & Seaman, 2011; Alsaaty et al., 2016).

Online promotion in public health

Online promotion in public health keeps increasing over the past years. More people are relying on the social media and Internet to maintain connectivity and receive social supports.

Technology keeps advancing and more social networks have been established, covering all age groups. Social support is a major factor in promoting changes in the community, including health behaviour and lifestyle modification. It is a social resource made available and provided by non-professionals in the context of support groups (Gottlieb & Bergen, 2010). Information on healthy life practises and health services is made available. People are noted to change their health practises with the support from key people within their relationship like colleagues, friends and family members (Jane et al., 2018). Online promotion is becoming a new and effective mode to spread the latest and updated news and public health information to people in the community.

Big data

Preferences of people are easily identified through the Internet. When people use the social networks, their browsing and searching records are collected. A large amount of user data can be analysed by the big data techniques. The results can then be used to predict what people like searching and where they go based on their activity patterns through the smartphones and computers. These techniques are applied in epidemiology. Countries like Denmark, the United States and India have started using big data to conduct public health research. Big data is used to predict, control, manage and prevent non-communicable diseases such as cardiovascular disease, cancers and diabetes. Moreover, locations of individuals can be followed by the Global Positioning System via the smartphone. This helps to trace the spread of diseases, particularly during outbreaks, and not only relying on self-reported data or surveys (Naaz & Siddiqui, 2019).

Financial consideration

Financial ability and concern have also shifted public health promotion to the online mode. A study has found that the production cost of online promotion is lower than that of traditional promotional methods. It is also more cost effective to use online promotion. However, a combined method can reach more target groups of different ages and thus increase the awareness in the community. It can also promote and facilitate more interactions and discussions on the Internet (Allom et al., 2018). Thus, online promotion can reach the greatest profit in the spread of message with comparatively less financial input. Government organisations and non-government organisations in Hong Kong have been making use of the online platforms to promote public health issues and health prevention messages to people in recent years. For example, the *e2Care project* of the Hong Kong Society for Rehabilitation (2020) has developed the service coverage of Community Rehabilitation Network. It has a health management and self-learning platform for chronic diseases. Health-conscious patients and caregivers have access to the most updated support of information technology through online courses and workshops. They can manage their health condition through self-monitoring and the online meeting with health professionals. The official website of the Department of Health (2020) has different health information and promotion videos on healthy diets, physical activities, relationships between alcohol, smoking and health, etc.

COVID-19 pandemic

Online communication is essential in outbreaks of infectious diseases and emergencies of a public health concern. During the COVID-19 pandemic in 2020, many countries had the

lockdown policy which restricted citizens to go outside of their homes (The Lancet, 2020). In Hong Kong, the government has launched urgent policies and public health measure via the enforcement of the provisions of Prevention and Control of Disease Ordinance (Cap. 599) restricting the grouping sizes of people, tracing of close contacts, social distancing and compulsory quarantine, etc. (HKSAR Government, 2020; Department of Justice, 2020). These precautionous measures could help to decrease the chance of individuals being infected and community outbreaks. Although people were ‘required’ to stay at home, they could not stop their work or studies. Companies and educational institutions had allowed ‘work from home’ and ‘suspending classes without suspending learning’, respectively. They used different types of video conferencing software like Microsoft Teams, Zoom and Skype to conduct online meetings and classes to substitute the face-to-face communication and to minimise the impacts arising from the unplanned changes. Most people received the most updated information online during outbreaks.

Going online

In order to support the development of online promotion and education, different online meeting software launched free access service to the community, especially during the outbreak of COVID-19. Google modifies the operation of Google Classroom which is a free access platform for education. It combines the other Google tools for teachers to create lectures and gather and grade assignments (Bukola, 2018). Zoom (2020) have also removed the free access time limit for the users of primary and secondary schools in order to facilitate their teaching and learning progress temporarily. Moreover, the Education Bureau (2019) also have different guidelines, policies and information seminars to promote online learning and cybersecurity. It has launched; ‘Bring Your Own Device (BYOD)’ policy in the primary and secondary schools since the academic year of 2015–2016. Students can use their own tablets to learn and manage the learning materials, assignments and school records. In order to support this policy, the Community Care Fund Assistance Programme provides subsidy to needy students to purchase the required mobile device. In addition, the Hong Kong Police Force organises different promotion activities and seminars to enhance the public knowledge of cybersecurity and assist the cybersecurity set up of BYOD policy in schools. Overall, online promotion is considered as feasible and practical and will be widely adopted in the discipline of public health.

Effective distance education programmes in public health

Distance education includes three elements, including general support and counselling of students’ work by the distance-study media, development of self-instructional study materials and teaching at a distance by feedbacks in writing, phone calls or audio on submitted assignments. It is mainly applicable in the education of adults but some guided distance education programmes have been developed for primary and secondary education (Sewart et al., 2020). This method can be used with improvement in public health programmes, which can be facilitated and operated effectively, for health care professionals and the community.

Professional programmes

Programmes for the professionals should have a process of development, review, evaluation and continuous annual quality improvement to maintain the standard of training as well as the services provided. They should cover topics related to the regulatory responsibilities of public

health practitioners, such as food safety, waste management, water supplies, compliance with codes and regulations governing housing, etc. (Kenefick et al., 2014). Public health surveillance, case investigation, health promotion, disease prevention and emergency preparedness are also included in the programmes. Since the issues of public health are changing all the time, review and evaluation should be mandatory to update the programmes by adding new contexts and deleting outdated information. However, the public health force has a high workload from their routine duties. They may not have the flexibility to attend ad-hoc activities (Ongena et al., 2017). Distance education programmes can fill the gap because the participants can join the study when they have time available during the course period. Such programmes are particularly suitable for public health professionals employed in small organisations with limited resources. This is a platform for them to receive the latest knowledge.

Community programmes

The aim of distance education programmes in the community is to increase the awareness and modify health behaviours of the public. The programmes can be health promotion and education campaigns, or activities provided through the social network technologies such as Facebook, YouTube and Twitter. There are positive feedbacks on the changes of health behaviours in some self-reported studies. The levels of engagement and adherence are also improved in the social media. Furthermore, interactive and dynamic elements in the campaigns can enhance the participation and motivation in the community (Balatsoukas et al., 2015). Through information sharing on the online platforms, people can gain social support and peer pressure to motivate them to change their behaviours. On the other hand, public health issues always involve multiple departments and stake holders, and often affect different geographic areas. The online method is efficient in spreading the messages in a fast speed. In order to make the programmes effective, the shared information must match the needs of the community, which should also have close interactions, shared resources and supporting each other among the residents (Sunderland et al., 2013).

In Japan, community-based health programmes have been launched for over 10 years. They consist of online record system with offline health activities. Participants record their energy intake and output in the online system based on their own menu and physical exercise. They are also invited to join a face-to-face activity each month in cooking classes or exercises classes. The programmes can enhance people's awareness about the diet. Through recording the daily input and output, people can see their own behavioural change in the management of their health, indicative of self-achievement (Miyagawa et al., 2016). Community public health education is thus an essential and integral part in maintaining the standard and quality of health in the community.

Mobile health and the community

Information technology is not limited to computers. Smartphones are becoming popular. Mobile apps (applications) version of social networks and online meeting software have been developed. People can surf the Internet and search for information through their smartphones. They can also manage their health conditions and contribute to public health as good citizens. Mobile health (mHealth) is a fast-expanding area in the digital health sector providing personal health care support, including intervention, via mobile technologies such as smartphones, tablets and wearables. Mobile phones are the most popular and optimal platform for mHealth data transmission and interventions.

Mobile apps in the market come with different functions, like entertainment, communication and education. They are also used for personal health and emergency by connecting the smartphones to wearable devices. For example, there is a fall detection function in the Apple Watch. Once it detects a hard fall, the alarm is turned on and an alert is displayed on the screen of the smartphone. Moreover, emergency contact information can be pre-set inside the smartphone for emergency services. The location is shared automatically if there is no response within about one minute (Apple Inc., 2020). In some health apps, people can record their health data like blood pressure, heart rate and sleeping quality in the smartphone. This is useful and convenient for those who suffer from chronic diseases. They can exercise self-monitoring at home daily and automatically (Chiauzzi et al., 2015). The benefits and usefulness of mobile health has been best reflected in COVID-19 pandemic. In the United Kingdom, many mobile apps are developed for the easier management of the situation of COVID-19. Mobile health helps in tracing close contacts and provides real time information to as many citizens as can be covered, facilitating the diagnostic purposes in order to block the chain and spread of the emerging infection (Chidambaram et al., 2020).

Apart from mobile apps, there are more online learning platforms established in mobile health. Massive Open Online Courses (MOOCs) is a free access online resource which combines the facilitation of the academic experts and the connectivity of social network (McAuley et al., 2010). People can gain the knowledge about public health or other disciplines through such platform, especially for the elderly, who may keep the connectivity with the society (Liyaganawardena & Williams, 2016). The mental health and psychosocial wellness of the elderly will become better. Some universities like the Hong Kong Polytechnic University collaborate with the MOOCs platform to offer courses in different disciplines (edX Inc., 2020). MOOCs can reach students all over the world to allow them to learn and experience the study of the institution. The role of MOOCs in supporting the continuing learning progress is very obvious during the COVID-19 pandemic when social activities are restricted and students cannot go back to schools to learn.

In addition, mobile health technology can facilitate the jobs of community health workers (CHWs). There are positive comments by the users. They have a responsibility in improving the health of the places where they work in and live. They have the connection between health system and communities, and bring people to resources, services and information (World Health Organisation, 2007). The functions of CHWs are similar to the Community Health Practitioners in Hong Kong, who are responsible in health education, promotion and advice, project management, planning and development as well as conducting education, training and research. Using the mobile health technology, empowerment and motivation can be conveyed directly to the patients. CHWs can also answer their queries related to their diseases immediately, or provide health education. Mobile health can increase self-efficacy and technology acceptance, and concern about the health of the community. It is also useful for the development of new services and strategies. CHWs can use the technology in disseminating information, collecting data and delivering results, resulting in the extension and advancement of their services (Early et al., 2019).

Further development

Traditional promotion methods are less engaging to the public. Since information technology keeps advancing and developing continuously, online promotion will be a future direction in promoting public health and educating health topics in the coming decades. There should be new ideas and concepts in using the new technology. For example, big data and artificial

intelligence can be applied in the treatment and diagnostic procedures as well as in decision making by the patients and doctors. Wearable devices, robots and three-dimensional printing can also assist service providers and stakeholders in treatment and promotion. They can perform the tasks within a short period of time with high accuracy and customisation (Chen et al., 2019). In addition, social media serve as a platform for calling for action and awareness of the public health to the population. In order to maximise community engagement in public health, organisations can make some meaningful impacts on public health outcomes in the social network. Video posts can attract more people to share than when photographs or text only are used in the posts (Kite et al., 2016). More interactions and encouragement are thus conveyed to the community so that they can break down the physical, geographic and social barriers of physical access and locations. Online promotion in public health will then be successful and people can get engaged in the works of the public health issues, together, in the community.

References

- Allen, I. E., & Seaman, J. (2011). *Going the distance: Online education in the United States, 2011* (pp. 4–5). Babson Survey Research Group. <https://www.onlinelearningsurvey.com/reports/goingthedistance.pdf>
- Allom, V., Jongenelis, M., Slevin, T., Keightley, S., Phillips, F., Beasley, S., & Pettigrew, S. (2018). Comparing the cost-effectiveness of campaigns delivered via various combinations of television and online media. *Frontiers in Public Health*, 6, 83. <https://doi.org/10.3389/fpubh.2018.00083>
- Alsaaty, F. M., Carter, E., Abrahams, D., & Alshameri, F. (2016). Traditional versus online learning in institutions of higher education: Minority business students' perceptions. *Business and Management Research*, 5(2), 31–41. <https://doi.org/10.5430/bmr.v5n2p31>
- Apple Inc. (2020). *Use fall detection with Apple watch*. <https://support.apple.com/en-us/HT208944>
- Balatsoukas, P., Kennedy, C. M., Buchan, I., Powell, J., & Ainsworth, J. (2015). The role of social network technologies in online health promotion: A narrative review of theoretical and empirical factors influencing intervention effectiveness. *Journal of Medical Internet Research*, 16(6), e141. <https://doi.org/10.2196/jmir.3662>
- Bukola, O. (2018). *Time for a refresh: Meet the new Google Classroom*. <https://www.blog.google/outreach-initiatives/education/time-refresh-meet-new-google-classroom/>
- Census and Statistics Department. (2019). *Thematic household survey report no. 67*. <https://www.statistics.gov.hk/pub/B11302672019XXXXB0100.pdf>
- Chen, C., Loh, E. W., Kuo, K. N., & Tam, K. W. (2019). The times they are A-Changin' – Healthcare 4.0 Is Coming! *Journal of Medical Systems*, 44, 40. <https://doi.org/10.1007/s10916-019-1513-0>
- Chiauzzi, E., Rodarte, C., & DasMahapatra, P. (2015). Patient-centered activity monitoring in the self-management of chronic health conditions. *BMC Medicine*, 13, 77. <https://doi.org/10.1186/s12916-015-0319-2>
- Chidambaram, S., Erridge, S., Kinross, J., & Purkayastha, S. (2020). Observational study of UK mobile health apps for COVID-19. *The Lancet: Digital Health*, 2(8), E388–E390. [https://doi.org/10.1016/S2589-7500\(20\)30144-8](https://doi.org/10.1016/S2589-7500(20)30144-8)
- Department of Health. (2020). *Main page*. <https://www.change4health.gov.hk/tc/home/index.html>
- Department of Justice. (2020). *Cap. 599 prevention and control of distance ordinance*. <https://www.elegislation.gov.hk/hk/cap599>
- District Health Centre. (2020). *Client journey*. https://www.dhc.gov.hk/en/general_public.html#eligibility
- Early, J., Gonzalez, C., Gordon-Dseagu, V., & Robles-Calderon, L. (2019). Use of Mobile Health (mHealth) technologies and interventions among community health workers globally: A scoping review. *Health Promotion Practice*, 20(6), 805–817. <https://doi.org/10.1177/1524839919855391>
- Education Bureau. (2019). *Implementing “bring your own device (BYOD)” in primary and secondary schools*. https://www.edb.gov.hk/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/byod/byod_index.html
- edX Inc. (2020). *HKPolyUx: Free online courses from the Hong Kong Polytechnic University*. <https://www.edx.org/school/hkpolyux>

- Fong, B., Law, V., & Lee, A. (2020). *Primary care revisited: Interdisciplinary perspectives for a new era* (1st ed.). Singapore: Springer. <https://doi.org/10.1007/978-981-15-2521-6>
- Garcia, P., Armstrong, R., & Zaman, M. H. (2014). Models of education in medicine, public health, and engineering. *Science*, *345*(6202), 1281–1283. <https://doi.org/10.1126/science.1258782>
- Gottlieb, B. H., & Bergen, A. E. (2010). Social support concepts and measures. *Journal of Psychosomatic Research*, *69*(5), 511–520. <https://doi.org/10.1016/j.jpsychores.2009.10.001>
- Hong Kong Society for Rehabilitation. (2020). *e2Care – Make your self-healing E-way*. <https://www.e2care.hk/en/>
- Hospital Authority. (2020). *Professional training*. https://www.ha.org.hk/visitor/ha_visitor_index.asp?Content_ID=10130&Lang=ENG&Parent_ID=10130&Ver=HTML
- Jane, M., Hagger, M., Foster, J., Ho, S., & Pal, S. (2018). Social media for health promotion and weight management: A critical debate. *BMC Public Health*, *18*, 932. <https://doi.org/10.1186/s12889-018-5837-3>
- Kenefick, H. W., Ravid, S., MacVarish, K., Tsoi, J., Weill, K., Faye, E., & Fidler, A. (2014). On your time: Online training for the public health workforce. *Health Promotion Practice*, *15*(1), 48S–55S. <https://doi.org/10.1177/1524839913509270>
- Kite, J., Foley, B. C., Grunseit, A. C., & Freeman, B. (2016). Please like me: Facebook and public health communication. *PLoS ONE*, *11*(9), e0162765. <https://doi.org/10.1371/journal.pone.0162765>
- Liyanagunawardena, T. R., & Williams, S. A. (2016). Elderly learners and massive open online courses: A Review. *Interactive Journal of Medical Research*, *5*(1), e1. <https://doi.org/10.2196/ijmr.4937>
- McAuley, A., Stewart, B., Siemens, G., & Cormier, D. (2010). *The MOOC model for digital practice*. https://www.oerknowledgecloud.org/archive/MOOC_Final.pdf
- Miyagawa, S., Oguma, Y., & Ohgi, Y. (2016). Evaluation of a community-based health promotion program with online off-line combination: The effect of an online diet record system on self-rated achievement. *Procedia Computer Science*, *100*, 768–775. <https://doi.org/10.1016/j.procs.2016.09.223>
- Naaz, S., & Siddiqui, F. (2019). Application of big data in digital epidemiology. In N. Bouchemal (Ed.), *Intelligent systems for healthcare management and delivery* (pp. 285–305). IGI Global. <https://doi.org/10.4018/978-1-5225-7071-4.ch013>
- Ongenaes, F., Vanhove, T., Backere F., & Turck, F. (2017). Intelligent task management platform for health care workers. *Informatics for Health and Social Care*, *42*(2), 122–134. <https://doi.org/10.3109/17538157.2015.1113178>
- Sewart, D., Keegan, D., & Holmberg, B. (2020). *Distance education: International perspectives*. England: Routledge.
- Sharma, M. (2017). Trends and prospects in public health education: A commentary. *Social Behaviour Research & Health*, *1*(2), 67–72.
- Sunderland, N., Beekhuizen, J., Kendall, E., & Wolski, M. (2013). Moving health promotion communities online: A review of the literature. *Health Information Management Journal*, *42*(2), 9–16. <https://doi.org/10.12826/18333575.2013.0005>
- Taren, F., Kligler, B., Labensohn, P., Brooks, A. J., & Maizes, V. (2018). The need for a public health competency-based education for integrative health care. *Pedagogy in Health Promotion*, *5*(1), 70–74. <https://doi.org/10.1177/2373379918756427>
- The Government of Hong Kong Special Administration Region. (2017). *The chief executive's 2017 policy address*. https://www.policyaddress.gov.hk/2017/eng/policy_ch05.html
- The Government of Hong Kong Special Administration Region (HKSAR Government). (2020). *Government stays vigilant to cope with next wave of COVID-19 epidemic* [Press Releases]. <https://www.info.gov.hk/gia/general/202009/18/P2020091800996.htm?fontSize=1>
- The Lancet. (2020). India under COVID-19 lockdown. *The Lancet*, *395*(10233), 1315. [https://doi.org/10.1016/S0140-6736\(20\)30938-7](https://doi.org/10.1016/S0140-6736(20)30938-7)
- White, F. (2013). The imperative of public health education: A global perspective. *Medical Principles and Practice*, *22*(6), 515–529. <https://doi.org/10.1159/000354198>
- World Health Organisation. (2007). *Community health workers: What do we know about them?* https://www.who.int/hrh/documents/community_health_workers.pdf
- World Health Organisation Regional Office for Europe. (2020). *Public health services*. <https://www.euro.who.int/en/health-topics/Health-systems/public-health-services/public-health-services>
- Zoom. (2020). *Zoom for education*. <https://zoom.us/education>