RECENT ADVANCES IN PUBLIC HEALTH

BY

J. L. BURN, M.D., D.Hy., D.P.H.

Medical Officer of Health and Principal School Medical Officer, City of Salford

Lecturer in Public Health, University of Manchester

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Preface to the Second Edition

TWELVE years have elapsed since the first edition of this book. Due to the decisive changes which have taken place in public health, whole sections prominent in the previous edition have had to disappear. There has been a complete re-writing of the sections that have remained. The advances have been on so great a scale and on so many fronts that rigorous selection and compression of the 'fragments which remained' have been necessary. No attempt has been made to include, as in the former edition, accounts of advances made in water purification and in some other aspects of environmental sanitation, for these have become more and more the concern of the public health engineer and other experts.

More emphasis however has been placed on the personal aspects of public health, and of those services which will help the individual in the pursuit of happiness and the 'good life'.

This book has a limited objective—it does not aim to deal with the wide and deep issues of social medicine. Rather the endeavour has been made to provide the reader with an all-too-brief account of some of the advances made in the practical day-to-day working of public health services at local level in this country.

I am deeply indebted to many friends and colleagues, especially members of my staff and correspondents for their generous help; this book—written by a working man in public health—is a mere compilation of their words and works and whatever virtue it may have is due to them. Some of those to whom I am specially indebted are named in a list of acknowledgments.

I have made liberal use of publications of the Ministry of Health, the General Register Office, and of the World Health Organization. This volume has derived value from the authors of many books and papers and the teachers and students of several D.P.H. courses—all of whom have taught me much—as well as my fellow workers who are in the front line of public health—the family doctor, health visitor, public health inspector, home nurse, midwife, home help and health and social workers of many kinds.

J. L. BURN

Health Department
Regent Road
Salford, 5

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Introductory

ONE day at his place of work I saw a man who looked ill, pale, and tired. At times he was greatly troubled by a bad bout of coughing. He seemed in pain; as he leaned for support on a low wall, he excited pity and the desire to help. How did he come to be in such distress? Could not his disease have been prevented? his disability lessened or avoided?

He told me he had suffered long spells of sickness absence, that he was often disabled in wintertime. He was aged forty-eight, although he looked older. All his working life had been spent doing heavy manual work in a local steel foundry, where there was great variation in temperature—near the furnaces it was unbearably hot; away from them on that day it was cold and draughty. Occasionally, when the molten metal was poured, a cloud of salmon-coloured dust came from the cupola and filled the air.

The purpose of my visit was twofold. Firstly, there is the general duty laid on medical officers of health to study all matters affecting the health of the people in the area concerned; or, in legislative language, 'to acquire an accurate knowledge of the influences, social, environmental and industrial, which may operate prejudicially to health in the area, and of the agencies, official and unofficial, whose help can be invoked in amelioration of such influences'. Secondly, and in particular, there was a high incidence of chronic respiratory disease in this factory; a mass X-ray survey had showed a sixfold increase in incidence of tuberculosis over the average incidence in factory workers.

The medical history of this man showed that he had nearly died from whooping-cough at the age of four months; he had had frequent attacks of bronchitis until he was three years old. In his thirties, following attacks of 'influenza', he began to have a winter cough for which he had the then usual 'bottles' from his doctor. He had always lived in a place* well known to me on account of bad housing, severe overcrowding, and chronic air pollution. A haze of domestic smoke frequently filled the area —the sky was never really blue. There were no trees or green spaces within half a mile of where he lived—so springtime did not come to Gloucester Street.

* For a picture of the area concerned see page 293.

The regional climate in this part of the north-west of England is damp. Enquiries into the personal and social environment showed that the man's diet was far from balanced and probably had always been inadequate in essential nutrients. He had lived through the depression of the 'thirties when little fruit and few sources of first-class protein were available for the family; no fresh milk was used; the food store was a closed cupboard.

He smoked 'more than a packet of twenty' cigarettes per day. He was a considerable drinker and frequented public-houses where the standards of hygiene were not faultless. His recreation and even his holidays were always in crowded places. In short, he had lived in a world of infection and, above all, in an adverse total environment all his life.

Here is seen a complex of more than fifteen factors responsible for his poor health. How can it be said, in the light of present knowledge, which single factor or group of factors was responsible for his chronic bronchitis? And to which factor must public health workers first direct their attack?

Let us re-examine and reconstruct the case of this man and see what *might* be done today by recent advances in preventive public health. Antenatally, his mother would receive advice on a healthy way of life in general and on the advantage of early protection against infant infection in particular. The attack of whooping-cough could be modified, if not prevented, by early immunization. Advice, education, and help from the health visitor could improve the diet of the child. With the co-operation of the family doctor more decisive and comprehensive treatment could be secured for the bronchitic attacks if and when they occurred. He might well receive nowadays health education as a schoolboy which might modify his attitudes, and perhaps his subsequent addiction, to smoking and to alcoholism. With rehousing in a less polluted area there would be less chance of overcrowding and of his becoming a respiratory cripple. With or without the help of the Clean Air Act, an all-out attack could be made against chronic air pollution.

With the practice of occupational hygiene the conditions in his work might be modified; as it so happens, the works concerned are, for economic reasons, switching to another process which does not involve an adverse occupational environment. With the co-operation of the family doctor, hospital, specialist, and pharmaceutical services, his attacks of bronchitis would be modified and, if the attacks recurred, disability could be lessened by the provision of comprehensive care and after-care services. If all else was ineffective, he could receive advice, rehabilitation and, perhaps, re-training in regard to an appropriate occupation, maybe in a more favourable *milieu*.

Perhaps the most important of the recent advances in public health, and certainly the most challenging, has been the changing concept of

'environment'. *The total environment must be considered; and, if necessary, modified in order to meet the needs of man.* A significant change in thinking has been the recognition of the *multiple causation* of poor health, of which the case of the patient described is an example. Truly social pathology has seldom a single cause, hence there is need for a 'total' outlook today as well as for a wider provision of public health services. The 'cause' of the illness is so often a complex of causes; let us note that if the causes are many, there is often a greater opportunity for attack by the public health team. In particular, there are many possible contributory causes of common chronic illness; therefore, measures may be taken in the modern practice of preventive medicine by intervening and interrupting the many chains of circumstance which bind the individual to ill-health and the unfulfilment of his potential for full and effective living. It is not practicable, nor often necessary, to attempt to eradicate all the many possible causes of an illness. At least, alleviation may sometimes be obtained by removal of a single cause. The hopeful (even exciting) and positive prospect before us is that more and more the total environment may be modified through health and social action. Social factors may be modified by social measures. This may come about not only by better housing, cleaner air and safer food, but we are now learning how to improve the psychological environment which affects the lives of people greatly. Today there is a shift in emphasis from the physical to the psychological. Much illness is caused by unhappiness, and health depends much more on happiness than happiness does on health.

Neighbourliness counts as well as the neighbourhood. The happiness or otherwise of personal relationships at home and at work forms an important environmental factor influencing health. As Franklin D. Roosevelt said: 'Today we are faced with the pre-eminent fact that if civilization is to survive, we must cultivate the science of human relationships—the ability of all peoples, of all kinds, to live together and work together, in the same world at peace.' Greater understanding of the psychological make-up of people leads to less likelihood of anxiety and maladjustment. Improved staff training for those in positions of authority, and appreciation generally of the principles of mental hygiene, can help. Various forms of group therapy, informal and attractive methods of health education, and improved social and recreational activities can provide a means whereby men and women can learn to understand the psychological forces within them.

Some Health and Social Changes

Recent advances in public health demand for their understanding an appreciation of the social changes which affect the health of the individual and of the community. Some of the five 'evil giants'—want, disease,

ignorance, squalor, and idleness—have been partially overcome in the course of this century. Comprehensive measures of social security are now available. Recently, there has been a widened scope and a greater speed of public health progress. It is not intended precisely to assess the debits and credits during the passing of the years, but to emphasize some points in the changing picture.

Firstly there has been a great change in the *incidence of infectious disease*, as reflected in the mortality table given below. Even in a period of ten years there has been a reduction in deaths from infectious disease of a percentage of the total number of deaths from 11·5 in 1946 to 6·6 in 1956. The trend is seen even more clearly when comparing the figures for 1956 with those for 1906 when over one-third of the total deaths were deaths from infectious diseases, whereas in 1956 they were less than one-fifteenth.

	Number of deaths	
Infectious disease	1946	1956
Tuberculosis (all forms)	22,391	5,375
Syphilis	2,191	1,374
Typhoid and Paratyphoid	51	7
Dysentery	119	33
Scarlet fever	41	15
Diphtheria	455	8
Whooping-cough	808	95
Cerebro-spinal fever (Meningococcal infection)	489	189
Plague	–	–
Poliomyelitis	116	114
Smallpox	11	–
Measles	203	30
Rubella	1	1
Chicken-pox	9	12
Mumps	6	4
Typhus	–	–
Influenza	5,272	2,626
Pneumonia	19,132	22,371
Enteritis (Gastro-enteritis and Chronic enteritis)	5,083	2,011
Puerperal sepsis	50	8
Total deaths from above infectious diseases	56,428	34,273
Total deaths (all causes)	489,054	521,331
Total population	42,737,000	44,821,000
Infectious diseases (as above) as a percentage of total deaths	11·5	6·6

(Compiled from the Registrar-General's *Statistical Reviews of England and Wales*)

Some Increasing Problems

Many of our enlarging responsibilities spring from the fact of the growth of population and the higher standard of life. There is more

urbanization and industrialization; there are more houses and more wives working, more traffic and more towns; more internal-combustion engines, more chemicals, more artificial fertilizers; more tonics and tranquillizers, more rush and strain, unhealthy stimulation and incitement. There is a greater consumption of alcohol, more women as well as men smoking more cigarettes, more unsatisfying uncreative work, anxiety and fear; there is more competition in keeping up appearances, more search for an easy time, more luxury spending, and a speedier rate of change.

Public health evils are more keenly appreciated today; there is a sharper social consciousness of defect and disease.

Life is more complex as well as far faster.

There is a rise in the general level of education and with greater equality of opportunity. There is wider variety of occupation, and a vastly increased mobility of population.

Families are smaller in size.

In the control of disease, tuberculosis has declined and diphtheria almost disappeared; but chronic diseases like cancer, coronary heart disease, and diabetes are commoner.

People are older on average in age; more old folks must be provided with food, shelter and medical care, with opportunity for occupation if not employment.

Our work cannot escape the impact of these tremendous changes.

Let us examine a few of these changes, one of the most striking of which has been in the *increase of the aged population.* There are three million additional old people compared with fifty years ago. In England and Wales there are five million people over sixty-five, and of these, 1,800,000 are at least seventy-five. Nowadays, nearly ninety-five out of every hundred elderly people are living in their own homes, either alone or with relatives or friends. There is no doubt that this is where they themselves prefer to be, and it is usually only if there is nobody to help and increasing infirmity leads them to give up their independence that they seek admission from their home to a Home. This means inevitably greater pressure on the public health team; the district nurse and the health visitor have the problem of visiting them in their own homes and maintaining as far as possible their health and welfare. In 1956 nearly 12½ million visits were paid to old people by district nurses, this being more than half of the total visits paid during the year, and in addition there were about a million visits by health visitors to the elderly or chronic sick. At the end of 1956 there were 1,200 voluntary old people's welfare committees in England and Wales. Regular visiting is one of the most valuable activities

undertaken, and other services include meals on wheels, night attendance schemes, laundries, chiropody, and social clubs.

Some local authorities have made arrangements for accepting infirm old people temporarily into their welfare homes, to enable relatives or friends who look after them to have a holiday or rest. Temporary relief and support given to relatives is of the greatest value in enabling them to continue to care for their old people for the rest of the year.

Particularly important is the mental health and morale of the old folk. Enemy number one of old age—loneliness—is combated by arranging and fostering visits by relatives and friends and by occasionally initiating and encouraging the joining of various forms of social clubs.

There has been a remarkable increase over the last twenty years in the gainful *employment of women*. There are more than two million more women working today compared with twenty years ago. The fact that nearly 50% of women in employment are married is of the greatest importance in several aspects of modern public health work. At the end of May 1957 the employed population of Great Britain totalled 21,850,000 —14,200,000 men and 7,650,000 women. Of these working women, no fewer than 3,770,000 were married. (These figures exclude widows.) Of those in the age-group 25–29, 59% were married; in the age-group 35–44, 73% were married, whilst at the age of sixty and over, the percentage fell to 39.

In the past, an unmarried daughter helped in the home, and looked after the old folk, but nowadays this seldom occurs. Not infrequently the district nurse, after attending to a bedridden elderly person, has, much to her distress, to leave her patient helpless and alone in the house. Today, in the case of married women, their hours of work and the demands made on their energy may conflict, often seriously, with their home responsibilities as wives and mothers. The effect of this is seen in many ways: the housewife, weary and dispirited, preparing a quick snack instead of good family meals, and she is not there to welcome the children home from school, and to listen to each other's tales of the day's work and play.

Another important change which has several public health implications is that epitomized in the cry heard, 'Granny's gone out to work'. In the past the mature woman could help, for example, in looking after the aged sick or the young children. Nowadays the employment of these older women has meant that such help as was previously given by them in the home may now have to be replaced by someone who is not a member of the family; sometimes the help is not given at all.

We have learned to look beyond the individual, first and foremost to the *family* in which he lives, then to his work and play, and to the home and social background. Experience has taught us, after a vast cost of

futile effort, that we must treat the family, not merely the one member who first appears at the clinic. The proper ascertainment, prevention and treatment of many diseases, from tuberculosis to infestations, must be studied from the standpoint of the family as the unit. In order to build better health for the individual it is necessary to support the interests of the family. Put briefly, that which serves the interests of the family is good, that which harms it is bad.

It is not surprising, therefore, that a recent trend of importance has been the increasing emphasis in the value of *home care*. There is a wave of 'anti-institutionalism' throughout the Western World, not only in the care of children and old folk, but also in people of all ages. The unique place of the mother in the care of her child is now firmly recognized. Except in the rarest of cases, no one can permanently replace her.

There is today an *earlier age of marriage* with greater financial resources possessed by the working couple, cushioned as they are by the Welfare State. There appears to be a higher fertility rate—certainly the prophecy so frequently heard some years ago of a marked decline in the birth-rate has not been realized. There is less fear of unemployment and of want and of social and economic disaster which occasionally afflicted the stability and health of the family.

Much is heard nowadays about the need for *community care*. Here again the emphasis is on keeping patients as far as possible in their home surroundings, bringing health services to people in their homes rather than custodial care in hospital. Particularly is this so of mentally ill and subnormal patients. In very few of these cases is it necessary for patients to sleep in hospital, using the hospital as a hotel or hostel. Why cannot the hostel be in places nearer the patient's work and friends?

More people nowadays ask—Why has this patient to be admitted to hospital? Can he not be kept at home and sent for out-patient care if necessary? Cannot the home nursing services function so as to allow him to live in the community? If the home is not fit, why can it not be made fit? If, for example, the mother is unable to look after her child, can she not be helped? The job of rehabilitation has to be done, it may as well be started straight away, for the patient eventually must return home one day.

A curious and perplexing feature of our life and work today is that social security, better housing, a higher general level of education, and easier living conditions in the post-war years have not apparently lessened the incidence of anxiety states in the people. Included in the causes ascribed for this generalized lack of happiness and serenity are the fear of war, 'keeping up with the Joneses', taxation, heavy financial

commitments consequent upon a much more expensive standard of living for many more people, and the decay in spiritual conviction. Whatever the cause, the diseases which reflect excessive anxiety seem to show a marked increase, although it must be admitted we have no firm statistical evidence. Nervous exhaustion, debility, peptic ulceration, tiredness by day and insomnia by night, headaches without a physical cause, hypertension and emotional disturbances all appear noticeably higher. For some, the receding tide of religion has meant that they have found themselves isolated, the old-time certainties of centuries ago are not so much in evidence, nor have they been replaced. Evidently there are things which cannot be supplied by the Welfare State, or bought on hire purchase.

More persons have a wider (if superficial) knowledge of matters of health and disease than ever before. Television, radio, newspapers and magazines have made the public possibly better informed and certainly much more demanding in knowing more about their 'health' and their illnesses. They demand higher standards of preventive care nowadays. They expect much to be done for them ('They should do something for us'). This makes for more exacting work from the public health team.

An important change affecting public health work has been the general decay of authority, whether it be of the doctor, the teacher, or the parent. There is less respect for tradition and for the authority of leaders and the certainties of centuries ago. The growth of *secularization* has meant that the great mass of the population do not recognize leadership.

There is nowadays a demand for better and more comprehensive care for the *handicapped child*; a recognized mark of civilization is to help the handicapped. It is not now sufficient merely to try to mitigate his handicap, to procure suitable educational facilities, or even to train him for work he can do; it is necessary to do all these and much more—to fit him for full life with all its social, psychological, and economic implications.

During the war there was a relaxation of parental control; it is sad that the standard has not been restored. Although we have witnessed the remedy in some measure of what used to be called (according to authorities such as Sir Alexander Paterson) the main causal factors of crime—poverty and bad housing—there is an ever greater laxity in public and private morals. Official reports show a continued and disquieting increase in all forms of crime. The increase in crimes committed by adolescents for the year 1957 was nearly one-third higher than the previous year, which in itself was substantially higher than in earlier years.

We are in the midst of a change of thought on the problems of the proper upbringing of children, and the craze of 'don't thwart him' has been

responsible for much laxity in the application of reasonable discipline to children.

A Review of Priorities

One of the most significant administrative changes of recent years has been the necessity of a review of priorities in public health work. We cannot 'do everything', nor can we do it all at once. In view of the potential demand of the people for various health services and of the limitations of time, skill of staff, and of money needed wherewith to provide them, it has been necessary to try to weed out less productive work and out-of-date prodecures.

There has been a recognition of new and disquieting problems—for example, of cancer rather than of communicable disease, of neuroses and psychoses in the population. These are immense problems, hence it is of supreme importance to make the best possible use of the time and skill of highly trained staff. Opportunity is therefore now taken of the principles of delegation of duties, deployment, and dilution. All methods of helping staff to attain their maximum usefulness are increasingly used; to name but two examples—greater mobility through the provision of transport, and the provision of auxiliary helpers.

In-service training is provided in progressive authorities not merely by the provision for attendance at refresher courses, but internally by a system of training of post-qualification students. Opportunities of promotion by means of appointment to specialist posts with increased prestige and remuneration are offered by some authorities. Specialist health visitors and specialist public health inspectors are chosen by reason of their aptitude, knowledge, and experience. They all continue to take part in a small amount of district work, but their chief function is to advise upon, and sometimes deal with, difficult problems referred by general staff, and to give guidance and encouragement to junior staff. Special attention is now being given to key workers such as the home helps who have often been neglected in training schemes. Such workers need to be made to feel that they are essential members of the health team; they should know of various health services which minister to the needs of the people with whom they come in contact.

But we must close our brief and superficial survey of the trends of today by recalling that public health work, conceived in fear of pestilence, was once concentrated entirely on the removal of environmental evils. It has grown from an attack on insanitation, through the bacteriological era and the narrowness of notifiable disease, to a campaign for full health. The achievement of health will help the individual in the supreme aim of the pursuit of happiness and the good life. Admittedly, many of the factors