



**Dental
Public Health
at a Glance**

Second Edition

Ivor G. Chestnutt

WILEY Blackwell

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This edition first published 2024

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Edition History

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Library of Congress Cataloging-in-Publication Data

Names: Chestnutt, I. G., author.

Title: Dental public health at a glance / Ivor G. Chestnutt.

Description: Second edition. | Hoboken, NJ : Wiley, 2024. | Includes bibliographical references and index.

Identifiers: LCCN 2024000381 (print) | LCCN 2024000382 (ebook) | ISBN 9781394184316 (paperback) | ISBN 9781394184286 (adobe pdf) | ISBN 9781394184309 (epub)

Subjects: MESH: Public Health Dentistry | Dental Health Services | Oral Health | Handbook

Classification: LCC RK52 (print) | LCC RK52 (ebook) | NLM WU 49 | DDC 362.1976–dc23/eng/20240207

LC record available at <https://lcn.loc.gov/2024000381>

LC ebook record available at <https://lcn.loc.gov/2024000382>

Cover Design: Wiley

Cover Image: © tai11/Shutterstock

Set in 9.5/11.5pt Minion Pro by Straive, Pondicherry, India

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Preface from the first edition



Members of the dental team are in a unique position to offer tailored and personalised advice and to thereby educate their patients on the steps that are necessary to secure oral health. However, there is only so much that can be achieved by such one-to-one, 'downstream' interventions. It is crucial that all members of the dental team appreciate the wider determinants of health and the impact of lifestyle and life circumstances on the health and oral health of their patients. The population has not benefited equally from the significant improvements in oral health observed over the past four decades. That one-half of all diseased teeth are concentrated in just 7% of five-year-olds serves to highlight the health inequalities that pervade our society. It is crucial that from the earliest stage of their training, the next generation of dental professionals have an appreciation that the lives of others are frequently very different from their own.

Dental students rightly spend the majority of their time learning the theoretical, practical and clinical skills necessary to practise their chosen profession. Often it is only relatively late in their course that their attention turns to the environment in which they will have to deliver dental care and earn their living. It is important to have an appreciation of the issues involved in the organisation, commissioning and delivery of oral healthcare at dental practice, regional, national and international levels. The principles of evidence-based practice are of ever-increasing significance in achieving this. In its guidance *Preparing for Practice*, the General Dental Council has placed great emphasis on learning outcomes that fall within the remit of dental public health. All of these factors emphasise the need for an understanding of the discipline.

The intention of this book is that 'at a glance' dental professionals will be able to come to a basic understanding of the principles and practice that relate to the science and the art of improving oral health at both an individual and a population level. Of course, the

factors influencing public health practice evolve at a pace – a change of government, new guidance and new policies affect dental public health at a greater rate than other dental specialties. For this reason, the intention of this book is to raise awareness and provide pointers and flags that can be followed up via more exhaustive information sources.

While the basic principles of the discipline are universal, a complicating factor in writing a book on dental public health in the United Kingdom is the four different – sometimes very different – models of care that have evolved in the constituent countries following devolution in 1999. Where possible, attempts have been made to illustrate differences across the United Kingdom, but at times this is limited by the constraints of space.

The primary audience for this book is undergraduate dental, dental therapy and dental hygiene students, together with those in Dental Foundation and Core training and those preparing for MDFS or MJDF examinations. The book should also prove a useful resource for those preparing for the Diploma in Dental Public Health examination or the Overseas Registration examination. While at an entry level, the book may also act as an aide-memoire for those undertaking specialty training, and may indeed be of use to any member of the dental team who has an interest in the vast range of topics now embraced within dental public health.

The concepts arising in dental public health can be challenging from an academic perspective. Twenty years teaching the subject have taught me that it is one that students tend to love or hate. It is my hope that this book might go some way to encouraging more of the former and less of the latter.

*Ivor G. Chestnutt
Cardiff
April 2015*



Preface to the second edition

Many years ago, when I was a trainee in dental public a senior manager wrote on the blackboard, ‘the only thing constant in public health is change’. How true that has proven in the eight years since I wrote the first edition of this book.

As a basic text, the fundamentals of epidemiology, study design, evidence-based practice, measuring and recording oral health and dental disease remain the same. However, who would have thought that a situation would arise in which for months, routine dental care was suspended? The COVID-19 pandemic brought the discipline of public health to the fore with senior public health practitioners appearing alongside the most senior politicians on television, night after night. In updating this book, a new chapter on pandemics and their relevance to dental practice has been added. The other ever-increasing and significant threat to human health is that posed by global climate change. A new chapter discusses the environmental agenda and its implications for dental practice.

In the time since the first edition there have also been advances in how we plan and think about facilitating behaviour change and an additional chapter on that topic has also been included. In the field of health improvement we have seen the introduction of fiscal measures to control the intake of drinks high in free sugars as well as minimum pricing of alcohol in

some parts of the United Kingdom, both policies that are likely to benefit oral health.

Access to NHS dentistry has been a particular issue, because of not only the pandemic but also the mechanisms used to contract for the provision of dental services. These issues are discussed as are the various attempts to reform the contract for delivery of NHS dental care.

Internationally, the World Health Organization has produced a global oral health strategy, incorporating the concept of universal health coverage and this is discussed in detail.

Of course, underlying all of the above are the inequalities that persist in the experience of oral disease across society, a paradigm not helped by the ‘cost of living’ crisis that has impacted so many.

As I said in the introduction to the first edition of this textbook, it is crucial that the dental professionals of tomorrow have a view of how lifestyle, life circumstances and social factors will impact on the communities in which they will eventually practice. I hope that this second edition continues to deliver the basics of Dental Public Health and enthuses and inspires further cohorts of those pursuing a career in dentistry.

*Ivor G. Chestnutt
Cardiff
October 2023*

Introduction



Part 1

Chapters

- 1 What is dental public health? 2
- 2 Health, oral health and their determinants 4

1

What is dental public health?

Figure 1.1 The essential elements of dental public health. Source: Adapted from a diagram produced by the British Association for the Study of Community Dentistry.

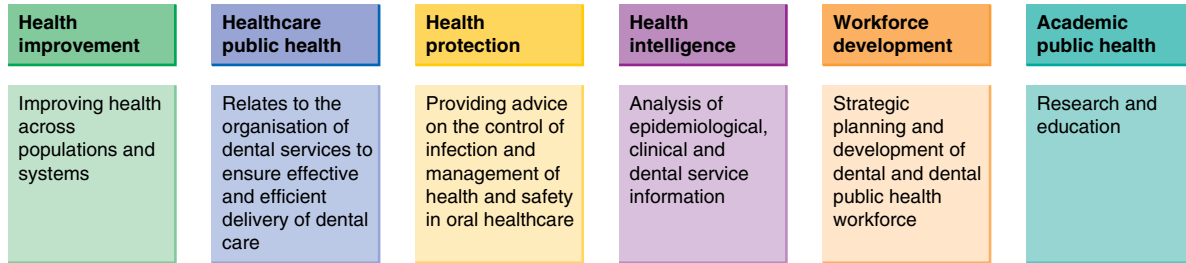
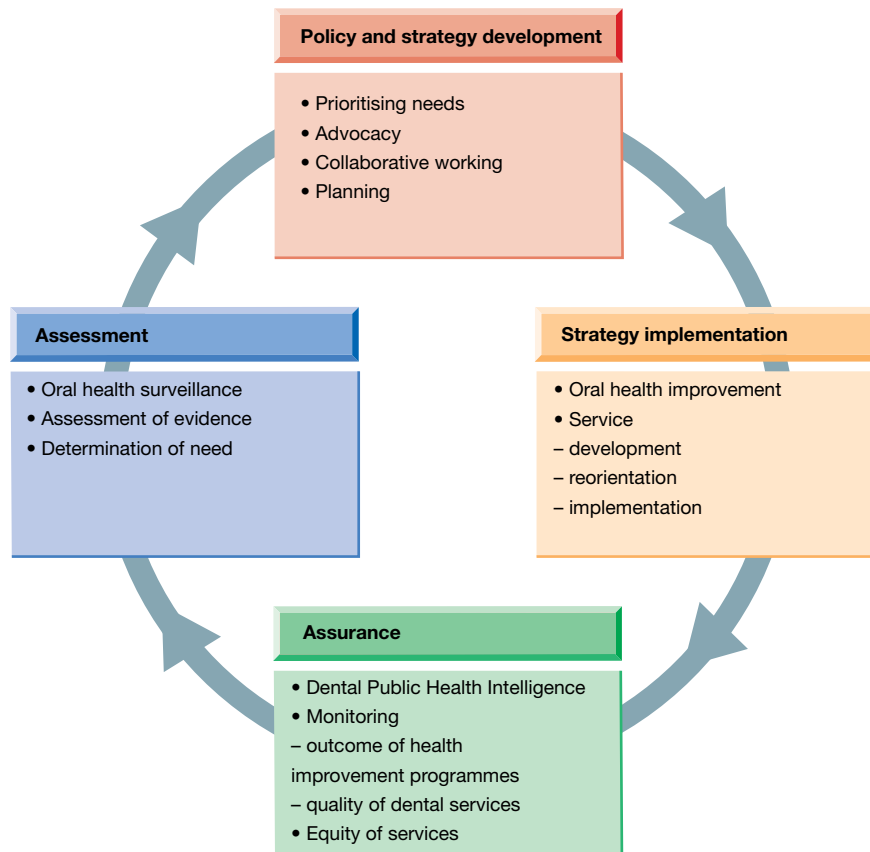


Figure 1.2 Components of dental public health practice



In contrast to clinical dental practice, where the focus is on looking after individual patients, in dental public health practice, the focus is on populations or defined groups within a population. As outlined in Table 1.1, the definition refers to **science**. Dental public health requires a sound knowledge of the factors influencing the aetiology, detection, measurement, description and prevention of oral disease, as well as the promotion of oral health. It also refers to **art**. This involves advocacy, policy development and the politics of how

dental care is prioritised, organised, monitored and paid for in societies.

The essential elements of dental public health are shown in Figure 1.1.

The key components of dental public health practice and how these relate to one another are shown in Figure 1.2. The core values of public health practice are as in Table 1.2.

A comparison between clinical dental practice and dental public health practice is shown in Table 1.3.

Table 1.1 Definition of dental public health

Dental public health is the science and the art of preventing oral disease, promoting oral health and improving the quality of life through the organised efforts of society.

Table 1.2 Core values of public health practice, as defined by the Faculty of Public Health in the UK

- Equitable
- Empowering
- Effective
- Evidence-based
- Fair
- Inclusive

Table 1.3 A comparison between clinical dental practice and dental public health

Individual clinical practice	Public health practice
Individual patients	Populations and defined groups within populations
Examination	Epidemiology, surveys
Diagnosis	Assessment of need
Treatment planning	Prioritisation and programme planning
Informed consent for treatment	Ethics and planning approval
An appropriate mix of care, cure and prevention	Programme implementation
Payment for services	Programme budgeting/finance
Evaluation	Appraisal and review

Table 1.4 The public health approach as applied to dentistry

Dental public health:

- Is concerned with the oral health of populations
 - in a city or defined geographical area
 - in a particular group of the population defined by a common demographic, e.g. children, older people
 - in a group of people with social circumstances in common, e.g. homeless people, people with drug and substance abuse problems.
- Recognises that responsibility for health and prevention of oral disease is shared between individuals and healthcare professionals and that people should be empowered to look after their own health.
- Is conscious that as health is markedly linked to people's lifestyles and life circumstances, it needs to take account of how the risk of poor oral health is not equal across populations, e.g. levels of dental caries in children are closely correlated with social and economic deprivation.
- It implies that to improve health, it is necessary to work on policy development at a high level and across disciplines. As an example, legislation making the wearing of seat belts compulsory is important in preventing facial injuries in road traffic accidents; taxing tobacco sales is important in moderating smoking. In health improvement programmes in schools, dental public health practitioners need to work outside of health and collaborate with school teachers and education authorities.

The public health approach

The Faculty of Public Health, the professional body that is responsible for setting standards in public health practice in the UK, describes the public health approach as follows:

- population-based
- emphasising collective responsibility for health, its protection and disease prevention
- recognising the key role of the state, linked to a concern for the underlying socio-economic and wider determinants of health, as well as disease
- emphasising partnerships with all those who contribute to the health of the population.

How this applies to dental public health is shown in Table 1.4.

Key disciplines in dental public health

In order to practise dental public health, knowledge of the following disciplines is important.

Oral epidemiology

Oral epidemiology is the study of oral health and oral disease and their determinants in populations.

Demography

This refers to measurements and statistics that describe populations. It involves recording factors such as the age structure, ethnic composition and educational attainment of the population.

Medical statistics

Understanding numbers and the inferences that can be drawn from them is a key skill in reviewing disease trends and service provision, as is the ability to appraise and conduct dental research.

Health promotion and health improvement

Health promotion is the process of enabling people to increase control over their health and its determinants, thereby improving

their health. Health improvement recognises that the determinants of health can be outside an individual's control and is designed to address so-called wider determinants of health such as education, housing and employment. It is also designed to address the gaps in health between areas of high and low social and economic provision – gaps known as 'health inequalities'.

Sociology

Sociology is the study of the development, structure and functioning of human societies. Understanding these factors is important in improving health and organising healthcare services.

Psychology

Psychology is the branch of science that deals with the human mind and its functions. In a public health context, understanding psychology is important in relation to behaviour change.

Health economics

Health economics concerns the need for, demand for and supply of health and healthcare. In dental public health, it relates to how resources are distributed and the effectiveness and efficiency of services. Understanding how care is commissioned and paid for is an important element of how dentistry is organised and delivered, and dental public health practitioners need a clear understanding of these issues.

Health services management and planning

Dental services compete with other forms of healthcare, whether paid for by the state or individuals. They, therefore need to be organised, managed and planned. The allocation of resources within a publicly funded dental service should be proportional to the need and likelihood of benefit. Dental public health practitioners will be called on to give advice to health service managers and finance officers on the appropriate allocation of resources and to offer guidance on how dental services are planned and delivered.

Evidence-based practice

Evidence-based practice is designed to ensure that, wherever possible, the dental care that is delivered has been shown to be the most efficient and effective. It is the role of dental public health practitioners to facilitate such practice. Those responsible for dental public health need to understand the theory of evidence-based dentistry to support the improvement of oral health and the delivery of effective care.

2

Health, oral health and their determinants

Figure 2.1 The determinants of health. Source: Adapted from Dahlgren and Whitehead (1991). Reproduced with permission from the Institute for Futures Studies.

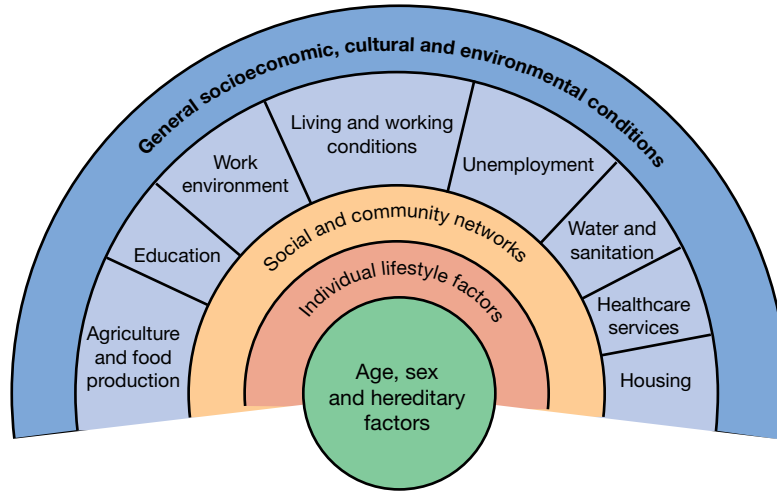


Figure 2.2 Life circumstances and lifestyle as determinants of health

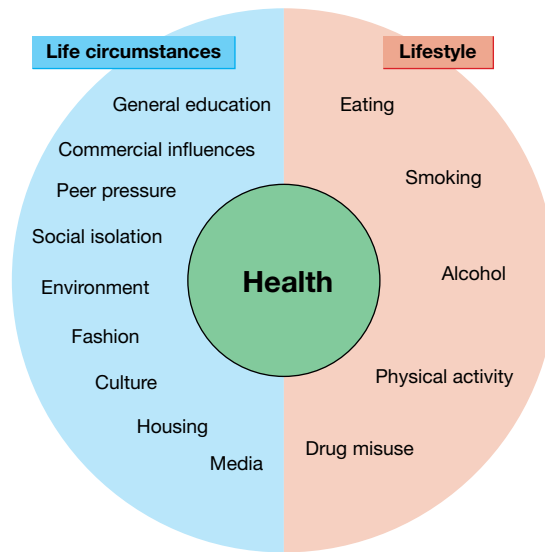


Figure 2.3 Lifecourse analysis as a means of investigating the determinants of health

