

Public health in the 21st century: working differently means leading and learning differently

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- 17 Harrison C, Davies G. Conserving biodiversity that matters: practitioners’ perspectives on brownfield development and urban nature conservation in London. *J Environ Manage* 2002;65:95–108.
- 18 Hatzopoulou M, Miller E. Transport policy evaluation in metropolitan areas: the role of modelling in decision-making. *Transp Res A Policy Pract* 2009;43:323–38.
- 19 Hewson P. Evidence-based practice in road casualty reduction. *Inj Prev* 2007;13:291–2.
- 20 Hinchcliff R, Ivers RQ, Poulos R, Senserrick T. Utilization of research in policy-making for graduated driver licensing. *Am J Public Health* 2010;100:2052–8.
- 21 Hinchcliff R, Poulos R, Ivers R, Senserrick T. Understanding novice driver policy agenda setting. *Public Health* 2011;125:217–21.
- 22 Marsden G, Frick KT, May AD, Deakin E. How do cities approach policy innovation and policy learning? A study of 30 policies in Northern Europe and North America. *Transp Policy* 2011;18:501–12.
- 23 Minkler M, García AP, Williams J, et al. Si se puede: using participatory research to promote environmental justice in a Latino community in San Diego, California. *J Urban Health* 2010;87:796–812.
- 24 Petersen D, Minkler M, Vásquez VB, Baden AC. Community based participatory research as a tool for policy change: a case study of the Southern California Environmental Justice Collaborative. *Rev Policy Res* 2006;23:339–54.
- 25 Sandström UG, Angelstam P, Khakee A. Urban comprehensive planning—identifying barriers for the maintenance of functional habitat networks. *Landsc Urban Plan* 2006;75:43–57.
- 26 Timms P. Urban transport policy transfer: “bottom-up” and “top-down” perspectives. *Transp Policy* 2011;18:513–21.
- 27 Weiss CH. The many meanings of research utilization. *Public Adm Rev* 1979;39:426–31.
- 28 Innvær S, Vist G, Trommald M, Oxman A. Health policy-makers’ perceptions of their use of evidence: a systematic review. *J Health Serv Res Policy* 2002;7:239–44.
- 29 Johnstone D. *Squaring the Circle: Evidence at the Local Level*. London: Alliance for Useful Evidence, 2013.
- 30 Vize R. BMJ briefing: meet the new masters of public health. *BMJ* 2013;346:f4242.
- 31 Nutley S, Davies H. Making a reality of evidence-based practice. In: Davies H, Nutley S, Smith P, editors. *What Works? Evidence-based Policy and Practice in Public Services*. Bristol: The Policy Press, 2000: 317–50.

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Public health in the 21st century: working differently means leading and learning differently

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Background: Public health needs to adapt to the complex context of 21st century Europe. Unquestionably, leaders for health require new skills to face a myriad of wicked problems and challenges that are at a critical juncture for potential improvements. Public health curricula are traditionally oriented around core educational disciplines, and there is little room for developing students’ leadership capabilities within the context of public health. The aim is to present the meaning of contemporary public health leadership based on qualitative research and propose a curriculum model for contemporary public health leadership. **Methods:** A series of in-depth semi-structured interviews were carried out with six European public health leaders from a variety of countries and professional backgrounds. The interviews recorded and transcribed. A thematic content analysis was undertaken to identify themes within the data. **Results:** Five common themes that help to inform future leadership capacity arose from the interviews: the inner path of leadership, the essence of leadership, new types of leadership, future leaders’ imperatives functioning within a complex and uncertain European public health context. **Conclusion:** The leadership thematic model makes an important contribution to defining public health leadership in Europe and can help to guide the content development of public health leadership curricula. The authors assert that a new ‘integrative inquiry-based learning model’, with leadership as a central component, will allow schools and departments of public health across Europe to be able to ensure that tomorrow’s public health leaders are adequately trained and prepared for the challenges they will face.

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Introduction

The presence of competent leaders is crucial to solving complex unprecedented public health challenges¹ and achieving progress in the field.² Fundamentally, leadership across health and social care sectors needs to adapt to 21st century sociocultural and economic context.³ The authority of public health leaders in the future will arise from their ability to convince others of the central importance of population health and well-being through influence rather than control.⁴ This means that contemporary public health leaders require new skills. They need skills related to 'transformational leadership'⁵ 'in which power for change is based on goals that serve a higher purpose'.⁵ They will also need to commit to more collaborative type of leadership whereby responsibility and accountability are shared among those involved in the decision-making process and its outcomes.

Given the tough issues societies face, there now appears to be a developing consensus that public health organizations should engage in building leadership capacity at every level. A recent debate on public health leadership in *The Lancet*,^{6–8} and Association of Schools of Public Health in the European Region survey,⁹ concluded that it is still not common for leadership development to be included in European public health training programmes.⁶ At the same time, *The Lancet* Commission¹⁰ called for a new era of professional education that advances transformative learning and harnesses the power of interdependence in education.¹⁰ This raised a question of how higher education institutions delivering public health education can provide a content and context to initiate a major reconsideration of working and learning patterns that incorporate novel forms, based on the principles of inter-professional collaboration¹¹ and transcend the confines of the classroom.¹

In response to this need to transform the education of health professionals, the 'Leaders for European Public Health' Project¹² developed and implemented an innovative leadership curriculum for public health professionals in Europe. As part of this study, interviews were conducted with public health leaders to develop understanding of the nature of public health and identify skills needed by public health leaders to successfully meet present and future patient and population health requirements.

This article presents the meaning of contemporary public health leadership based on qualitative research and proposes an appropriate curriculum model for contemporary public health leadership.

Methods

Six in-depth interviews were undertaken with European public health leaders. Thematic content analysis was chosen to reflect the search for themes across the data on the basis of the content.¹³ The participants were selected conveniently. Two main criteria guided selection of the interviewees:

- Holding a prominent leadership position in public health in Europe,
- The position should relate to international policymaking, research and academia, ministry of health or health department and senior-level management of health care.

The participants practiced in various European countries, including: the Netherlands, Hungary, Poland, Germany and European Institutions. The interviews took place between January and May 2012. The informed consent was obtained with respect to the analysis of the data and subsequent publication.

The interviews were recorded at Maastricht University in a professional media facility specializing in recording educational materials. A short discussion took place before each interview for

Table 1 Interview questions

Questions	
1	How would you define leadership?
2	What do you think about public health leadership today and why?
3	What do you think are the critical strengths needed to be a successful public health leader?
4	What would be the major challenges of public health in the next 10 years?
5	What needs to be done to develop a culturally diverse leadership workforce?
6	Is leadership in the public sector similar to leadership in other (business, private) sectors?
7	What should be done to make public health more responsive to the needs of the public?

clarification. The guiding research question focused on the concept of 'leadership' and 'public health leadership'. The interview schedule consisted of seven broad questions (table 1).

The participants were given a link to the recording to check the quality of the content. The interview process was not about retrieving knowledge from a respondent but encouraging each interviewee to construct knowledge or personal 'meaning-making' about public health leadership based on their unique experience.^{13,14} The interviewer was a constructive agent who influences the interview outcomes.^{13,15}

The interviews were transcribed verbatim and the transcripts were then returned to the participants to clear up any disagreement over the transcription contents. This technique increases the authenticity of the data and amounts to 'member check'.¹⁶

Consecutive content analysis¹³ was chosen to analyse the data, beginning with summative content analysis related to 'identifying and quantifying words or content in text with the purpose of understanding the contextual use of the words or content'¹⁷ for orientation in the reoccurring concepts. Next, a coding scheme was developed based on parallel coding of the same two pieces of text. The researchers performed open coding¹⁸ by independently reading the accounts to identify codes; afterwards, they grouped and labelled the codes.¹⁷ First five codes were agreed on: 'essence of leadership', 'new forms of leadership', 'public health context', 'what leaders need to do' and 'intrinsic beliefs'. The investigators allowed data extracts to be placed under each category depending on their relevance. Further, qualitative thematic content analysis was applied to the whole data set. Two members of the team coded each interview to establish reliability. Data were reduced and displayed, certain codes were combined and reformulated to better reflect the meaning.¹⁹ The reduced data were then analysed by four members of the team who separately reread the coded material to perform axial coding to identify and triangulate the relationship among categories and to organize these into themes. The researchers identified the core category: 'benefiting society and improving well-being', which seemed to be a unifying rationale underpinning the emerging themes.

The researchers compared their interpretations on an ongoing basis. In the case of divergence, interpretations were discussed until joint version was agreed.^{16,20}

Results

Six themes were identified from the interview data: European public health context, inner path of leadership, essence of leadership, emerging styles of leadership, future leader's imperatives and benefiting society and improving well-being. (figure 1)

European public health context

Interview excerpt

‘Currently we see a major shift in the workforce which creates more diversity in the health care labour market... Securing health care workforce, public health leaders have to see the current health problems and the profile of the society which they serve.’

Synopsis of interview responses

The contemporary public health context strongly influenced interviewees’ understanding of public health leadership. Confronted with major shifts in the nature of ill health, and growing diversity in the health professions, public health leaders have to make decisions in an increasingly complex environment. To add a further layer of challenge, globalization and the economic crisis significantly impact on public health functions and operationally dealing with existing and emerging health problems. These challenges include balancing the social responsibilities of the public and the business sector, staying abreast of new technologies and labour market demands and their implications for health. Public health leaders need to become more concerned with the health and well-being of the populations they serve in the context of economic constraints, seemingly unattainable policy aspirations and varied interests of different groups and stakeholders. Overall, these problems establish a strong mandate for public health leaders to develop more proactive health service models.

Inner path of leadership

Interview excerpt

‘A leader should be content driven, transparent, open and trustworthy. Public health leaders should try to bridge the gap between policy, practice and research, and connect different worlds of science, policy and practice.’

Synopsis of interview responses

Public health leaders need to take every effort to work closely with stakeholders at all levels of society to effectively meet the challenges of population health and well-being. Driven by values of social justice, equity, honesty and responsibility, coupled with expertise, interviewees identified the critical role that the ‘inner path’ of leadership plays in the process of producing results that are meaningful in the continuous drive to bridge the gap between policy, practice and research for the benefit of society. The inner path requires that public health actions are grounded in the leaders’ personal values and conviction to do the right thing, balanced by personal humility.

Essence of leadership

Interview excerpt

‘We should see things more than three dimension pictures... the space is much bigger for decisions... and we really have to keep an eye on the changing environment.’

Synopsis of interview responses

Leadership is a complex phenomenon exercised in an evolving environment. It involves combining interpersonal skills, such as

communicating, motivating, facilitating and empowering with personal values and attitudes including respect for cultural diversity, responsibility, commitment, loyalty and hard work, and also with strategic thinking, which involves seeing a broad picture, having a clear vision and mission and being decisive.

To maximize benefit to society, leaders need to identify ‘windows of opportunity’ and use new knowledge to help others to ‘see’ what ‘you’ see..., ‘believe’ what ‘you’ believe... and ‘achieve’ what ‘you’ know is possible, and yet, at first glance, improbable. This is an ability to discern trends in the midst of complexity and to capitalize on those trends by creating smart adaptive strategies in an evolving environment. This is the essence of the new European public health leadership.

Emerging types of leadership

Interview excerpt

‘We need a totally and radically different leadership for health in our century and this new form of leadership for health has to be more horizontal and has to be more participatory, involving many actors and many sectors.’

Synopsis of interview responses

The leaders of tomorrow will need to transition from the ‘top down’ leadership model that currently often dominates to develop more ‘horizontal’ alliance-based relationships where groups of stakeholders increasingly work together to address key health challenges at global, national and local levels. These partnerships demand leadership skills and behaviours that value decision-making by inclusion, collaboration and broader participation of interdisciplinary health care teams engaging all members in shared leadership roles. This requires public health leaders who focus on and embrace change and are able to create organizational cultures that emphasize creativity and innovation as well as continuous learning as a foundation for sustained superior performance.

Future leader’s imperatives

Interview excerpt

‘Having a clear vision combined with good management skills and the willingness and ability to make a decision under risk.’

Synopsis of interview responses

Perhaps the most important priority is a vision that aspires to improve health and well-being at all societal levels, and reducing health inequities across communities, regions and internationally. To achieve this will require not only leading a diverse workforce through collaboration, creativity and empowerment but also integrating the worlds of science, policy and practice to inform decision-making and ensure financial sustainability. Crucial to successful future interventions will be to provide on-going support for the development of high-quality education and training that mirror this integrative holistic approach to finding solutions to complex problems. Vision-led and inspired leadership requires public health leaders whose formal learning experience has expanded their capacity for understanding, prepared them for the challenges of global health demands and instilled in them the confidence to make decisions under risk, placing public health in a central leadership role across whole European health care.

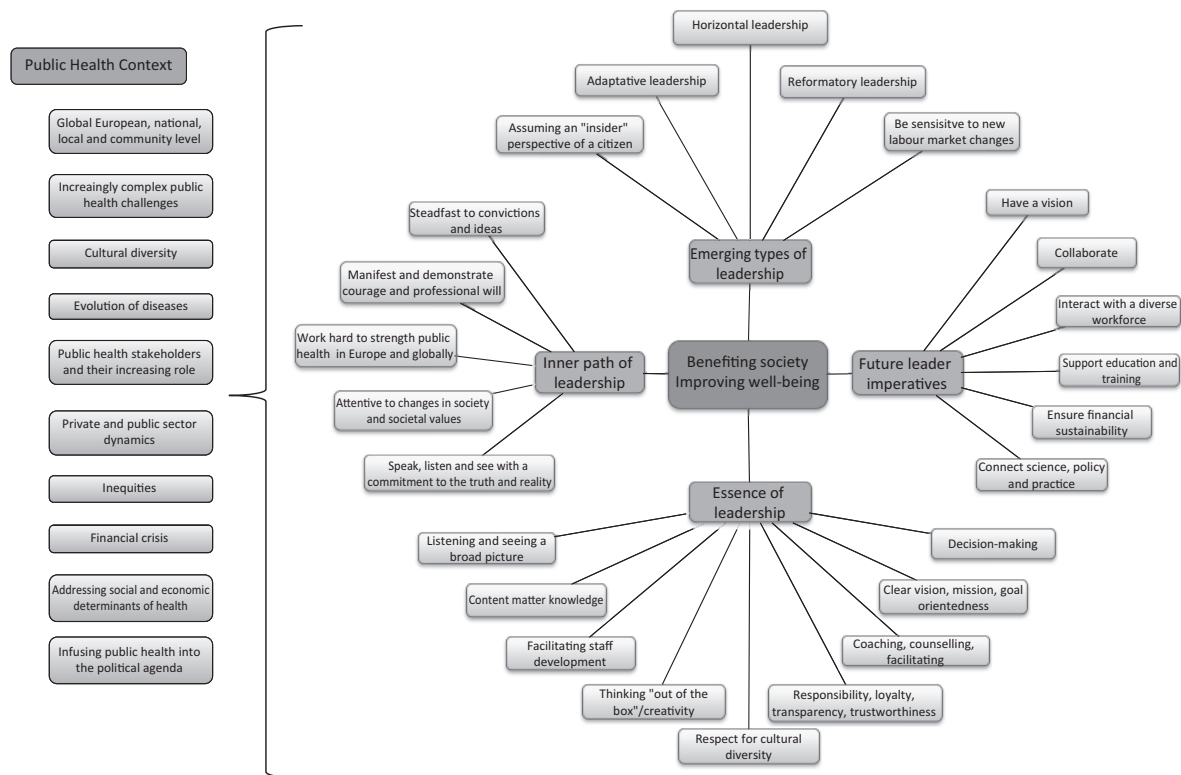


Figure 1 Public health leadership model—the meaning of leadership in the contemporary public health context

Benefiting society and improving well-being

Interview Excerpt

‘Compared to social or bio-medical sciences, public health is much more related to society. It is important that the services we provide in public health and primary care have societal relevance and we can clearly show the benefits of our work to the society and taxpayers.’

Synopsis of interview responses

Interviewees emphasised that all efforts and activities related to public health leadership are to improve the health and well-being of society and that public health leaders, ‘... should place themselves in the position of citizens or patients to understand what is really needed’ and collaborate with publicly led health- and equity-related campaigns. Leaders of today need to be enablers and facilitators who support groups in creating and achieving shared goals. This principle of leadership is reflected in the notion of empowerment, central to health promotion: enabling people to improve their health and address its determinants. Such an approach reflects transformational leadership, in which power for change is based on goals that serve a higher purpose, in this case better health and well-being as a societal goal.

Discussion

Definitions of public health leadership vary from defining competencies²¹ to stressing the uniqueness and individual characteristics of leadership in health care. Rowitz states that public health leadership includes commitment to the community and the values it stands for.²² Grainger and Griffiths argue that public health leaders differ from leaders in other sectors, as they are required to balance corporate legitimacy, while also existing outside the corporate environment.²³ Kimberly suggests that more distributed and

collaborative world will require a new generation of leaders in public health with new mind sets, an appetite for innovation and interdisciplinary collaboration and a strong dose of political savvy.²⁴ Koh concludes that a public health leader

must be the transcendent, collaborative “servant leader” who knits and aligns disparate voices together behind a common mission, pinpoints passion and compassion, promotes servant leadership, acknowledges the unfamiliarity, ambiguity, and paradox, communicates succinctly to reframe, and help understand the “public” part of public health leadership.²⁵

Public health leaders need to be exceptional ‘networker-connectors’ capable of ‘putting the pieces of the jigsaw together’; they combine administrative excellence with a strong sense of professional welfare and actively develop the profession, articulate its shared values and build for the future.⁷

Contrary to what different definitions offer separately, our study proposes an all-embracing public health leadership model. The emergent themes ‘public health context’, ‘inner path of leadership’, ‘essence of leadership’, ‘emergent styles of leadership’, ‘future leader imperatives’ and ‘benefitting society and improving wellbeing’ contribute to defining public health leadership. The model does not reflect a particular leadership theory or orientation but presents a picture of current public health leadership based on the real life experiences of public health leaders. However, elements of it resonate with elements of generic theories such as transformational leadership, situational leadership and servant leadership. It illustrates that public health leadership requires a broad range of competencies, from strategic-level competencies such as facilitation of shared leadership to ‘contextual intelligence’,²⁶ which is the ability to identify new trends in the face of complexity and be able to adapt and capitalize on those trends.²⁶ The study shows that the contemporary public health demands a more inclusive and less hierarchical style of leadership—focused on developing and working with stakeholder networks to achieve effective public health interventions. In this context, our results may contribute to ‘improving the

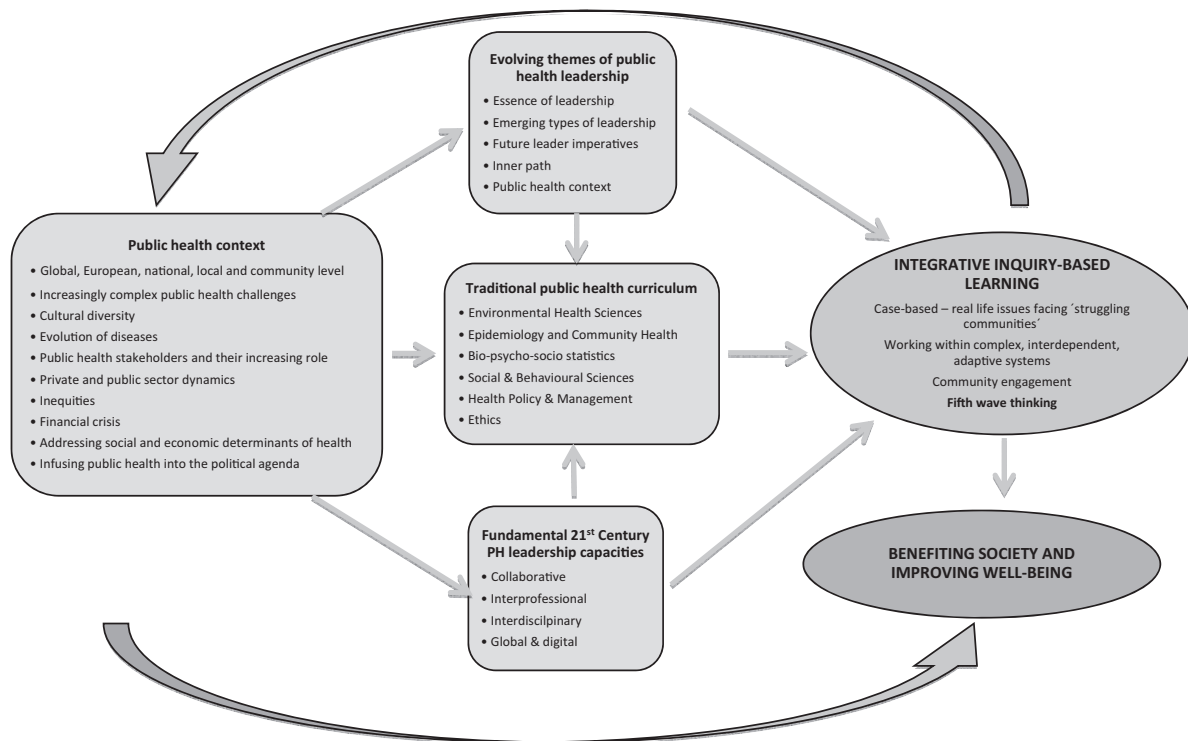


Figure 2 Integrative leadership Curriculum Framework

quality of leadership *within* public health’ and ‘leadership *for* public health’⁸ if put within the right educational context.

Limitations

The interview findings are insightful and direction-setting. However, there are limitations to this study. The small sample size makes it difficult to draw definitive conclusions and transfer them to larger groups or other non-European contexts. Many public health leadership roles were also excluded from the sample. Workers in less-senior public roles may have different but just as valid perspectives on effective public health leadership as more senior professionals. Given that the interviews had a dual purpose of being both learning resources and research data, there were only enough resources to record and analyse six interviews. However, there is evidence that six interviews is enough to determine the broad themes of any phenomena.²⁷ The study has made an empirical contribution to the literature on public health, particularly in ‘uncovering’ the type of leadership that is needed in progressing the public health agenda.

Implications

Toward a new professionalism and public health leadership curriculum framework

The *Lancet* Commissioners identified leadership as one of the global systemic failures and recommended major reforms of the health professionals’ education.¹⁰ They propose ‘a new professionalism for the 21st century’, which ‘should promote quality, embrace teamwork, uphold a strong service ethic, and be centred around the interests of patients and populations’. Given the wide-ranging contexts within which public health leaders must function and the expressed need for the redesign of ‘structures and Public Health processes’,¹⁰ achieving these ends may require a re-conceptualization of professional training and support mechanisms.^{28,29}

A starting point is to identify the competency capacities of future leaders in relation to population health and well-being and apply the study results to inform education, training and culture change throughout the workforce.^{11,30} This study proposes a blueprint for the development of an integrated public health leadership curriculum. (figure 2)

Excerpted from figure 1, the first framework constituent summarizes contextual dimensions from the interviews, within which public health professionals must function and highlights the importance of gaining in-depth understanding of the challenges they face. The second element synthesizes the main leadership themes that evolved through the coding processes. The next constituent identifies four essential capacities for working horizontally and vertically across communities and stakeholders. In this view, public health interventions may be optimized if they are collaborative, interdisciplinary, inter-professional as well as global and digital.²⁹ The final curriculum building block calls for the development of topical and mediated cases and an active learning process that integrates the key components resulting from the ‘inquiry-based’ learning at the heart of the participant learning experience—‘derived from real life struggles of communities’.³⁰ Students would be encouraged to engage directly with community organizations and draw on the knowledge sources that inform public health theory and practice. The cases would also mirror or integrate the cross-cutting values, attitudes and behaviours that are essential in collaborative learning and work environments. Blended learning—combination of face to face, print and information technology—is encouraged, as it takes learning to the students and supports busy professionals interested in developing their expertise through continuing professional development.

There is a need for a call for action directed to the schools and departments of public health to integrate principles, concepts and ideas into practically developing more progressive curricula. Further, providers of public health education should incorporate leadership into their public health programmes based on the pedagogical principles outlined.

Conclusion

The meaning of contemporary public health leadership was described by six themes covering various aspects of public health leadership including fundamental leadership capacities, personal values and beliefs and new leadership trends. In conclusion, the model can be used in designing public health education of the future, strengthen human resource capacity and optimize existing public health leadership programmes, which should strive to make quality of life and well-being of 'all' people the top priority for public health.

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Conflicts of interest: None declared.

Key points

- The leadership thematic model makes an important contribution to defining public health leadership in Europe.
- The model does not reflect a particular leadership theory or orientation but presents a picture of current public health leadership based on the real-life experiences of public health leaders.
- The public health leadership model can serve as a blueprint in designing public health education of the future to strengthen human resource capacity and optimize existing public health leadership programmes.

References

- Hunter DJ. Leading for health and wellbeing: the need for a new paradigm. *J Public Health* 2009;31:202–4.
- Koh HK, Jacobson M. Fostering public health leadership. *J Public Health* 2009;31:199–201.
- Bennett LM, Gadlin H. Collaboration and team science: from theory to practice. *J Investig Med* 2012;60:768–75.
- World Health Organization. New European Policy for Health—Health 2020, Sixty-first Session. Baku, Azerbaijan, 12–15 September 2011. Regional Committee for Europe, Copenhagen, 2011. EUR/RC61/Inf.Doc./4. Available at: http://www.euro.who.int/__data/assets/pdf_file/0007/147724/wd09E_Health2020_111332.pdf (10 September 2013, date last accessed).
- World Health Organization. Governance for health in the 21st century: a study conducted for the WHO Regional Office for Europe, Sixty-first Session. Baku, Azerbaijan, 12–15 September 2011. Regional Committee for Europe, Copenhagen, 2011. EUR/RC61/Inf.Doc./6. Available at: http://www.euro.who.int/__data/assets/pdf_file/0010/148951/RC61_InfDoc6.pdf (10 September 2013, date last accessed).
- Czabanowska K, Smith T, Stankunas M, et al. Transforming public health specialists to public health leaders: the role of LEPHIE project. *Lancet* 2013;381:449–50.
- Day M, Shickle D, Smith K, et al. Time for heroes: public health leadership in the 21st century. *Lancet* 2012;380:1205–6.
- Day M, Shickle D, Smith K, et al. Transforming public health specialists into public health leaders: authors' reply. *Lancet* 2013;381:450.
- Bjegovic-Mikanovic V, Vukovic D, Otok R, et al. Education and training of public health professionals in the European Region: variation and convergence. *Int J Public Health* 2012;58:801–10.
- Frenk J, Chen L, Bhutta ZA, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* 2010;375:1137–8.
- Lueddeke G. *Transforming Medical Education for the 21st Century: Megatrends, Priorities and Change*. London: Radcliffe Publishing, 2012.
- For the Lephie Project. Available at: <http://www.lephie.eu/about-lephie.html> (14 August 2013, date last accessed).
- Simons L, Lathlean J, Squire C. Shifting the focus: sequential methods of analysis with qualitative data. *Qual Health Res* 2008;18:120–32.
- Kvale S. *InterViews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA: Sage, 1996.
- Fontana A. Postmodern trends in interviewing. In: Gubrium JF, Holstein JA, editors. *Handbook of Interview Research*. Thousand Oaks, CA: Sage, 2002: 161–75.
- Guba EG, Lincoln YS. *Naturalistic Inquiry*. Newbury Park, London: Sage Publications, 1985.
- Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res* 2005;15:1277–88.
- Strauss A, Corbin J. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Newbury Park, California: Sage Publications, 1990.
- Miles MB, Huberman AM. *Qualitative Data Analysis: An Expanded Source Book*. Thousand Oaks, CA: Sage, 1994.
- Patton MQ. *Creative Evaluation*. Beverly Hills, CA: Sage, 1981.
- Czabanowska K, Smith T, Könings KD, et al. In search for Public Health Leadership Competency Framework to support leadership curriculum—a consensus study. *The European Journal of Public Health* 2013. Advance Access published October 11, 2013. doi: 10.1093/eurpub/ckt158.
- Rowitz L. *Public Health Leadership: Putting Principles into Practice*. Sudbury: Jones and Bartlett Publishers, 2003.
- Grainger G, Griffiths R. For debate: public health leadership—do we have it? Do we need it? *J Public Health Med* 1998;29:375–6.
- Kimberly JR. Preparing leaders in public health for success in a flatter, more distributed and collaborative world. *Public Health Rev* 2011;33:289–99.
- Koh H. Leadership in public health. *J Cancer Educ* 2009;24:S11–8.
- Mayo AJ, Nohria N. *In Their Time: The Greatest Business Leaders of the Twentieth Century*. Boston: Harvard Business School Press, 2005.
- Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 2006;18:59–82.
- Lueddeke G. *Global Population Health and Well-Being in the 21st Century: Towards a New Worldview*. New York NY: Springer Publishing Company, 2014.
- Finnegan J. Framing the future, 2012 Available at: <http://www.sph.umn.edu/2012/12/framing-the-future/> (25 June 2013, date last accessed).
- Hanlon P, Carlisle S, Hannah M, et al. *The Future Public Health*. Maidenhead, Berkshire: Open University Press/McGraw-Hill Education, 2012.