CURRICULUM VITAE

Charles D. Flagle

PERSONAL DATA

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EDUCATION AND TRAINING

B.E., 1940 (Honors)
The Johns Hopkins University
School of Engineering

M.S.C., 1954
The Johns Hopkins University
School of Engineering

D. Eng., 1955
The Johns Hopkins University
School of Engineering
(Operations Research and Industrial Engineering)

PROFESSIONAL EXPERIENCE - Johns Hopkins University

Senior Research Associate, 1985
Health Services Research and Development Center
Department of Health Policy and Management,
School of Hygiene and Public Health

Professor Emeritus, 1984 -
Department of Health Policy and Management,
School of Hygiene and Public Health

PROFESSIONAL EXPERIENCE (CONTINUED)

Affiliated Faculty, 1990 -
Program for Medical Technology and Practice Assessment

Professor, 1963- 1984
Department of Health Policy and Management,
School of Hygiene and Public Health

Joint Appointment, 1973 - 1984
Department of Mathematical Science
School of Arts and Sciences

Professor, 1962 - 1972
Department of Operations Reserach and Industrial Engineering
School of Engineering
(Instructor 1954, Associate Professor, 1955, Associate Professor, 1957)

Director. 1956- 1968
Operations Research Division
The Johns Hopkins Hospital

Operations Analyst, 1953 - 1955
U.S. Army Operations Research Office,
Chevy Chase, Maryland

Research Associate and Executive Assistant, 1950 - 1954
Institute of Cooperative Research
(Under contract with Office of Naval Research)

PROFESSIONAL EXPERIENCE (OTHER)

1990 - 1995	Senior Research Scientist - Agency for Health Care Policy and Research (IPA Assignment from JHU)
1987 - 1989	Visiting Scholar, National Library of Medicine
1985 - 1987	Senior Research Scientist - Veterans Administration Health Service Research and Development Division (IPA Assignment from JHU)
June - August 1970	Visiting Professor, University of Washington, Department of Biostatistics, School of Public Health
1967 - 1968	Special Assistant to the Surgeon General, USPHS
June - August 1962	Visiting Associate Professor, Department of Applied Mathematics and Statistics Laboratory, Stanford University, Stanford, California
1947 - 1950	Independent Contractor (family affiliation). Distributor for John E. Sjostrom Co., Inc., Philadelphia, PA, and Wayne Iron Works, Wayne, PA. Postwar reorganization of distribution facilities, subcontracting design and sales engineennng.
1946 - 1947	Henry C. Robinson Company, Investment Bankers, Hartford, Connecticut.
1940 - 1946	Design and Development Engineering, Westinghouse Electric Corp., Philadelphia, PA.

PROFESSIONAL ACTIVITIES

SOCIETY MEMBERSHIPS AND LEADERSHIP

Operations Research Society of America, 1956; Council, 1969 - 1972 Founding Chairman, Health Applications Section, 1968 - 1969

American Medical Informatics Association (formerly American Association for Medical Systems and Informatics), 1980 - 1989; (formerly the Society for Advanced Medical Systems) 1970-1980; Founding Fellow and President, 1974)

PROFESSIONAL ACTIVITIES (CONTINUED)

SOCIETY MEMBERSHIP AND LEADERSHIP (CONTINUED)

Arnerican Public Health Association, 1963

The Pavlovian Society, 1978-1988; President, 1981

American College of Medical Informatics (Fellow), 1984

Association for Health Services Research, 1987

International Society for System Science in Health Care, 1983

International Society for Technology Assessment in Health Care, 1991

PARTICIPATION ON ADVISORY PANELS AND COMMITTEES

1994 - 1996	NLM/ISTAHC Advisory Committee for Enhancement of Literature Resources for Health Technology Assessment
1994 - 1995	AHSR/NLM Advisory Committee on Development of Current Project Data Base, HSR PROJ.
1991 - 1993	NLM Committee on Enhancement of the MeSH Vocabulary
1985 - 1988	Advisory Board, Pew Foundation Grant to the Wharton School, University of Pennsylvania
1978 - 1988	Member, World Health Organization Expert Advisory Panel on Occupational Health
1984 - 1986	Visiting Scientist, Institut fur Medizinsche Informatik und Systemforschung, GSF Munich, FRG
1981 - 1983	Member, Institute of Medicine Committee on Nursing and Nursing Education; Chairman, Panel on Trends and Projections
1980 - 1983	Member, Epidemiology and Services Review Committee National Institute of Mental Health

PROFESSIONAL ACTIVITIES (CONTINUED)

PARTICIPATION ON ADVISORY PANELS AND COMMITTEES (CONTINUED)

1977 - 1982	Member, Advisory Committee on Medical Research, Pan American Health Organization
1976 - 1981	Member, Advisory Committee, National Research and Demonstration Center in Heart and Blood Vessel Disease, Baylor College of Medicine
1972 - 1976	Member, Health Care Technology Study Section, HRA/NCHSR
1968 - 1971	Commnittee on Interplay of Engineering with Biology andMedicine, National Academy of Engineering
1976 - 1977	IOM/NAS/NRC Committee on Health Care Resources in the Veterans Administration
1963 - 1966	Member, Epidemiology and Biometry Training Committee, U.S. Public Health Service
1959 - 1962	Member, Council on Education and Research, The American Hospital Association
1959 - 1962	Member, Health Services Research Study Section, U.S. Public Health Service

BOARDS AND CONSULTATIONS

November 1974 1978, 1981 1983, 1985	Temporary Advisor, World Health Organization, Division of Occupational Health
1969 - 1969	Consultant, World Health Organization, European Regional Of fice, Seminar in Operations Research, Bucharest
1968 - 1969	Temporary Advisor, World Health Organization, Division of Research in Epidemiology and Communication Science
1968 - 1971	Consultant, Health Services and Mental Health Administration, Regional Medical Program; Consultant, Center for Health Services Research and Development
1962 - 1967	Kaiser Permanente, Division of Medical Research (Evaluation of Multi-Phase Screening)

PROFESSIONAL ACTIVITIES (CONTINUED)

BOARDS AND CONSULTATIONS (CONTINUED)

1958 - 1967 Consultant, Division of Hospital and Medical Facilities, U.S. Public Health Service (Evaluation of Progressive Patient Care)

TESTIMONY

1977 - Testimony before the Senate Veteran's Affairs Commnittee at hearings on the IOM/NAS/NRC Report of the Committee on Health Care Resources in the Veterans Administration

EDITORIAL ACTIVITIES

PEER REVIEW ACTIVITIES - RECENT

Proceedings of the 8th International Conference on Medical Informatics, MEDINFO '95

Proceedings of the 19th Annual Symposium on Computer Applications in Medical Care, SCAMC '95

Proceedings of the 20th Annual Symposium on Computer Applications in Medical Care, SCAMC '96

EDITORIAL BOARD MEMBERSHIP

1996 - System Science in Health

1962 - 1981 Methods of Information in Medicine

1965 - 1968 Health Services Research

HONORS AND AWARDS

1978 Elected member, Institute of Medicine National Academy of Science (NAS)
Phi Beta Kappa
Delta Omega
Tau Beta Pi

1984 - Kimball Medal of the Operations Research Society of America

PUBLICATIONS

Journal Articles (Peer Reviewed)

1. "The Queiac: An electromechanical analog for the simulation of waiting-line problems," (With P.F. Dunn and P.H. Hicks). Operations Research, 4:648-662, 1956.

2. "Probability based tolerance in forecasting and planning." Industrial Engineering 12, No. 2, March-April, 1961.

3. "Effective use of nursing resources - a research report", (With R.J. Connor, R.K.C. Hsieh, R. A. Preston, and S. Singer). Hospitals, 35:40-41, May 1961.

4. "Operations research in the health services." Operations Research, 10:591-603, 1962. Also published with revisions in Annals of the New York Academy of Sciences 107, Article 2, May 22, 1963.

5. "Prospects for research in long-term care." The Gerontologist, 4:38-40, June 1964.

6. "Application of operations research and industrial engineering to problems of health services, hospitals, and public health," (With J.P. Young). Journal of Industrial Engineering, 17:609-614, 1966.

7. "Unternehmensforschung in krankenhausern und einrichtungen des gesundheitswesens." DerKrankenhausartz, 41:199-203, Heft 7/1968.

8. "Technological development in the health services." Health Services Research, 4:6-13, Spring, 1969.

9. "Communication and control in comprehensive patient care and health planning." Annals of the New York Academy of Science, 161:714-729, 1969.

10. "Technological development in the health services." Proceedings of the IEEE, 57:1847-1852, 1969.

11. "Evaluation techniques for medical information systems." Computers and Biomedical l Research, 3:407-414, 1970.

12. "The role of simulation in the health services." American Joumal of Public Health, 60: 2386-2394, 1970.

13. "Automated multiphasic health testing and services, total systems analysis and design." Methods of Information in Medicine, 10:201-206, 1971.

PUBLICATIONS (CONTINUED)

Journal Articles (Peer Reviewed - Continued)

14. "Operations research in the medical field." Medical Progress in technology, 2:7-12, 1973.

15. "Multiphasic checkup evaluation study," (With M. Collen et al.). Preventive Medicine, 2:236-246, 1973.

16. "Analysis of alternative policies in health planning." Bulletin of the Operations Research Society of America, 22(2):B-311, 1974.

17. "Common problems of current data systems for long-term care". Medical Care, 14(5): 230-233 (Supplement), May, 1976.

18. "Some approaches to cost benefit analysis and evaluation in cardiovascular disease" Cardiovascular Research Center Bulletin, 15:29, July-September, 1976.

19. "Full Text Medical Literature Retrieval by Computer," (With Morris F. Collen). JAMA, November 15, 1985, Vol. 254, No. 19.

20. Operational Efficiency Studies in the Veterans Administration (with P. Grover). Health Services Research, Vol. 25, No. 1, Part II, April 1990.

21. Flagle, C.D., and Cahn, M.A., AHCPR-NLM Joint Initiative for Health Services Research Information QRB, Quality Review Bulletin, Vol. 18, No. 12, December, 1992.

22. Flagle, C.D. The Influence of PACS on Quality at the Clinical Level, Int. J. Biomed Comput, 30:255-258, 1992.

23. Flagle, C.D. The Integrated Health Care System: Reflection and Projection. Journal of the Society for Health Systems, Vol. 3, No. 4, 1992.

24. Ackerman, S.J., Gitlin, J.N., Gayler, R.W., Flagle, C.D., Bryan, R.N. Receiver operating characteristic analysis of fracture and pneumonia detection: comparison of laser-digitized work station images and conventional analog radiographs. Radiology, 186(1):263-268, January 1993.

Books

1. Operations Research and Systems Engineering. With W.H. Huggins and R.H. Roy (Eds.). Baltimore, The Johns Hopkins University Press, 1960.

2. Advanced Medical Systems: Issues and Challenges. C.D. Flagle (Ed.) Miami, Symposia Specialists, 1975.

3. Proceedings of the Third International Conference on System Science in Health Care, (with W. Van Eimeren and R. Engelbrecht; Editors) Springer Verlag, Heidelberg 1984.

4. Proceedings of the Fourth International Conference on Systems Science in Health Care, Editor (with G. Duru, R. Engelbrecht, and W. van Eimenren) Editions Lacassagne, Lyon, France, 1988.

5. The Integration of Systems of Education, Research and Health Care Services, (in Volume 1 of Reference 4 above).

6. The Evaluation of the Life Care Communitv (in Volume 3, Reference 5 above).

7. Assessment of Medical Informatics Technology, with F. Gremy and S. Perry (Editors) Editions ENSP. Rennes, 1991.

8. Technology Assessment in the Literature of Medical Informatics, in Reference 7 above.

Chapters

1. "Queuing theory and cost concepts applied to a problem in inventory control," in Operations Research for Management. J.F. McCloskey, et al. (Eds.), Vol. II, Chapter 8. Baltimore, The Johns Hopkins University Press, 1956.

2. "The Problem of organization for hospital inpatient care," in Management Sciences: Models and Techniques. C.W. Churchman and M. Verhulst (Eds.), Vol. 2, pp. 275-287. New York, Pergamon Press, 1960.

3. "Allocation of medical and associated resources to the control of leprosy," (With M.F. Lechat). Acta Hospitalia 2, June, 1962; also published as Chapter 9, in Management Sciences in the Emerging Countries. N.N. Barich and M. Verhulst (Eds). Oxford, Pergamon Press, 1965.

4. "How to allocate progressive care beds," (With H. Lochward, J. Moss, J. Strachen and J. Haldeman), in Progressive Patient Care: An Anthologv. L.E. Weeks and J.R. Griffith (Eds.), pp. 47-57. Ann Arbor, University of Michigan Press, 1964.

Chapters (Continued)

5. "Operations research in community services," in Progress in Operations Research, D.B. Hertz and R.T. Eddison (Eds.) Vol. II, pp. 329-344. New York, John Wiley and Sons, Inc., 1964.

6. "Statistical decision theory and the selection of diagnostic and therapeutic procedures in public health," (With M. Lechat), in Actes de la 3ieme Conference Internationale de Recherche Operationnelle, G. Kreweras and G. Morlat (Eds.), pp. 194-202. London. English Universities Press, Ltd., 1964.

7. "A decision theoretical comparison of three months of screening for a single disease," in Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability, L. LeCam and J. Neyman (Eds.), Vol. 4 pp. 887-901. Berkeley, University of Califomia Press, 1967.

8. "The analogy of scale effects in biological systems and complex human organizations, in Bioengineering: An Engineering View. C. Bugliarello (Eds.), pp. 305-314. San Francisco, San Francisco Press, Inc. 1968.

9. "A decade of operations research in health," in New Methods of Thought and Procedure. F. Zwicky and A.G. Wilson (Eds.), pp.33-45. New York, Springer Verlag, 1967.

10. "Preventive Medicine," in McGraw-Hill Yearbook of Science and Technology, pp.281-283. New York, McGraw-Hill Book Co., 1968.

11. "Use of computers in public health," in the Theory and Practice of Public Health. W. Hobson (Ed.), pp. 441-445. London, Oxford University Press, 1969.

12. "Implementation of findings," in The Recognition of Systems in Health Services. G.K. Chacko (Ed.), p. 362. Arlington, Va., Operations Research Society of America, 1969.

13. "Systems analysis and health administrative research," Tenth Meeting, Pan American Health Organization Advisory Committee on Medical Research. WHO Scientific Publication No. 239, pp. 4-10, Washington, D.C., World Health Organization, 1972.

14. "Health systems - an urban view," in Systems Approach and the City. M.D. Mesarovic and A Reisman (Eds.), pp. 418-30. Amsterdam, North Holland Publishing Co., 1972.

15. "Evaluation and control of technology in health services," in Technology and Health Care Systems in the 1980's. M. Collen (Ed.), pp. 213-224. Washington, D.C., U.S. Government Printing Office, 1973.

Chapters (Continued)

16. "Evaluation of health care systems," in Problem-Directed and Medical Information Systems. pp. 187-94. Miami, Symposium Specialists, 1973.

17. "Operations research with hospital computer systems," in Hospital Computer Systems, M.D. Collen (Ed.), pp. 418-430. New York, John Wiley and Sons, 1974.

18. "Assessing the influence of operations research in the health services," in Operations Research in Health Care: A Critical Analysis, J.P. Young et al. (Eds.), pp. 77-86. Baltimore, The Johns Hopkins University Press, 1975.

19. "The value of information for decision making," in Evaluation in Health Services Delivery, R. Yaffee and D. Zalkin D (Eds.), pp. 55-61. New York, Engineering Research Foundation Conferences, 1975.

20. The use of computers in public health," in The Theory and Practice of Public Health, W. Hobson (Ed.), pp. 597-602. London, Oxford University Press, 1975.

21. "The Usefulness of standardized Patient Assessment Systems in Long-Term Care", in Advanced Medical Systems: The 3rd Century, Edward J. Hinman (Ed.), Miamiu, Symposia Specialists, 1977.

22. "An Integrating Approach to Health Systems," in Systems Science in Health Care, A.M. Coblentz and J.R. Walter (Eds.), Longon, Taylor and Francis, Ltd., 1977.

23. "Issues of Staffing long-Term Care Activities," in Milman, M.C.(Ed.), Nursing Personnel and the Changing Health Care Systems, Cambridge, Ballenger Publishing Co. 1978.

24. "Long Term Care in the United States," Chapter 41, in Chacki, G.K. (Ed.), Health Handbook, an International Reference on Care and Cure, North Holland Publishing Co., Alnsterdam, 1979.

25. "Cases in Evaluation of Clinical Services" in Alperovitch, A., de Dombal, F.T., Gremy, F., Evaluation of Efficacy of Medical Action. North Holland Publishing Company, Oxford, 1979.

26. "An Overview of Evaluation Methods," in Goldman, Jay (Editor), Health Care Technology Evaluation, Springer-Verlag, Berlin, 1979.

Chapters (Continued)

27. "A Systems Approach to Stroke and Heart Disease," in Chack O. G.K. and Emlet, H.E. (Editors), Proceedings of the Symposium on Strokes and Heart Disease, 141 st Annual Meeting of the American Association for the Advancement of Science, Analytic Services, Inc., Arlington, 1980.

28. The Integration of Occupational Health and General Health Services, Inc. Occupational Health as a Component of Primary Health Care, Jarvisalo J, Kalimo E., Lamberg M, Rantanen J (Eds.). Helsinki: National Board of Health in Finland, No. 94, 1986.

29. The Perception of System and the Reduction of Uncertainty, in B. Blum and K. Duncan (Editors). The History of Medical Informatics, Association for Computing Machinery, ACM Press, New York, 1990.

OTHER

Abstracts

1. "Criteria of effectiveness for selection, training, and motivation of hospital personnel," (Abstract). Operations Research, 5:591,1957.

Proceedings

1. "A threshold method for utility estimation and resolution of conflict," in Proceedings of the Conference on Operations Research and the Social Sciences, D.B. Hertz and J. Melese (Eds.), pp. 399-408. London, Wiley Interscience, 1966.

2. "On the requirements for information systems in hospitals," in Proceedings on Automated Data Processing in Hospitals, Elsinore Conference, 1966, pp. 190-97. Copenhagen, Conference Organization Committee, 1967.

3. "Simulation techniques applicable to public health administration," in Proceedings on Simulation in Business and Public Health, March, 1966, pp. 140-43. New York, American Statistical Association and Public Health Association of New York City, 1967.

4. "Assessment of Quality of the process of care," in Proceedings of an International Conference on Health Technology Systems, M.F. Collen (Ed.), pp. 35-46. Potomac, Md.

5. "Information Requirements for Evaluation and Planning of Innovative Health Services," in Lindberg, D.A.B., and Kaihara, S. (Editors) Proceedings of Medinfo 80 Conference, Tokyo, North Holland Publishing Company, 1980.

Proceedings (Continued)

6. "Evaluation of Community Health Education Programs in the Control of High Blood Pressure," with Moriskey, D.E. et al. Proceedings of the Second International Conference on Systems Science in Health Care, Montreal, Pergamon Press, 1981.

7. "Some Terminology of Evaluation," Proceedings of the Sixth Annual Symposium on Computer Applications in Medical Care, Washington, IEEE Computer Society Press, 1982.

8. "Evaluation of Health Care," in van Bemmel, J.H., Ball, M.J. and Wiggetz, O., Proceedings of 1983 Medinfo Conference, Amsterdam, North Holland Publishing Co., 1983.

9. "Health Services Research and its Role in Health Services Administration," Proceedings of the Congress of the American Association for Medical Systems and Informatics, AAMSI Publishers, Bethesda, 1983.

10. "Evaluation of Decision Making Programs," Proceedings of the Congress of the American Association for Medical Systems and Informatics, Bethesda, AAMSI Publishers, 1984.

11. "Methodological Problems in Technology Assessment of Medical Informatics," in Levy, A.H. and Williams, B.T. (Ed.), Proceedings of the AASI Congress, 1985 American Association for Medical Systems and Informatics, Washington, 1985.

12. Pitfalls in Evaluation, Proceedings of the First International Conference on Image Management and Communication, Washington, June 1989, IEEE Computer Society Press, Washington (In Press).

13. Operations Research arld Systems Analyses in Medical Informatics: A Bibliometric Study (with RKC Hsieh) Proceedings of the Sixth Conference on Medical Informatics, Singapore, December ll-15, 1989, NorthHollandPress, 1989.

Encyclopedia Entries

1. Flagle, C.D. Operations Research and Management Science in Medicine and Medical Practice, in The Encyclopedia of Operations Research and Management Science, Kluwer.

2. Flagle, C.D. Medical Informatics, in Armitage Panel Colton, T. (Editors). Encyclopedia of Biostatistics. John Wiley and Sons Ltd. Chichester. (In Press)

Government Publications

1. The Progressive Patient Care Hospital: Estimating Bed Needs. Public Health Service, Publication No. 930-C-2. Washington, D.C., U.S. Government Printing Office, 1963.

2. Systems analysis in Health Manpower: A Bibliography. Publication No. HRA-74-28. Washington, D.C., U.S. Government Printing Office, 1974.