BIBLIOGRAPHY

Abramson, J.H. (1982).
Regionalisation of health services in Israel: health indicators for measuring the health status of a region.
Israel Journal of Medical Sciences, 18(3), pp 411-3.

Alderson, M.R. (1976).
Indicators of need, demand and use.
In Acheson, R.M., Hall, D.J. and Aird, L. (eds).
Seminars in community medicine: health information planning and monitoring.
Vol.2, pp29-46 Oxford University Press.

Amonoo-Lartson, R. and De-Vries, J.A. (1981).
Patient care evaluation in a primary health care programme: the use of tracer conditions as a simple and appropriate technology in health care delivery.
Social Science and Medicine 15(5), pp 735-41.

Bangladesh Bureau of Statistics (1982).
1982 Statistical Yearbook of Bangladesh.
Dacca.

Bangladesh Bureau of Statistics (1984).
1983-84 Statistical Yearbook of Bangladesh.

Baylet, R. (1979).
The selection of health indicators under specific working conditions in developing countries.
World Health Organisation.
WHO/HS/NAT.COM/79.361.

Benyoussef, A., Wessen, A.F., Phan-Tan, T. and Souissi, H. (1974).
Health services: coverage, factors and indices of utilisation.
Bulletin of WHO, 51(2), pp 111-32.

Bergner, M. (1985).
Measurement of health status.
Medical Care, 23(5), pp 696-704.

Bergner, M., Bobbitt, R.A., Kressel, S., Pollard, W.E., Gilson, B.S. and Morris, J.R. (1976).
Sickness impact profile: conceptual formation and methodology for the development of a health status measure.
In Elinson, J. and Siegmann, A.E. (eds).
Socio-medical Health Indicators pp 9-31.
Baywood Publishing Company.

Bice, T.W. (1976)
Comments on health indicators: methodological perspectives.
International Journal of Health Services, 6(3), pp 509-29.

Billewicz, W.Z. and McGregor, I.N. (1981).
Demography of two West African (Gambian) villages,1951-75.
Journal of Biosocial Science,pp 251.

Brass, W. and Macrae, S. (1984).
Childhood mortality estimated from reports on previous births given by mothers at the time of a maternity. I Preceding births technique.
Asian and Pacific Census Forum, 11(2), pp. 5-8.

Breslow, L. (1972).
A quantitative approach to the WHO definition of health: mental, physical and social well-being.
International Journal of Epidemiology, 1, pp 347-355.

Breslow, L. (1985).
The case of cardio-vascular disease.
In Vallin, J. and Lopez, A.D. (eds).
Health Policy, Social Policy and Mortality Prospects.

Brown, J.H., Kazis, L.E., Spitz, P.W., Gertman, P., Fries, J.F. and Meenan, R.F. (1984).
The dimension of health outcomes: a cross validated examination of health status measurement.
American Journal of Public Health, 74(2), pp 159-61.

Brunswick, A.S. (1976).
Indicators of health status in adolescence.
In Elinson, J. and Siegmann, A.E. (1976).
Socio-medical Health Indicators, pp 109-125.
Baywood Publishing Company.

Carlson, B. (1985).
The potential of national household survey programmes for monitoring and evaluating primary health care.
World Health Statistics Quarterly, 38(1), pp 38-64.

Carter, J. (ed.) (1981).
Pacific Island Yearbook.
14th edition.

Casley, P.J. and Lury, D.A. (1981).
Data Collection in Developing Countries.
Oxford University Press.

Catford, J.C. (1983).
Positive health indicators: a new information base for health promotion.
Community Medicine, 5(2), pp 125-32.

Cerkovnij, G., Murnaghan, J.H., Schminke, W. and Sokolov. (1979).
The organisational or hierarchical approach.
In Holland, W.W. et al.
Measurement of Levels of Health, pp 93-103.

Chiang, C.L. and Cohen, R.D. (1973).
How to measure health: a stochastic model for an index of health.
International Journal of Epidemiolgoy, 2(1), pp 7-13.

Cochrane, A.L., Leger, A.S. and Moore, F. (1978).
Health services "input" and mortality "output" in developed countries.
Journal of Epidemiology and Community Health, 32, pp 200-5.

Commonwealth Secretariat (1980).
Special health problems of island developing and other specially disadvantaged countries.
Report of an expert group.

Commonwealth Secretariat (1984).
Seventh Commonwealth Health Ministers Report.
Ottawa, Canada, 2-7th October 1983.

Cholera Research Laboratory (1978).
Demographic surveillance system-MATLAB.
Vol.1. Methods and procedures.
Dacca, Bangladesh. Scientific Report No.9.

Chowdhury, K.M.A., Aziz, K.M.A. and Sheikh, K. (1981).
Demographic Studies in Bangladesh.
May 1969 - April 1979 ICDDR-B Working Paper.

Culyer, A.J. (ed) (1983).
Health Indicators. An International Study for the European Science Foundation.
Martin Robertson & Co. Ltd.

Culyer, A.J., Lavers, R.J. and Williams, A. (1971).
Social indicators: health.
Social Trends, 2, pp 31-42.

Davies, M. (1985).
Sierra Leone: First Semi-Annual Report.
Jan-June 1985.
WHO Offices, Freetown.

Deliege, E.A. (1983).
Indicators of physical, mental and social well-being.
World Health Statistics Quarterly, 36, pp 349-393.

Dowler, E.A., Payne, P.R., Seo, Y.O., Thomson, A.M., and Wheeler, E.F. (1982).
Nutritional status indicators: interpretation and policy making role.
Food Policy, May 1982, pp 99-112.

D'Souza, S. (1984).
Population laboratories for studying disease processes and mortality: the demographic surveillance system, MATLAB.
In Vallin, J., Pollard, J.M. and Heligman, L. (eds).
Methodologies for the collection and analysis of mortality data.
IUSSP, Ordina.

Elinson, J. (1976).
Introduction to the theme: socio-medical health indicators.
International Journal of Health Services, 6(3), pp 385-91.

Elinson, J. and Siegmann, A.E. (eds) (1976).
Socio-medical Health Indicators.
Baywood Publishing Company.

Erickson, P. (1976).
Objectives and organisation of the Clearinghouse for Health Indexes in the National Center for Health Statistics. USA.
World Health Statistics Report, 29, pp 140-3.

Essex, B. (1980).
Diagnostic Pathways in Clinical Medicine.
2nd Ed. Churchill Livingstone.

Fanshel, S. and Bush, J. (1970).
Health status index and its application to health services outcome.
Operations Research, 18, pp 1021-53.

Fleiss, J.L. (1981).
Statistical Methods for Rates and Proportions.
2nd Ed. Wiley, N.Y.

Gambian Government (1981).
Medical and Health Department Annual Report.

Ghana, Ministry of Health, Ghana Health Assessment Project Team. (1981).
Quantitative method of assessing the health impact of different diseases in less developed countries.
International Journal of Epidemiology, 10(1), pp 73-80.

Goldacre, M.J. and Griffin, K. (1983).
Performance indicators: a commentary on the literature.
Unit of Clinical Epidemiology, University of Oxford.

Goldberg, M., Dab, W., Chaperon, J., Fuhrer, R. and Gremy, F. (1979).
Indicateurs de sante et "Sanometrie": les aspects conceptuels des recherches recentes sur la mesure de l'etat de sante d'une population.
Revue Epidemiologic et Sante, 27, pp 51-68 and 133-52.

Goldsmith, S.B. (1972).
The status of health status indicators.
Health Services Reports, 87, pp 213.

Grogono, A.W. and Woodgate, D.J. (1971).
Index for measuring health. Lancet, 2, pp 1024.

Hansluwka, H.E. (1985).
Measuring the health of populations: indicators and interpretations.
Social Science and Medicine, 20(12), pp 1207-24.

Haro, A.S. (1979).
Stategies for the development of health indices.
In Holland, W.W. et al.
Measurement of Levels of Health, pp 17-34.

Heinekan, P.A., Charles,G., Stimson, D.H., Wenell, C. and Stimson, R.H. (1985).
The use of negative index of health to evaluate quality of care in primary care group practice.
Medical Care, 23(3), pp 198-208.

Hill, A.G. and Graham, W.J. (1986).
A comparitive review of the sources of mortality and morbidity data in four West African countries.
Committee on mortality research, International Development Research Centre of Canada.

Hill, A.G. and Macrae, S. (1985).
Measuring Childhood Mortality Levels: a new approach.
UNICEF Social Statistics Bulletin.
A publication of the Eastern and Southern African Regional Office, 8;2.

Hirschman, J.M. (1979).
Health problems of small states: The design of appropriate health delivery systems for islands of the Pacific and Indian Oceans.
Paper presented for the 1979 Development Studies Centre seminar series "The Islands of the Pacific and Indian Oceans: Anatomy of Development".
Australian National University.

Holland, W.W. (ed) (1983).
Evaluation of Health Care.
Sponsored by the Commission of the European Communities.
Oxford University Press.

Holland, W.W., Ipsen, J. and Kostrzewski, J. (1979).
Measurement of Levels of Health.
World Health Organisation Regional Publications European Series No.7.

Hunt, S.M., McEwan, J. and McKenna, S.P. (1985).
Measuring health status: a new tool for clinicians and epidemiologists.
Journal of the Royal College of General Practitioners, 35(273), pp 185-8.

Hull, H.F., Williams, P.J., and Oldfield, F. (1983).
Measles mortality and vaccine efficacy in a West Afican population.
Lancet, 1983, pp. 972-975.

Jazairi, N.T. (1976).
Approaches to the Development of Health Indicators.
OECD Social Indicator Development Programme Special Studies No.2.

Kalimo, E. and Rabin, D.L. (1976).
Relationship among indicators of morbidity: cross national comparisons.
Journal of Chronic Diseases, 29, pp 1-14.

Kaprio, L.A. (1981).
Health for All: need for new health indicators.
Paper presented at the 1981 Conference of International Epidemiological Association, Edinburgh, 20th August 1981.
ICP/SPM 043 (2).

Katz, S., Ford, A.M., Moskowitz, R.W., Jackson, B.A. and Jaffe, M.W. (1963).
The index of ADL: a standardised measure of biological and psychosocial function.
Journal of the American Medical Association, 185, pp 914-9.

Kelman, H.R. (1976).
Evaluation of health care quality by consumers.
In Elinson, J. and Siegmann, A.E.
Socio-medical Health Indicators, pp 63-71.

Khan, A.K., Jahan, F.A., Begun, S.F. and Jalil, K. (1985).
Maternal mortality in rural Bangladesh.
World Health Forum, 6, pp 325-328.

Kleinbaum, D.G., Kupper, L.L. and Morgenstern, H. (1982).
Epidemiological Research: Principles and Qualitative Methods.
Lifetime Learning Publications, California.

Kohn, R. (1975).
An objective mortality indicator.
Canadian Journal of Public Health, 42, pp 375.

Kpedekpo, G.M.K. (1982).
Essentials of Demographic Analysis.
Heinmann.

Lemashaw, S. and Robinson, P. (1985).
Surveys to measure programme coverage and impact: a review of the methodology used by the Expanded Programme on Immunization.
World Health Statistics Quarterly, 38,1, pp.65-75.

Leowski, J. (1978).
Review and analysis of health and health-related indicators with emphasis on indicators for primary health care.
WHO/HS/NAT.COM/78/357.

Logan, W.P.D. (1977).
World health-related indicators.
World Health Statistics Report, 29(12), pp 682-97.

MacMahon, B. and Pugh, T.F. (1970).
Epidemiology: Principles and Methods.
Little Brown, Boston.

Macrae, S. (1979).
Birth notification data as a source of basic demographic measures; illustrated by specific application to the study of childhood mortality in the Solomon Islands.
Ph.D thesis, London School of Hygiene and Tropical Medicine.

Malaysia, 1984.
Official Yearbook, Vol.22.
Department of Information, Ministry of Information.

Martini, C.J.M., Allan, G.J.B., Davison, J. and Backett, E.M. (1976).
Health indexes sensitive to medical care variation.
In Elinson, J. and Siegmann, A.E. (eds).
Socio-medical Health Indicators, pp 145-61.
Baywood Publishing Company.

Martorell, R. (1982).
Nutrition and health status indicators: suggestions for surveys of the standard of living in developing countries.
Working paper No.13, Living Standards Measurement Study. World Bank, Washington D.C.

McCuster, J. and Stoddard, A.M. (1984).
Use of a surrogate for the sickness impact profile.
Medical Care, 22(9), pp 789-95.

Medical and Health Department - The Gambia (1981).
Annual Report 1982.
Gambian Government.

Miller, J.E. (1970).
An indicator to aid management in assigning programme priorities.
Public Health Reports, 85, pp 725-31.

Miller, J.E. (1973).
Guidelines for selecting a health status index: suggested criteria.
In Berg, R.L. (ed).
Health Status Indexes.
Hospital Research and Education Trust, Chicago.

Ministry of Health and Medical Services - Solomon Islands.
(MHMS-SI) (1982).
Annual Report 1982.

Ministry of Health and Medical Services - Solomon Islands.
(MHMS-SI) (1985).
Report on evaluating progress in implementing the strategies for Health for All by the Year 2000.

Ministry of Health, Labour and Social Welfare.
(MHL&SW) (1985).
Primary Health Care Review, Gambian Government.

Ministry of Health and Population Control (Bangladesh).
(1985).
Evaluating the strategies for Health for All by the Year 2000 using a common framework and format: Bangladesh Country Report.
WHO/SEA/HSD/80.

Ministry of Health - Sierra Leone.
(MOH-SL) (1981).
The Health Services of Sierra Leone.
Ministry of Health Report No.66.

Ministry of Health - Sierra Leone.
(MOH-SL) (1984).
Primary Health Care National Action Plan.

Ministry of Health - Sierra Leone.
(MOH-SL) (1985).
National report on the outcome of evaluating national strategies for Health for All by the Year 2000, for the period 1978-1984.

Moriyama, I.M. (1968).
Problems in the measurement of health status.
In Sheldon, E.B. and Moore, W.E. (eds).
Indicators of Social Change.
Russell Sage Foundation, New York, pp 573-600.

Mosley, W.H. (1985).
Will primary health care reduce infant and child mortality? A critique of some current strategies, with special reference to Africa and Asia.
In Vallin, J. and Lopez, A.D. (eds) (1985).
Health Policy, Social Policy and Mortality Prospects.

Mosse, P. (1983).
Multi-dimensionality of health indicators: the French discussion.
In Culyer, A.J. (ed).
Health Indicators pp 82-90.

Murnaghan, J.H. (1978).
Uniform basic data sets for health statistical systems.
International Journal of Epidemiology., 7(3), pp 263-9.

Murnaghan, J.H. (1981).
Health indicators and information systems for the year 2000.
Annual Review of Public Health, 2, pp 299-361.

Musgrove, P. (1984).
Welfare indicators and health: the selection and use of socio-economic indicators for monitoring and evaluation.
Bull. Pan, Am. Health Organ., 18(1), pp.69-79.

Noordin, R.A. (ed) (1979).
Development of Operational, Performance and Impact Indicators, with special reference to community health.
Proceedings of the 6th SEAMIC workshop, Kuala Lumpur, Malaysia, 13-19th Feb. 1979.
SEAMIC Publication NO.17, 1979, South East Asian Medical Centre, Tokyo.

Nord-Larsen, M. (1983).
What kind of health measure for what kind of purpose?
In Culyer, A.J. (ed).
Health Indicators, pp 101-4.

Okoye, C.S. (1980).
Mortality levels and differentials in Sierra Leone. An analysis of the mortality data from the 1974 population census.
Census Analysis Volume No.2. Central Statistics Office.

Organization for Economic Cooperation and development (1973).
List of Social Concerns Common to Most OECD Countries.
Paris.

Organization for Economic Cooperation and Development (1982).
The OECD list of social indicators.
The OECD Social Indicator Development Programme, No.5.

Palloni, A. (1985).
Health conditions in Latin America and policies for mortality change.
In Vallin, J. and Lopez, A.D. (eds) (1985).
Health Policy, Social Policy and Mortality Prospects.

Palmore, J.A. (1971).
Measuring Mortality: A self-teaching guide to elementary measures.
East-West Population Institute, Honolulu.
Report No.15.

Patrick, D. and Guttmacher, S. (1983).
Socio-political issues in the use of health indicators.
In Culyer, A.J. (ed).
Health Indicators, pp 165-73.

Payne, P. (1985).
Appropriate indicators for project design and evaluation.
UNICEF/WEP Workshop on Food Aid and the Well-being of Children in the Developing World.

Radford, A.J. (1978).
Village-based health and medical care resources.
In Hetzel, B.S. (ed).
Basic health care in developing countries: an epidemiological perspective, pp 146-69.
Oxford University Press.

Ramachandran, L. (ed) (1967).
Developing indices for the evaluation of health services.
Indian Journal of Public Health, 11(1), pp 34-4.

Republic of Sierra Leone and the Federal Republic of Germany, (1985).
Bo-Pujehun Rural Development Project.
Health and Nutrition Programme. Plan of operation.

Romeder, J.M. and McWhinnie, J.R. (1977).
Potential years of life lost (PYLL) between ages 1 and 70: an indicator of premature mortality for health planning.
International Journal of Epidemiology, 6(2), pp 143-51.

Ross, D.A. and Vaughan, J.P. (1984).
Health Interview Surveys in Developing Countries.
Evaluation and Planning Centre, London School of Hygiene and Tropic Medicine.

Rosser, R. (1983).
Issues of Measurement in the Design of Health Indicators: A Review.
In Culyer, A.J. (ed) (1983).
Health Indicators.

Schaefer, H. (1976).
Der Krankheitsbegrif.
Quoted in Schroeder (1983).

Schroeder, E. (1983).
Concepts of health and illness.
In Culyer, A.J. (ed).
Health Indicators, pp 23-33.

Sharma, H.R. (1974).
Identification of problems in the existing national statistics system.
International Statistical Review, 42.

Siegmann, A.E. (1976).
A classification of socio-medical health indicators: perspectives for health administrators and health planners.
In Elinson, J. and Siegmann, A.E. (eds).
Socio-medical Health Indicators. pp 197-211.
Baywood Publishing Company, New York.

Sierra Leone and USAID (1978).
Sierra Leone national nutrition survey.

Solomon Islands - Statistics Office (1982).
1982 Statistical Yearbook.
Statistics Office, Ministry of Finance.

Stouman, K. and Falk, I.S. (1936).
A study of the objective indices of health in relation to environment and sanitation.
Quarterly Bulletin of the Health Organisations, 5, pp 901-66.
League of Nations.

Sullivan, D.F. (1973).
A single index of mortality and morbidity.
HMSHA Health Reports, pp 347-55.

Sundaresan, T.K. (1984).
Statistical Procedures for Evaluation and Monitoring Leprosy Control Programmes.
WHO/HS/NAT.COM/84.338.

Uhde, A. (1983).
The Need for Health Indicators.
In Culyer, A.J. (ed) (1983).
Health Indicators.

United Nations (1983a).
Demographic Yearbook, 1983.
UN.ST/ESA/STAT/SER.R/13.

United Nations (1984a).
Future Directions of the Work on Social Indicators.
Special Issues. EICN. 3/1985/3. New York.

United Nations Children's Fund - Sierra Leone (1985).
Annual Report.
Freetown.

United Nations Fund for Population Activities.
(UNFPA-B) (1978).
Bangladesh: Report of Mission on Needs Assessment for Population Assistance.
Report No.6.

United Nations Fund for Population Activities.
(UNFPA-M) (1979).
Malaysia: Report of Mission on Needs Assessment for Population Assistance.
Report No.10.

United Nations Fund for Population Activities.
(UNFPA-SI) (1981).
Solomon Islands: Report of Mission on Needs Assessment for Population Assistance.
Report No.43.

United Nations Fund for Population Activities.
(UNFPA-SL) (1984).
Sierra Leone: Report of Mission on Needs Assessment for Population Assistance.
Report No.66.

United Nations Secretariat (1979).
Prospectus: The National Household Survey Capability Programme.
UN/ST/ESA/STAT.92/Rev.1/15
New York.

United Nations Statistical Office (1978).
Social Indicators: Preliminary Guidelines and Illustrative Series.
UN/ST/ESA/STAT/Ser.F/24.
New York.

United Nations Statistical Office (1981).
Progress Report on National and International Work on Social Indicators.
UN/ST/ESA/STAT/102.
New York.

United Nations (1983).
Indirect Techniques for Demographic Estimation.
Manual X.
UN/ST/ESA/SER.A./81.

United Nations (1984).
Data Bases for Mortality Measurement.
UN/ST/ESA/SER.A./84.

United States (1973). Department of Health and Human Services.
Clearinghouse on Health Indexes.
United States DHSS, Hyattsville.

Vallin, J., Pollard, J.M. and Heligan, L. (eds) (1984).
Methodologies for the Collection and Analysis of Mortality Data.
IUSSP, Ordina.

Vallin, J. and Lopez, A.D. (eds) (1985).
Health Policy, Social Policy and Mortality Prospects.
IUSSP, Ordina.

Walsh, J.A. and Warren, K.S. (1979).
Selective primary health care: an interim strategy for disease control in developing countries.
New England Journal of Medicine, 301, pp 967-74.

Ware, J.E. (1976).
Scales for measuring general health perceptions.
Health Services Research, 11, pp 464-77.

World Bank (1980).
The Solomon Islands - An Introductory Economic Report.

World Bank (1984).
World Development Report 1984.

World Health Organisation. (1967).
National Health Planning in Developing Countries.
WHO Technical Report Series No.350.

World Health Organisation. (1971).
Statistical Indicators for Planning and Evaluation of Public Health Programmes.
WHO Technical Report Series No.472.

World Health Organisation. (1976).
Statistical Indices of Family Health: Report of a WHO Study Group.
WHO Technical Report Series No.587.

World Health Organisation. (1978).
Alma-Ata 1978: Primary Health Care.
Health for All Series No.1, Geneva.

World Health Organisation. (1979a).
Regional Seminar on Indicators Relevant to Maternal and Child Health.
WHO Regional Office for Western Pacific, Manilla.

World Health Organisation. (1979b).
Reporting, processing and using data generated from non-hospital health and medical records.
WHO/HS/NAT.COM/79.364.

World Health Organisation. (1980a).
National Health Information Systems: Guiding Principles.
WHO/NHIS/80.1 Rev.1.

World Health Organisation. (1980b).
Vital and Health Statistics - African Region.
WHO/HS/NAT.COM.80.367.

World Health Organisation. (1981a).
Development of Indicators for Monitoring Progress Towards Health for All by the Year 2000.
Health for All Series, No.4.

World Health Organisation. (1981b).
Information and Health: Report of a Working Group, Luxembourg.
ICP/INF 001. Copenhagen.

World Health Organisation. (1981c).
The Use of Health Indicators.
Report on a workshop, 10-14th Nov. 1980, Brussels.
ICP/SPM 043, Copenhagen.

World Health Organisation. (1982).
How Many by 2000: Counting Births and Deaths.
WHO/HS/NAT.COM/82.375.

World Health Organisation and Republic of Sierra Leone. (WHO-SL) (1982).
Malaria Control Profile in Sierra Leone.

World Health Organisation - South-East Asian Region (WHO/SEARO) (1983).
Bulletin of WHO South-East Regional Health Information.

World Health Organisation. (1983).
Review of some WHO activities in health statistics, epidemiological surveillance and related fields during 1982.
WHO/HS/NAT.COM/83.358.

World Health Organization. (1983a).
Minimum Evaluation Procedure for Water Supply and Sanitation Projects.
WHO/CDD/OPR/83.1.

World Health Organisation. (1983b).
WHO Meeting on Maternal and Child Health Indicators for Health for All by 2000: Evaluation of Alternatives.
WHO/HS/NAT.COM/83.383.

World Health Organisation. (1983c).
Measuring Change in Nutritional Status.
Guidelines for assessing the nutritional impact of supplementary feeding programmes for vunerable groups.
Geneva.

World Health Organisation. (1985).
Health Surveys.
World Health Statistics Quarterly, 38(1).

World Health Organisation. (1985a).
Report of an informal working group on the evaluation of health effectiveness and impact, 17-28 June 1985, Geneva.
DES/EI/85.1 Draft.

World Health Organization. (1985b).
Measuring the Impact of Water Supply and Sanitation Facilities on Diarrhoea Morbidity: Prospects for Case-Control Methods.
WHO/CDD/OPR/85.1.

World Health Organisation Regional Office for Africa (WHO/AFRO) (1985).
Development and use of indicators for monitoring and evaluation of strategies for HFA/2000.
Group Briefing, Brazzaville, Nov. 1985.
AFR/PHA/224.

APPENDIX I

LIST OF LIBRARY SOURCES

Birkbeck College,
Malet Street,
London, WC1E 7HX.

British Library of Political and Economic Science,
Portugal Street,
London, WC2.

British Red Cross,
9, Grosvenor Crescent,
London, SW1X 7EJ.

Commonwealth Institute,
Kensington High Street,
London, W8.

Commonwealth Secretariat,
10, Carlton House Terrace,
and
58, Quadrant House,
Pall Mall,
London, SW1.

Institute of Child Health,
30, Guildford Road,
London, WC2.

Institute of Commonwealth Studies,
Queen Elizabeth House,
St. Giles,
Oxford.

International Planned Parenthood Federation (IPPF),
Regent's College,
Inner Circle,
Regent's Park,
London, NW1 4NS.

London School of Economics and Political Science,
Haughten Street,
London, WC2.

London School of Hygiene and Tropical Medicine,
Keppel Street, (Gower Street),
London, WC1E 7HT.

Rhodes House,
University of Oxford,
South Parks Road,
Oxford.

School of Oriental & African Studies,
Malet Street,
London, WC1.

University College of London,
Gower Street,
London, WC1E 6BT.

University of London,
Senate House,
Malet Street,
London, WC1E 7HU.

World Health Organization - Headquarters,
Geneva,
Switzerland.

APPENDIX II

London School of Hygiene and Tropical Medicine
(University of London)

Working Group on Health Impact Assessment

Assessment of the impact of health programmes and interventions in the developing countries has become a subject of growing interest and importance over the past few years. the need for simple and low-cost methods has been expressed by national governments and by the international agencies, and is seen as a priority in monitoring progress towards the goal of Health for All by the Year 2000. Advances in the area of impact assessment are dependent on the integration of expertise from many different disciplines within the social as well as the medical sciences. The London School of Hygiene and Tropical Medicine is able to offer a high level and probably unique range of such expertise. Although the different Departments within the School have long been involved in projects relevant to health impact assessment, a new initiative has been launched recently to systematically bring this experience together.

The Working Group on Health Impact Assessment was set up in the London School of Hygiene and Tropical Medicine in September 1985. The aims of the Group are to provide a focus, both within the School and in collaboration with outside agencies, for research, training and advice on methods for measuring the impact of health interventions.

The emphasis is on the development of simple techniques which can be added to existing health information systems and on appropriate study designs. The Working Group provides a forum for the exchange of ideas through regular meetings, seminars, publications, and a research register, and is holding a workshop in January 1987 on measurement and assessment in health and nutrition interventions. Formation of the Working Group means that the School as a whole is able to respond to requests from governments and international agencies for specific pieces of work. Examples of recent and forthcoming projects involving members of the Working Group include:

- health interview surveys in Turkey, mali, Algeria and Ethiopia;
- assessment of the health and nutrition impact of the urban health care services in Indonesia;
- case control methods in diarrhoea control evaluation;
- evaluation of home oral rehydration programme in Bangladesh;
- field trial of a new method for estimating child mortality in Mali;
- case control study of the efficacy of measles vaccination in Brazil;
- review of sources of data on mortality and morbidity in the four West African countries of Mali, Senegal, Sierra Leone and The Gambia.

The membership of the Working Group is flexible and designed to reflect the wide variety of interests and skills in this area within the School and to respond to the needs of specific projects and proposals. A core group of individuals, shown below, form a Steering Committee for the work of the wider Group:

Professor David Bradley,
Department of Tropical Hygiene.

Professor William Brass,
Department of Medical Demography.

Dr Richard Feacham,
Department of Tropical Hygiene.

Dr Wendy Graham, (co-ordinator),
Department of Medical Demography.

Dr Allan Hill,
Department of Medical Demography.

Mr Philip Payne,
Department of Human Nutrition.

Dr Peter Smith,
Tropical Epidemiology Unit.

Dr Andrew Tomkins,
Department of Human Nutrition.

Dr Patrick Vaughan,
Evaluation and Planning Centre.

APPENDIX III

TABLE A

Health status indicators, and useful classifying variables, proposed by United Nations Statistical Office.

Indicator	Classifying variables
1. Mortality and length of life.	
a) Number or rates of death (annually; some classifications less frequently).	Sex, age, urban, rural, national or ethnic origin, causes of death, socio-economic group.
b) Expectation of life, selected ages, (annually or less frequently).	Sex, age, urban, rural, national or ethnic origin; socio-economic group.
2. Morbidity, impairments and handicaps.	
a) Spells of bed disability and restricted activity for specified periods (annually or less frequently).	Sex, age, urban, rural, national or ethnic origin, diseases and injuries, (broad and/or selected groups), socio-economic group.
b) Duration of spells of bed disability and restricted activity for specified period (annually or less frequently).	Sex, age, urban, rural, diseases and injuries, (broad and/or selected groups), socio-economic group.
c) Number and proportion of persons with selected chronic functional disabilities for specified period (annually or less frequently).	Sex, age, urban, rural, national or ethnic origin, impairments and handicaps, socio-economic group.
d) Number and/or incidence of selected communicable diseases of public health importance, (annually).	Sex, age, urban, rural, geographical area, selected diseases.

(Source: UNSO, 1978).

TABLE B

Health status indicators, by principal sources of data, proposed by the World Health Organization.

Indicators	Possible Sources of Data					
	Vital events register	Population and household censuses	Routine health service records	Epidemiological surveillance data	Sample surveys	Disease registers
*Birth weight	P	-	-	-	A	-
*Weight & height	-	-	P	A	A	-
Arm circumference	-	-	P	A	A	-
*Infant mortality	P	P	-	A	-	-
Child mortality	P	P	-	-	A	-
Under-5 mortality	P	P	-	-	A	-
Under-5 proportionate mortality	P	-	-	-	A	-
Life expectancy at given age	P	P	-	-	A	-
Maternal mortality	P	P	P	-	-	A
Crude birth rate	P	P	-	-	A	-
Disease-specific death rates	P	-	P	P	A	A
Proportionate mortality from specific disease	P	-	P	P	A	A
Morbidity:						
incidence rate	-	-	P	P	A	P
prevalence rate	-	-	P	P	A	P
Prevalence of long-term disability	-	-	P	-	A	-

Source: WHO, 1981a.

P = Primary source,
A = Alternative source,
* = Global indicator.

TABLE C

Health status indicators for measuring impact and effectiveness at different levels, drafted by WHO Informal Working Group (1985).

Level	Indicator
Local Health Area	1. Probability of dying by age 2 years
	2. % of infants with birth weights < 2500g
	3. Weight for age 12-23 months
	4. Measles cases
	5. Measles vaccine efficacy
	6. Number of cases with severe dehydration
	7. % severe dehydration among diarrhoea cases
Regional	1. Probability of dying by age 2 years
	2. % of infants with birth weights < 2500g
	3. Weight for age 12-23 months
	4. Neonatal tetanus mortality
	5. Measles morbidity
	6. Poliomyelitis morbidity
	7. Number of cases with severe dehydration
	8. % severe dehydration among diarrhoea cases
	9. Diarrhoea case fatality
	10. ALRTI case fatality
	11. Malaria mortality
National	1. Birth rate
	2. Infant mortality
	3. Child mortality
	* 4. Life expectancy at birth
	5. % of infants with birth weight < 2500g
	6. Weight for age 12-23 months
	7. Maternal mortality
	8. Measles cases prevented
	9. Neo-natal tetanus mortality
	10. Poliomyelitis morbidity
	11. Diarrhoea mortality
	12. ALRTI mortality
	13. Malaria mortality
International	1. Birth rate
	* 2. Infant mortality
	3. Child mortality
	4. Life expectancy at birth
	* 5. % of infants with birth weight < 2500g
	* 6. Weight for age 12-23 months
	7. Maternal mortality
	8. Measles cases prevented
	9. Neo-natal tetanus mortality
	10. Poliomyelitis morbidity
	11. Diarrhoea mortality
	12. ALRTI mortality
	13. Malaria mortality

*Global Indicator

Source: WHO, 1985a (Draft).

TABLE D

Health status indicators recommended for use by selected WHO Regional Offices

Indicator	WHO Regional Office			
	Eastern Mediterranean	European	American	Western Pacific
Life expectancy at birth separately for males and females	Y	-	-	-
Life expectancy at ages 1, 15, 35 & 65 by sex	-	Y	-	-
Maternal mortality	Y	Y	Y	Y
Mortality rates by sex & 5-year age groups for 10 selected causes of death	-	Y	-	-
General mortality by cause & age	-	-	Y	-
Mortality from chronic diseases by cause	-	-	Y	-
Mortality for EPI diseases	-	-	Y	-
Incidence of EPI diseases	-	-	Y	-
Annual incidence rate of each of the 6 EPI target diseases for the most recent 5 years	Y	-	-	-
Latest available data on the annual number of cases of diptheria, tetanus, whooping cough, measles, poliomyelitis or tuberculosis	-	-	-	Y
Incidence of infectious diseases	-	Y	-	-

TABLE D (continued)

Health status indicators recommended for use by selected WHO Regional Offices

Indicator	WHO Regional Office			
	Eastern Mediterranean	European	American	Western Pacific
Morbidity (prevalence and/ or incidence from chronic diseases)	-	-	Y	-
Number of disability days per person per year by level of restriction	-	Y	-	-
Percentage of population experiencing different levels of long-term disability, by age & sex	-	Y	-	-
Persons incapacitated by accidents	-	-	Y	-
Number of working days lost per person, per year, due to disease or injury	-	Y	-	-
Incidence of certified occupational diseases	-	Y	-	-
Incidence of injury purposely inflicted by other persons disaggregated if possible by type of injury, including rape and child battery	-	Y	-	-
Proportion of children having a weight-for-age in relation to reference values at entrance to primary school	Y	-	-	-

Source: Adapted from Hansluwka (1985).

TABLE E

National health status indicators used by the Bangladesh Ministry of Health and Population Control.

Indicator	Disaggregated by
Weight-for-height ('Harvard Standard')	Sex, age groups 0-4 and 5-14 years
Infant mortality rate	-
Life expectancy at birth	-
Fifteen major causes of death as a %age of all causes	-
Proportionate mortality from specific diseases	Age groups 0-28 days, 29 days- <1 yr, 1- <2 yrs, 2- <5 yrs, 0-5 yrs.
Maternal mortality rate	-
Percentage distribution of major causes of morbidity	-

Source: Ministry of Health and Population Control, Bangladesh (1985).

APPENDIX IV

ANNOTATED BIBLIOGRAPHY

Baylet, R. (1979).

The selection of health indicators under specific working conditions in the developing countries.
World Health Organization WHO/HS/NAT.COM/79.361

This short practical document describes some of the steps and decisions involved in the selection of health indicators for particular country settings. Consideration is given to the assessment of information needs, the use of 'ready made' as opposed to 'made-to-measure' indicators. The contradiction between what is desirable and what is feasible in a particular setting is emphasised.

Bice, T.W. (1976).

Comments on health indicators: methodological perspectives.
International Journal of Health Services, 6(3), pp 509-29.

The author discusses several conceptual and methodological problems in the development and use of health indicators. He observes that the quest for elegant mathematical formulations, and the tendency to conceptualize "health" in terms of expansive definitions, retard progress towards producing information useful in decision making. To improve the utility of such information the author recommends that health indicators should measure variables specified by a social system model and be scaled according to units that are relevant to decision-making criteria.

Catford, J.C. (1983).

Positive health indicators: towards a new information base for health promotion.
Community Medicine, 5(2), pp 125-32.

The paper develops proposals for positive health measures suitable for field work testing. It also considers measures of well-being and risk with special emphasis on the latter.

Culyer, A.J. (1983).

Health Indicators.
An International Study for the European Science Foundation.
Martin Robertson & Co. Ltd.

This book is a product of a series of workshops established by the (then) British Social Science Research Council and the European Science Foundation. The aim is to provide a synthetic account of European research in the field of health indicators, to assess current research needs and to make suggestions about future directions of research in Europe and about its organisation. The edited papers cover a number of key issues, including concepts of health and illness, the multi-dimensionality of health indicators, types of indicators for specific uses, and measurement-related problems.

Culyer, A.J., Lavers, R.J. and Williams, A. (1971).

Health indicators: health.
Social Trends, 2, pp 31-42.

This article is one of several papers presented at an international conference on social indicators supported by the (then) Social Science Research Council of Great Britain. It concentrates on the three main requirements of policy decision-makers for indicators:
a). a measure of the 'output' of social policies;
b). a means of deriving the social valuation placed upon different 'outputs';
c). a measure of the technical possibility of increasing 'output'.

Corresponding to each of these are three kinds of social indicators needed in the field of health:
a). measures of the state-of-health ('state' indicators);
b). measures of the need-for-health ('need' indicators);
c). measures of the effectiveness of health-affecting activities ('effectiveness' indicators).

The authors describe the methods used to develop a state-of-health indicator.

Dowler, E.A., Payne, P.R., Seo, Y.O., Thomson, A.M. and Wheeler, E.F. (1982).

Nutritional status indicators: interpretation and policy making role.
Food Policy, May 1982, pp. 99-112.

The authors discuss the usefulness and the limitations of using measures of nutritional status as indicators of the health, welfare and survival capacity of individuals and communities, for use in problem definition, policy-making, and in programme evaluation.

Goldsmith, S.B. (1972).

The status of health status indicators.
Health Services Reports, 87, pp 213.

The author discusses various aspects of health status indicators at length, namely: definition of health, uses of health status indicators, problems encountered in developing adequate measures of health, the present state of the art in measuring health status, the practicality of new health status indicators and lastly, the outlook for health status indicators.

Hansluwka, H.E. (1985).

Measuring the health of populations: indicators and interpretations.
Social Science and Medicine, 20(12), pp 1207-24.

This key paper focuses on the measurement of the health status of the population. It highlights the mainstream of recent developments in the area. The author observes five important and largely unsolved points of controversy in the search for health status indicators, namely: subject of measurement, sources of information, type of measurement, dimension and specificity of measurement, and emphasis on national context verses international comparability.

Holland, W.W., Ipsen, J. and Kostrzewski, J. (eds). (1979).

Measurement of Levels of Health.
World Health Organisation Regional Publications. European Series No.7.

This publication arises from the collaboration of the WHO Regional Office for Europe and the International Epidemiological Association. It is intended to provide guidelines for health professionals who need to undertake measurement of levels of health for purposes of allocating resources, monitoring, and planning health and health-related services.

Jazairi, N.T. (1976).

Approaches to the Development of Health Indicators.
OECD Social Indicator Development Programme Special Studies No.2 Paris.

This report represents one of a series prepared within the OECD Social Indicators Programme which are designed to focus on particular social 'concerns' or aspects of social indicators. The focus of this paper is on the area of health. A 'state-of-the-art' review is presented, followed by a discussion of indicators for five social concerns:

a). length of life;
b). healthfulness of life;
c). quality of health care;
d). delivery of health care;
e). social integration of the disabled.

Moriyama, I.M. (1968).

Problems in the measurement of health status.
Sheldon, E.B. and Moore, W.E. (eds).
In Indicators of Social Change, pp 573-600.
Russell Sage Foundation, New York.

The author devotes the first part of the paper to a lengthy discussion on the inadequacy of mortality rates, (especially the infant mortality rate), as measures of the health of the population. The second half is a general discussion on health indicators, including such topics as the definition of health and disease, possible indicators of health, and the problems in developing a composite index of health.

Murnaghan, J.H. (1981).

Health indicators and information systems for the year 2000.
Annual Review of Public Health, 2, pp 299-361.

The paper commences by discussing the general problems of designing and developing health information systems equal to the task of promoting and monitoring HFA/2000. The author then proposes some priorities and guidelines for organising and focusing the efforts of the many agencies, groups and individuals concerned with health statistics. The latter sections of the paper concentrate on the situation in less developed countries. An illustrative set of health indicators for national planning in a developing country is used to take stock of available concepts of measurement, to test their relevance and feasibility and to consider the steps necessary to translate these concepts into operational health information systems.

Noordin, R.A. (ed) (1979).

Development of Operational, Performance and Impact Indicators with Special Reference to Community Health.
Proceedings of the 6th SEAMIC workshop, Kuala Lumpur, Malaysia, 13-19th Feb. 1979.
SEAMIC Publication No.17, 1979, South East Asian Medical Information Centre, Tokyo.

The Workshop was attended by representatives from Australia, Fiji, India, Indonesia, Japan, Malaysia, Singapore, South Korea, and Thailand. The Proceedings include discussions on the needs and problems related to indicators for planning, management and evaluation. The findings of the separate Workshop sessions are presented, including suggestions on operational, performance, and impact indicators for specific programmes. Profiles are given for particular countries describing relevant past and present activities.

Organization for Economic Co-operation and Development (1982)

The OECD List of Social Indicators.
The OECD Indicator Development Programme, No.5. 1982.

This report is one in a series of OECD publications and consolidates all the social indicators agreed under the aegis of the OECD, together with specifications, statistical guidelines and disaggregations.

Payne, P. (1985).

Appropriate Indicators for Project Design and Evaluation.
UNICEF/WEP Workshop on Food Aid and the Well-being of Children in the Developing World. New York.

The main concern of the paper is with indicators which currently are, or might be, used to assess the effectiveness of projects with respect to health/nutrition. The first part focuses on indicators of food consumption, nutrition and health status. The author highlights the various schools of thought, pointing out the merits and weaknesses of the theories underlying the choice of indicators. The second part concentrates on project design. This aspect is covered by a discussion of how indicators might be selected through consideration at each stage in the sequence 'inputs-outputs-effects-impacts' of a set of explicit project hypotheses about the causal processes believed to be involved.

Seigmann, A.E. (1976).

A classification of socio-medical health indicators: perspectives for health administrators and health planners.
In Elinson,J and Siegmann, A.E. (eds) pp 197-211.
Socio-medical Health Indicators.
Baywood Publishing Company, New York.

The paper begins by examining the inter-relationship of health problem patterns and frames of reference for defining and measuring health. Next, the author tries to explain why mortality and morbidity rates by themselves no longer serve to assess a population's health status in developed countries. The third section relates a society's predominant disease patterns to the appropriate measures for assessing the health status of the population. The paper concludes by reviewing the current importance of selected socio-medical health indicators.

World Health Organization. (1981).

Development of Indicators for Monitoring Progress Towards Health for All by the Year 2000.
Health for All Series, No.4.

The volume is intended to help member states of the WHO decide which indicators to use, particularly at the national level for monitoring progress towards HFA/2000. It proposes four categories of indicators: health policy indicators, indicators of the provision of health care, indicators of the coverage of health care; and indicators of health status, including quality of life. Emphasis has been given to the information requirements for the various indicators, the principal sources of data, and the alternative methods of data collection and analysis involved.

World Health Organization. (1983).

WHO meeting on maternal and child health indicators for Health for All by 2000: evaluation of alternatives.
WHO/HS/NAT.COM/83.383.

This paper is the result of a meeting sponsored jointly by the WHO Divisions of Family Health and Epidemiological Surveillance and Health Situation and Trend Assessment. The objectives of the meeting are clearly reflected in the comments of the report. The document evaluates and critically reviews past data collection experiences, systematically reviews existing and potential indicators for the evaluation and monitoring of MCH/FP programmes and lastly, discusses the problems and alternative methods of obtaining the necessary data for the construction of these indicators.

World Health Organization. (1985).

Report of an informal working group on the evaluation of health effectiveness and impact, 17-28 June 1985, Geneva.
DES/EI/85.1. Draft.

The informal working group was convened by the Health Situation and Trend Assessment Programme. The aim was to review existing methods for the evaluation of the effectiveness and impact of selected health programmes and to propose methods that are specific, sensitive, relevant, applicable and affordable to countries, particularly developing countries. The group focused attention on countries with infant mortality rates greater than 50 per thousand live births and on five specific programmes: prevention and control of childhood diseases subject to immunisation, acute diarrhoea, acute respiratory infections, malaria and malnutrition. A limited range of indicators were selected and special attention given to the data requirements, the major sources of data and the methods of analysis for the selected indicators. The report emphasised the need for the measurement of effectiveness and impact at four levels; local, regional, national and international.

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