# CURRICULUM VITAE


## Nicholas H.G. Holford, MB, ChB, MSc, FRACP

Nationality: British
New Zealand citizen
Date of Birth: December 5, 1946
Place of Birth: Birkenhead, Cheshire, England


## *ADDRESS*


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Auckland 1042
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## *PRESENT POSITION*

Professor Clinical Pharmacology
Department of Pharmacology and Clinical Pharmacology
University of Auckland

## *EDUCATION*

1972 M.B., Ch.B. with Distinction
1971 M.Sc., Pharmacology
1969 B.Sc., Pharmacology with Honours
University of Manchester
School of Medicine
Manchester, England

## *SCHOLASTIC AND PROFESSIONAL HONOURS/AWARDS*

**Wild Prize in Pharmacology**, University of Manchester, 1971
**Brockbank Medical Prize**, University of Manchester, 1972
**Turner Medical Prize**, University of Manchester, 1972

**PKPD Champion Award**, 5th International Symposium on Measurement and Kinetics of In Vivo Drug Effects; Noordwijkerhout, the Netherlands, April 2006
**Research Achievement Award**, Clinical Pharmacology and Translational Research, American Association of Pharmaceutical Sciences, San Diego, CA, USA, November 2007
**Gary Neil Award for Innovation in Drug Development**, American Society of Clinical Pharmacology, Atlanta, GA, USA, March 2010

**Fellow of the American Association of Pharmaceutical Scientists,** American Association of Pharmaceutical Sciences, San Antonio,TX, USA, November 2013

**Inaugural visiting professor at the University of Pavia, Italy**. This competitive award allowed me to visit the University of Pavia and give a series of seminars May 4-May 8, 2015. I was hosted by Professor Paulo Magni in the School of Bioengineering.

**Fellow of the International Society of Pharmacometrics,** American Conference on Pharmacometrics, Seattle, Washington, USA, October 2016

**Life Member of the Australasian Society of Clinical and Experimental Pharmacology and Toxicology**, December, 2016

**Distinguished Investigator Award**, American College of Clinical Pharmacology, San Diego, CA USA, September 2017

**Fellow of the Australasian Society of Clinical and Experimental Pharmacology and Toxicology,** ASCEPT Conference, Queenstown, NZ, November 2019

## *SPECIALITY*

Clinical Pharmacology

## *PROFESSIONAL QUALIFICATIONS*

Registration General Medical Council of Great Britain, 1972-1975
Medical License (A33608) California, 1979-1983
Registration Medical Council of New Zealand (12912), 1983-
Member Royal College of Physicians (United Kingdom). 1974- 1975
Fellow and Life Member of the Royal Australasian College of Physicians. 1984-

## *ACADEMIC AND PROFESSIONAL POSITIONS*

1. 2013 September – Adjunct Professor,
   Yonsei University
   Seoul, Korea
2. 2009 February – Professor Clinical Pharmacology
   Department of Pharmacology and Clinical Pharmacology
   University of Auckland
3. 2006 July – Adjunct Professor
   Biopharmaceutical Sciences
   University of California
   San Francisco, CA, USA
4. 2006 May- Honorary Professor
   School of Pharmacy
   University of Queensland, Brisbane
5. 2005 - Associate Member Therapeutic Goods Administration/MedSafe
   Joint Interim Expert Advisory Committee on Standards with expertise in
   Pharmacokinetics/Bioavailability

6. 2004 - Director, PKPDRX Ltd
   Auckland, New Zealand
7. 1999 – 2005 Adjunct Professor
   Dept Pharmacology
   Georgetown University
   Washington, DC, USA
8. 1998 Jul 1-Sept 30 Visiting Professor
   Dept Neurology
   Oregon Health Sciences University
   Portland, Oregon, USA
9. 1998 Feb 14-April 30 Visiting Professor
   Dept Pharmacology
   Georgetown University
   Washington, DC, USA
10. 1997-2009 Associate Professor Clinical Pharmacology
    Department of Pharmacology and Clinical Pharmacology
    University of Auckland
11. 1991- 2002 Special Government Employee
    Expert for the Center for Drug Evaluation and Research
    US Food and Drug Administration
12. 1983-97 Senior Lecturer Clinical Pharmacology
    Department of Pharmacology and Clinical Pharmacology
    University of Auckland
    Auckland, New Zealand
13. 1987-90 Clinical Lecturer in Pharmacy
    University of Otago
    Dunedin ,New Zealand
14. 1983-89 Honorary Medical Officer
    Auckland Hospital
    Auckland, New Zealand
15. 1981-1983 Assistant Professor of Medicine, Pharmacy and Pharmaceutical Chemistry
    Division of Clinical Pharmacology
    School of Pharmacy
    University of California
    San Francisco, CA, USA
16. 1978-1981 Lecturer in Medicine and Pharmacy
    Schools of Pharmacy and Medicine
    University of California
    San Francisco, CA, USA
17. 1975-1978 Fellow in Clinical Pharmacology
    University of California
    Division of Clinical Pharmacology
    San Francisco, CA, USA
18. 1975 Registrar, Medicine
    Western Infirmary
    Glasgow, Scotland
19. 1973-1975 Senior House Officer, Medical Rotation
    Western Infirmary
    Glasgow, Scotland
20. 1973 House Surgeon
    Infirmary Branch
    Macclesfield Hospital
    Macclesfield, Cheshire, UK
21. 1972-1973 House Physician
    Professorial Medical Unit

Manchester Royal Infirmary
Manchester, UK

## *EDITORIAL*

Consulting Editor, Clinical Pharmacokinetics, 1996-2000
Associate Editor, Journal of Biopharmaceutical Statistics, 2001- 2009
Editorial Board, Drug Metabolism and Pharmacokinetics, 2001-
Editor, Clinical Pharmacokinetics, 2000-2001
Editorial Board, Biopharmaceutics & Drug Disposition, 1999-
Editorial Board, Journal Pharmacokinetics & Pharmacodynamics, 1999-2010
Editorial Board, European Journal of Pharmaceutical Sciences, 1998-2003
Editorial Board, Journal Pharmacokinetics & Pharmacodynamics, 1999-2010
Editorial Board, Clinical Pharmacokinetics, 1984-2001
Editorial Board, Pharmaceutical Research, 2005-2012
Editorial Board, European Journal of Clinical Pharmacology, 2007-
Editorial Board, CPT: Pharmacometrics and Systems Pharmacology, 2012-

## *TEACHING*

University of California San Francisco
Medicine 140.22F Pathophysiology of Disease
With Others from Dept. Medicine
Lectures 6 Units. 1981-1983
Pharmaceutical Chemistry 168, Clinical Pharmacokinetics
With Dr TN Tozer
Conferences 2 Units. 1981-1983
Pharmaceutical Chemistry 214, Advanced Pharmacokinetics
With Drs LZ Benet & TN Tozer
Conferences 2 Units. 1981-1983
Pharmaceutical Chemistry 212A, Computer Literacy
With Dr RA Upton
Lectures 1 Unit. 1982-1983
Pharmaceutical Chemistry 212B, Mathematical Modelling
With Dr RA Upton
Lectures 1 Unit. 1982-1983
Pharmaceutical Chemistry 212C, Computer Programming
With Dr RA Upton
Lectures 1 Unit 1982-1983
Research Supervision
3 units 1981-1983

University of Auckland
Pharmacology 60.307, 565.203, 565.305, HUMANBIO 251,256,355,MBChB221 (Medicine)
Clinical Pharmacology (With Others from Dept. Pharmacology)
Lectures & Tutorials. 1983 (part),1984-
Pharmacology 96.301, 565.302, PHARMCOL 201, MEDSCI 204 (Science BSc)
Pharmacology (With Others from Dept. Pharmacology)
Lectures & Laboratories. 1985-
Pharmacology 96.404, 565.722, PHARMCOL 722 (Science MSc)
Clinical Pharmacology (With Others from Dept. Pharmacology)
Lectures & Laboratories. 1987-1991, 1993-
Pharmacology 96.408,565.716, PHARMCOL 716, 726
Pharmacometrics MEDSCI 719
Lectures & Laboratories. 1994-2017 (Sole teacher)

Lectures & Laboratories. 2018 (With Others from Dept. Pharmacology)
Respiratory Pharmacology Pharmacy 311
Lecture. 2017-

Clinical Pharmacokinetics Module Pharmacy 767
Lectures. 2017-

Auckland Hospital
Trainee Intern Tutorials 1984-1989
FRACP Training Programme Auckland
Clinical Pharmacology Lectures. 1984-1989
Clinical Pharmacology Tutorials 2012-

International Training Courses

1. Modelling Workshop
   Principal Instructor
   Roche, Nutley, NJ, USA. 1992
2. MKMODEL Workshop, Hoffman-La Roche
   Principal Instructor
   Basel, Switzerland 1993
3. European Course: CEIP Evaluation and Interpretation of
   Pharmacokinetic/Pharmacodynamic Data
   Co-instructor
   Basel, Switzerland, 1993
4. Principles of PKPD Analysis,
   Modelling Dose Effects in Alzheimer's Disease, Population Approach to
   Pharmacokinetics/Pharmacodynamics, Applied Statistics Conference
   Principal Instructor
   Atlantic City, New York, USA, 1993
5. NONMEM Workshop, Hoffman-La Roche
   Principal Instructor
   Basel, Switzerland 1994
6. Modelling and Simulation Worshop, Hoffman-La Roche,
   Co-Instructor
   Basel, Switzerland 1997
7. Stanford University Medical Center/Center for Drug Develoment Science Course "Clinical Development of New Drugs and Therapeutic Agents: Art, Science and New Frontiers", Pharmacokinetic and pharmacodynamic assessment.
   Palo Alto, CA, July 1997.
8. FDA/Center for Drug Develoment Science Course "Clinical Development of New Drugs and Therapeutic Agents: Art, Science and New Frontiers", Pharmacokinetic and pharmacodynamic assessment.
   McLean,VA, May 1998.
9. Eli Lilly/Center for Drug Development Science Course "Clinical Development of New Drugs and Therapeutic Agents: Art, Science and New Frontiers", Pharmacokinetic and pharmacodynamic assessment.
   Indianapolis, IN, August1998.
10. Clinical Pharmacometrics. http://www.dml.georgetown.edu/cdds/guphm
    Principal Instructor
    Georgetown University, DC. March 1998
11. American Association of Pharmaceutical Scientists. Short Course on Clinical Trial Simulation.
    Course organizer.
    Denver, CO, USA. 21 October 2001

12. Population Analysis Group Europe. Bayesian Modelling Workshop.
    Course co-organizer and Co-Instructor.
    Paris, France, June 2002
13. National Center for Co-ordination of Clinical Trials. Clinical Trial Simulation Workshop.
    Course organizer and Instructor.
    Havana, Cuba, November 2002
14. Population Analysis Group Australia and New Zealand and Africa. Population Analysis Workshop
    Course co-organizer and Co-Instructor.
    Cape Town, South Africa, November 2002
15. National Center for Co-ordination of Clinical Trials. Clinical Trial Simulation Workshop.
    Course organizer and Instructor.
    Havana, Cuba, October 2003
16. American Association of Pharmaceutical Scientists, Short Course on Bayesian Modelling. "NONMEM and PRIOR".
    Co-Instructor
    Salt Lake City, UT, USA, October 2003.
17. Novartis/Roche Population Modelling Workshop.
    Course organizer and instructor
    Basel, Switzerland, June 2004
18. Novartis/Roche Population Modelling Workshop.
    Course organizer and instructor
    East Hanover, USA, August 2004
19. Population Analysis Group Australia and New Zealand and Japan. Clinical Pharmacology and Population Analysis Workshop.
    Course organizer and Co-Instructor
    Meiji Pharmaceutical University, September 2004
20. National Center for Co-ordination of Clinical Trials. Clinical Trial Simulation Workshop.
    Course co-organizer and Instructor.
    Havana, Cuba, November 2004
21. Population Analysis Group Australia and New Zealand. Intermediate Workshop on "PKPD effect compartment and turnover"
    Course co-organizer and Co-Instructor
    Brisbane, Australia, February 2005
22. University of California DC, Center for Drug Development Science.
    Workshop "Modelling Likelihoods Using NONMEM"
    Washington, DC, USA, March 2005
23. State University of New York at Buffalo, Workshop "Population Analysis Using NONMEM"
    Course co-organizer and Co-Instructor
    Buffalo, NY, USA, August 2005
24. The 3rd Meiji Pharmaceutical University Extension Course, "Bootstrap, randomization and mixture model tests in NONMEM"
    Instructor
    Meiji University, Tokyo, September 2005
25. University of Rhode Island, Workshop "Population Analysis Using NONMEM"
    Course co-organizer and Co-Instructor
    Kingston, RI, USA, September 2005
26. AP2POP,Workshop on Optimal Population PK design & Bootstrap, randomization and mixture model tests in NONMEM
    Course Co-Instructor
    Marseille, France, October 2005
27. Free University of Berlin, School of Pharmacy, Workshop "Population Analysis Using NONMEM"
    Course co-organizer and Instructor
    Berlin, Germany, October 2005

28. American Association of Pharmaceutical Scientists, Short Course MS101 Clinical Trial Simulation "How to perform a simulation study".
    Co-Instructor
    Nashville, TN, USA, November 2005
29. 6th Congress of Pharmacology and Therapeutics, Workshop "Clinical Trial Simulation"
    Course Co-Organizer and Instructor
    Santiago de Cuba, Cuba, November 2005
30. Centre for Molecular Immunology, Workshop "Clinical Trial Simulation"
    Course Co-Organizer and Instructor
    Havana, Cuba, November 2005
31. American Association of Pharmaceutical Scientists, Short Course PKPD in Drug Development "Simlastatin Case Study".
    Co-Instructor
    San Antonio, TX, USA, November 2006
32. University of Halle, School of Pharmacy, Workshop "Population Analysis Using NONMEM"
    Course co-organizer and Instructor
    Halle, Germany, November 2006
33. National University of Singapore, Clinical pharmacology and development of a pharmacometric resource
    Advisor and Instructor
    Singapore, February-April 2007
34. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Sils Maria, Switzerland, April 2008
35. Population PKPD and NONMEM
    Course Instructor
    Johnson & Johnson
    Lambertville, PA.USA, September 2008
36. Population PKPD and NONMEM
    Course Instructor
    University of Cape Town
    Cape Town, South Africa, February 2009
37. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Washington DC, USA, May 2009
38. Population PKPD and NONMEM
    Course Instructor
    Merck Inc.
    West Point, PA.USA, May 2009
39. Population PKPD and Disease Progress
    Course Instructor
    Universite Lyon
    Lyon, France, June 2009
40. Population PKPD
    Course Instructor
    Universite Catholique de Louvain
    Brussels, Belgium, July 2009
41. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Seoul, Korea, September 2009
42. Population PKPD and NONMEM
    Course Instructor
    Chugai.
    Tokyo, Japan, September 2009
43. Sheiner & Rowland Advanced PKPD Workshop

Course Instructor
Sils Maria, Switzerland, April 2010

44. NONMEM Workshop
    Course Instructor
    Beijing, China, September 2010
45. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Phildelphia, USA, April 2011
46. Basic PKPD Workshop
    Course Instructor
    Canberra, Australia, Feb 2012
47. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Singapore, Feb 2012
48. Clinical Pharmacology Workshop
    Course Instructor
    University of Malaya, Kuala Lumpur, Feb 2012
49. Pharmacometrics Workshop
    Course Instructor
    University of Malaya, Kuala Lumpur, Feb 2012
50. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Sils Maria, Switzerland, April 2012
51. Clinical Pharmacology Workshop
    Course Instructor
    University of Utah, Salt Lake City, July 2012
52. Pharmacometrics Workshop
    Course Instructor
    University of Utah, Salt Lake City, July 2012
53. Introductory PKPD Workshop
    Course Instructor
    Canberra, Australia, Dec 2012
54. Introductory NONMEM Workshop
    Course Instructor
    Canberra, Australia, Dec 2012
55. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Philadelphia, USA, April 2013
56. Pharmacometrics Workshop
    Course Instructor
    Grenoble, France, July 2013
57. Pharmacometrics Workshop
    Course Organizer and Instructor
    Free University of Berlin, Berlin, August 2013
58. Time to Event Workshop
    Course Organizer and Instructor
    Bayer, Berlin, August 2013
59. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Tokyo,Japan, Sept 2013
60. Clinical Pharmacology Workshop
    Course Organizer and Instructor
    Chugai, Tokyo, Sept 2013
61. Clinical Pharmacology Workshop
    Course Organizer and Instructor
    Daichi-Sankyo, Tokyo, Sept 2013

62. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Sils Maria, Switzerland, April 2014
63. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Lambertville NJ, USA, April 2015
64. Basic PKPD and NONMEM Workshop
    Course Instructor
    Santiago, Chile, September 2015
65. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Sils Maria, Switzerland, April 2016
66. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Melbourne, Australia, January 2018
67. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Sils Maria, Switzerland, April 2018
68. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Leiden, Netherlands, April 2019
69. Sheiner & Rowland Advanced PKPD Workshop
    Course Instructor
    Tokyo, Japan, September 2019

## *SABBATICAL LEAVE*

Dec 1989-March 1990 University of California
San Francisco, USA
Dr Lewis Sheiner
Population Pharmacodynamics of Theophylline
April 1990-Dec 1990 Hoffman-La Roche
Basel, Switzerland
Dr Theo Güntert
Population Based Drug Development Methods
Feb 1998-June 1998 Center for Drug Development Science, Georgetown University
Washington DC, USA
Prof Carl Peck
Clinical trial simulation in drug development
July 1998-Sept 1998 Dept Neurology, Oregon Health Sciences University
Portland, OR, USA
Prof Jay Nutt
Disease progress and pharmacodynamic models in Parkinson's disease
Oct 1998-Dec 1998 Dept Clinical & Experimental Pharmacology, University of Natal
Durban, South Africa
Dr Lynn McFadyen/Dr Julia Botha/Dr Colin Pillai
Population pharmacokinetics and pharmacodynamics of anti-tuberculous drugs
Feb 2005 School of Pharmacy, University of Queensland
Brisbane, Australia
Dr Stephen Duffull
April-June 2005 Dept of Pharmacokinetics, University of Uppsala
Uppsala, Sweden
Prof Mats Karlsson
July-Aug 2005 Dept of Biomathematics, University of Philadelphia
Kennet Square, PA, USA

Prof Raymond Boston
Oct-Dec 2005 National Centre for Coordination of Clinical Trials (CENCEC), Ministry of Health (MINSAP)
Havana, Cuba
Dr Martha Fors-Lopez
July-Sep 2013
Prof Pierre Marquet,CHU Limoges, France
Oct-2013 - Feb 2014
Auckland (Starship Hospital, Auckland City Hospital)
Mar-Jun 2014
Dr Catherine Litalien, St Justine's Children's Hospital, Montreal

## *REFEREED PUBLICATIONS*


1. Holford NH. Antagonism of some spasmogens of the rat seminal vesicle. Br J Pharmacol. 1972;46(3):522P.
2. Davidson JK, Morley P, Hurley GD, Holford NG. Adrenal venography and ultrasound in the investigation of the adrenal gland: an analysis of 58 cases. Br J Radiol. 1975;48(570):435-50.
3. Holford N, Sheiner LB. The digoxin concentration: before and after the fact. Am Heart J. 1977;94(4):529-30.
4. Holford NH, Vozeh S, Coates P, Powell JR, Thiercelin JF, Upton R. More on heparin lock. N Engl J Med. 1977;296(22):1300-1.
5. Guentert TW, Holford NH, Coates PE, Upton RA, Riegelman S. Quinidine pharmacokinetics in man: choice of a disposition model and absolute bioavailability studies. J Pharmacokinet Biopharm. 1979;7(4):315-30.
6. Guentert TW, Upton RA, Holford NH, Riegelman S. Divergence in pharmacokinetic parameters of quinidine obtained by specific and nonspecific assay methods. J Pharmacokinet Biopharm. 1979;7(3):303-11.
7. Guentert TW, Upton RA, Holford NH, Bostrom A, Riegelman S. Gastrointestinal absorption of quinidine from some solutions and commercial tablets. J Pharmacokinet Biopharm. 1980;8(3):243-55.
8. Holford NH. Quinidine-digoxin interaction. Ann Intern Med. 1980;93(4):638-9.
9. Holford NH. Internal medicine-epitomes of progress: digoxin, quinidine and sudden death. West J Med. 1980;133(3):233-4.
10. Holford NH. The quinidine-digoxin interaction. N Engl J Med. 1980;302(15):864.
11. Scheinman MM, Remedios P, Cheitlin MD, Peters RW, Holford N, Desai J, et al. Effects of antiarrhythmic drugs on atrioventricular conduction in patients with acute myocardial infarction. Circulation. 1980;62(1):20-8.
12. Upton RA, Buskin JN, Williams RL, Holford NH, Riegelman S. Negligible excretion of unchanged ketoprofen, naproxen, and probenecid in urine. J Pharm Sci. 1980;69(11):1254-7.
13. Whiting B, Holford NH, Sheiner LB. Quantitative analysis of the disopyramide concentration-effect relationship. Br J Clin Pharmacol. 1980;9(1):67-75.
14. Frey FJ, Amend WJ, Lozada F, Frey BM, Holford NH, Benet LZ. Pharmacokinetics of prednisolone and endogenous hydrocortisone levels in cushingoid and non-cushingoid patients. Eur J Clin Pharmacol. 1981;21(3):235-42.
15. Holford NH, Coates PE, Guentert TW, Riegelman S, Sheiner LB. The effect of quinidine and its metabolites on the electrocardiogram and systolic time intervals: concentration--effect relationships. Br J Clin Pharmacol. 1981;11(2):187-95.
16. Holford NH, Sheiner LB. Understanding the dose-effect relationship: clinical application of pharmacokinetic-pharmacodynamic models. Clin Pharmacokinet. 1981;6(6):429-53.
17. Holford NH, Sheiner LB. Pharmacokinetic and pharmacodynamic modeling in vivo. Crit Rev Bioeng. 1981;5(4):273-322.

18. Bikle DD, Peck CC, Holford NH, Zolock DT, Morrissey RL. Pharmacokinetics and pharmacodynamics of 1,25-dihydroxyvitamin D3 in the chick. Endocrinology. 1982;111(3):939-46.
19. Frey BM, Frey FJ, Holford NH, Lozada F, Benet LZ. Prednisolone pharmacodynamics assessed by inhibition of the mixed lymphocyte reaction. Transplantation. 1982;33(6):578-84.
20. Gambertoglio JG, Frey FJ, Holford NH, Birnbaum JL, Lizak PS, Vincenti F, et al. Prednisone and prednisolone bioavailability in renal transplant patients. Kidney Int. 1982;21(4):621-6.
21. Holford NH, Sheiner LB. Kinetics of pharmacologic response. Pharmacol Ther. 1982;16(2):143-66.
22. Rakhit A, Kunitani M, Holford NH, Riegelman S. Improved liquid-chromatographic assay of quinidine and its metabolites in biological fluids. Clin Chem. 1982;28(7):1505-9.
23. Silber B, Holford NH, Riegelman S. Stereoselective disposition and glucuronidation of propranolol in humans. J Pharm Sci. 1982;71(6):699-704.
24. Williams RL, Blume CD, Lin ET, Holford NH, Benet LZ. Relative bioavailability of chlorthalidone in humans: adverse influence of polyethylene glycol. J Pharm Sci. 1982;71(5):533-5.
25. Silber BM, Holford NH, Riegelman S. Dose-dependent elimination of propranolol and its major metabolites in humans. J Pharm Sci. 1983;72(7):725-32.
26. Tozer TN, Gambertoglio JG, Furst DE, Avery DS, Holford NH. Volume shifts and protein binding estimates using equilibrium dialysis: application to prednisolone binding in humans. J Pharm Sci. 1983;72(12):1442-6.
27. Gambertoglio JG, Holford NH, Kapusnik JE, Nishikawa R, Saltiel M, Stanik-Lizak P, et al. Disposition of total and unbound prednisolone in renal transplant patients receiving anticonvulsants. Kidney Int. 1984;25(1):119-23.
28. Rakhit A, Guentert TW, Holford NH, Verhoeven J, Riegelman S. Pharmacokinetics and pharmacodynamics of quinidine and its metabolite, quinidine-N-oxide, in beagle dogs. Eur J Drug Metab Pharmacokinet. 1984;9(4):315-24.
29. Rakhit A, Holford NH, Effeney DJ, Riegelman S. Induction of quinidine metabolism and plasma protein binding by phenobarbital in dogs. J Pharmacokinet Biopharm. 1984;12(5):495-515.
30. Rakhit A, Holford NH, Guentert TW, Maloney K, Riegelman S. Pharmacokinetics of quinidine and three of its metabolites in man. J Pharmacokinet Biopharm. 1984;12(1):1-21.
31. Rosenbaum JS, Holford NH, Richards ML, Aman RA, Sadee W. Discrimination of three types of opioid binding sites in rat brain in vivo. Mol Pharmacol. 1984;25(2):242-8.
32. Rosenbaum JS, Holford NH, Sadee W. Opiate receptor binding-effect relationship: sufentanil and etorphine produce analgesia at the mu-site with low fractional receptor occupancy. Brain Res. 1984;291(2):317-24.
33. Thibonnier M, Holford NH, Upton RA, Blume CD, Williams RL. Pharmacokinetic-pharmacodynamic analysis of unbound disopyramide directly measured in serial plasma samples in man. J Pharmacokinet Biopharm. 1984;12(6):559-73.
34. Rosenbaum JS, Holford NH, Sadee W. In vivo receptor binding of opioid drugs at the mu site. J Pharmacol Exp Ther. 1985;233(3):735-40.
35. Holford NH. Clinical pharmacokinetics and pharmacodynamics of warfarin. Understanding the dose-effect relationship. Clin Pharmacokinet. 1986;11(6):483-504.
36. Mahood CB, Rothwell RP, Holford N. Slow-release theophylline (THEO-24). N Z Med J. 1986;99(794):21.
37. Mahood CB, Rothwell RP, Holford NH. Slow release theophylline (Theo-24). N Z Med J. 1986;99(797):165.
38. Webster DR, Boston GD, Holford NH, Paton DM. Relationship of metabolism of 2'-, 3'- and 5'-adenine nucleotides to presynaptic inhibition of transmitter release in rat vas deferens. Naunyn Schmiedebergs Arch Pharmacol. 1986;333(2):163-7.
39. Faull RL, Villiger JW, Holford NH. Benzodiazepine receptors in the human cerebellar cortex: a quantitative autoradiographic and pharmacological study demonstrating the predominance of type I receptors. Brain Res. 1987;411(2):379-85.

40. Holford NH. Clinical pharmacokinetics of ethanol. Clin Pharmacokinet. 1987;13(5):273-92.
41. Holford NH, Clements P, Collier P, Orie NG, van Bork LE, Jonkman JH. Pharmacokinetics and pharmacodynamics of thiazinamium in asthmatic patients. Eur J Clin Pharmacol. 1987;33(3):237-42.
42. Milne RJ, Gamble GD, Holford NH. Behavioural tolerance to morphine analgesia is supraspinally mediated: a quantitative analysis of dose-response relationships. Brain Res. 1989;491(2):316-27.
43. Holford NH. Concepts and usefulness of pharmacokinetic-pharmacodynamic modelling. Fundam Clin Pharmacol. 1990;4 Suppl 2:93s-101s.
44. Holford NH. Relevance of pharmacodynamic principles in therapeutics. Ann Acad Med Singapore. 1991;20(1):26-30.
45. Ware GJ, Holford NH, Davison JG. Unit dose dispensing. N Z Med J. 1991;104(908):125.
46. Ware GJ, Holford NH, Davison JG, Harris RG. Unit dose calendar packaging and elderly patient compliance. N Z Med J. 1991;104(924):495-7.
47. Holford NH. beta-blockers vs calcium channel blockers vs ACE inhibitors. Pharmacoeconomics. 1992;1(6):460-1.
48. Holford NH, Ambros RJ, Stoeckel K. Models for describing absorption rate and estimating extent of bioavailability: application to cefetamet pivoxil. J Pharmacokinet Biopharm. 1992;20(5):421-42.
49. Holford NH, Peace KE. Results and validation of a population pharmacodynamic model for cognitive effects in Alzheimer patients treated with tacrine. Proc Natl Acad Sci U S A. 1992;89(23):11471-5.
50. Holford NH, Peace KE. Methodologic aspects of a population pharmacodynamic model for cognitive effects in Alzheimer patients treated with tacrine. Proc Natl Acad Sci U S A. 1992;89(23):11466-70.
51. Holford N, Black P, Couch R, Kennedy J, Briant R. Theophylline target concentration in severe airways obstruction - 10 or 20 mg/L? A randomised concentration-controlled trial. Clin Pharmacokinet. 1993;25(6):495-505.
52. Holford N, Hashimoto Y, Sheiner LB. Time and theophylline concentration help explain the recovery of peak flow following acute airways obstruction. Population analysis of a randomised concentration controlled trial. Clin Pharmacokinet. 1993;25(6):506-15.
53. Guentert TW, Holford NH, Pfefen JP, Dingemanse J. Mixed linear and non-linear disposition of lazabemide, a reversible and selective inhibitor of monoamine oxidase B. Br J Clin Pharmacol. 1994;37(6):545-51.
54. Holford NH, Guentert TW, Dingemanse J, Banken L. Monoamine oxidase-A: pharmacodynamics in humans of moclobemide, a reversible and selective inhibitor. Br J Clin Pharmacol. 1994;37(5):433-9.
55. Holford NH, Guentert TW, Dingemanse J, Kettler R. Pharmacodynamics of lazabemide, a reversible and selective inhibitor of monoamine oxidase B. Br J Clin Pharmacol. 1994;37(6):553-7.
56. Holford NH, Peace K. The effect of tacrine and lecithin in Alzheimer's disease. A population pharmacodynamic analysis of five clinical trials. Eur J Clin Pharmacol. 1994;47(1):17-23.
57. Anderson BJ, Woolard GA, Holford NH. Pharmacokinetics of rectal paracetamol after major surgery in children. Paediatr Anaesth. 1995;5(4):237-42.
58. Guentert TW, Banken L, Hilton S, Holford NH. Moclobemide: relationships between dose, drug concentration in plasma, and occurrence of adverse events. J Clin Psychopharmacol. 1995;15(4 Suppl 2):84S-94S.
59. Holford NH. The target concentration approach to clinical drug development. Clin Pharmacokinet. 1995;29(5):287-91.
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## *ACCEPTED*

1. Holford N, Ma G, Metz D. TDM is dead. Long live TCI! British Journal of Clinical Pharmacology. 2020;Accepted.

## *NON-REFEREED PUBLICATIONS*

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169. Schoemaker R, Holford N. Introduction to nlmixr. ASCEPT-PAGANZ; Queenstown 2019.
170. Ma G, Holford N, Hannam J, Harrison J. Vancomycin Target Concentration Intervention vs. Therapeutic Drug Monitoring. ASCEPT-PAGANZ; Queenstown 2019.
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172. O'Hanlon C, Hannam J, Holford N. Optimal design for the estimation of cefuroxime population parameters in the paediatric intensive care setting. ASCEPT-PAGANZ; Queenstown 2019

## *CONTRACT RESEARCH REPORTS*

1. Paton DM, Holford NHG, Avery RA, Mander P. Comparative Bioavailability of Piroxicam Capsules. Prepared for Douglas Pharmaceuticals (NZ),Ltd. (1984)
2. Holford NHG. Evaluation of the Sustained Release Characteristics of Two Novel Theophylline Formulations in Man. Prepared for Riker Laboratories (NZ), Ltd. (1985)
3. Holford NHG. Comparison of Alcohol Absorption from Two Beers. Prepared for Lion Breweries, Auckland. 1985
4. Holford NHG. Investigation of a new slow release preparation of theophylline and the effect of food on its absorption. Prepared for Riker Laboratories (NZ), Ltd. 1986
5. Holford NHG. Comparison of a new slow release preparation of theophylline with Nuelin-SR after multiple doses. Prepared for Riker Laboratories (NZ), Ltd. 1987
6. Holford NHG. Comparative Bioavailability of Metronidazole Tablets. Prepared for Evans Medical (NZ), Ltd. 1987
7. Holford NHG. Comparison of a new slow release preparation of theophylline with Nuelin-SR. Prepared for Riker Laboratories (NZ), Ltd. 1988

8. Holford NHG, Lockwood P. The bioavailability of carbamazepine from Tegretol 400 mg controlled release tablets compared with two Tegretol 200 mg controlled release tablets and tow 200 mg conventional tablets. Prepared for Ciba-Geigy (Australia). 1989
9. Holford NHG, Lockwood P. The bioavailability of carbamazepine from Tegretol 200 mg controlled release tablets: A comparison in fasted and fed states and versus Tegretol 200 mg conventional tablets. Prepared for Ciba-Geigy (Australia). 1989
10. Lockwood P, Holford NHG. Relative bioavailability of two formulations of tamoxifen. Prepared for Farmitalia (Australia). 1990
11. Lockwood P, Holford NHG, Black P. Relative bioavailability of two formulations of sulindac. Prepared for Evans (NZ). 1991
12. Lockwood P, Holford NHG, Black P. Relative bioavailability of two formulations of timolol. Prepared for Evans (NZ). 1991
13. Holford NHG, Lockwood P. Relative bioavailability of a slow release nifedipine compared with Adalat and after administration with food. Prepared for Farmitalia (Australia). 1991
14. Holford NHG, Lockwood P. Relative bioavailability of a slow release nifedipine compared with Adalat at steady state. Prepared for Farmitalia (Australia). 1991
15. Holford NHG. A population pharmacokinetic analysis of fleroxacin concentrations measured in healthy subjects and patients: Application to initial dose prediction. Prepared for Hoffman-La Roche, Basel, November 1993.
16. Holford NHG. A population pharmacodynamic analysis of albuterol in asthma. Prepared for the Food and Drug Administration, Rockville, MD, USA. November 1993
17. Holford NHG. The effect of etidronate and phosphate in postmenopausal women. A population pharmacokinetic-pharmacodynamic analysis. Prepared for Proctor & Gamble, Cincinnati, November 1994
18. Holford NHG. The effect of tacrine in Alzheimer's disease: A population pharmacokinetic-pharmacodynamic analysis of the MMSE response. December 1994
19. Holford NHG. The effect of methocarbamol and placebo on the time course of low back pain: I. A population pharmacokinetic analysis. February 1995
20. Holford NHG. The effect of methocarbamol and placebo on the time course of low back pain: II. A population pharmacokinetic-dynamic analysis. February 1995
21. Holford NHG. The time course of clonazepam concentrations in patients with panic attacks. A population pharmacokinetic analysis. October 1995
22. Holford NHG. A population pharmacokinetic analysis of remifentanil in patients undergoing cardiac bypass during coronary artery bypass graft surgery, January 1997.
23. Holford NHG. A population pharmacokinetic-pharmacodynamic analysis of SDZ ENA 713 in patients with Alzheimers disease. February 1997
24. Holford NHG. Pharmacokinetics and pharmacodynamics of buprenorphine and naloxone in opiate dependent subjects participating in Study 1008A. November 1998
25. Holford NHG, Lockwood PA. Population pharmacokinetics of CI 1017. November 1999
26. Holford NHG. A population pharmacokinetic-dynamic analysis of naltrexone as an antagonist of morphine induced pupillary miosis. July 2000
27. Holford NHG. Naltrexone-morphine blockade: Estimation of naltrexone potency and influence of delivery system properties, August 2000
28. Holford NHG. PKPD model for acetaminophen. Dec 2001
29. Holford NHG, Mould DR. Population Disease Progress Models for the Time Course of HAM-D Score in Depressed Patients Receiving Placebo or Active Drug in Anti-Depressant Clinical Trials. Apr 2002
30. Holford NHG.Time Course of PASI with Placebo or Active Drug. Oct 2002.
31. Holford NHG. Clinical Trial Simulation of Disease Progression in Alzheimer's Disease. Mar 2003
32. Holford NHG. PKPD Model for Pathophysiology of Alzheimer's Disease. May 2003
33. Holford NHG. Clinical Pharmacology Review of a Novel Cardiovascular Agent. June 2003
34. Holford NHG. Population PKPD Analysis of QT Interval Changes. Sep 2003
35. Holford NHG. Population PK analysis of a Novel Anticancer Agent. June 2004
36. Holford NHG. Population PK Analysis of an Analgesic Agent. Oct 2004
37. Holford NHG. Population PKPD Analysis of a Bone Modifier 1. Dec 2005

38. Holford NHG. Population PKPD Analysis of a Bone Modifier 2. Feb 2006
39. Holford NHG. Population PKPD Analysis of a Bone Modifier 3. Feb 2006
40. Holford, NHG. Population PK Analysis of an AntiViral Agent. Oct 2006
41. Holford, NHG. Population PKPD Analysis of an AntiViral Agent. Oct 2006
42. Holford NHG. Population PKPD Analysis of a Bone Modifier 4. Dec 2006
43. Holford, NHG. Population PKPD Analysis of an AntiDepressant Agent. Nov 2006
44. Holford, NHG. Population PKPD Analysis of a Bone Modifier. Nov 2007
45. Holford, NHG. Population PK Analysis of a Metabolic Modifier. Dec 2007
46. Holford, NHG. Population PKPD Analysis of a Oral Hypoglycemic Agents. March 2008
47. Holford, NHG. Population PKPD Analysis of a Heart Rate Modifying Agent. January 2009
48. Holford, NHG. Population PKPD Analysis of a Cholesterol Lowering Agent. August 2011
49. Holford, NHG. Population PKPD Analysis of an Inotropic Agent. December 2012
50. Holford, NHG. Population PKPD Simulation of Pain Relief, December 2014
51. Holford NHG. Population PKPD Analysis of Treatment of Liver Failure, September 2017
52. Holford NHG. Population PKPD Simulation of Pain Relief. October 2018
53. Holford NHG. Population PKPD Analysis of Antiviral Response, November 2018
54. Holford NHG. Population Time to Event Analysis of Adverse Effects, January 2019

## *INTERNATIONAL INVITED LECTURES*

1. Pharmacodynamic modelling: update and perspective. Symposium on "Variability in Pharmacokinetics and Drug Response". Swedish Academy of Pharmaceutical Sciences. Gothenburg, Sweden. October 1988
2. Pharmacokinetic-pharmacodynamic modelling. 4th World Congress on Clinical Pharmacology and Therapeutics. Mannheim, Germany. July 1989
3. Randomized Concentration Controlled Trials - Application to Theophylline. Center for Drug Evaluation and Research, Food and Drug Administration. Rockville, MD, USA. January 1990
4. Concepts and usefulness of pharmacokinetic-pharmacodynamic modelling. Methods in Phase 1. Hospices Civil de Lyon. Lyon, France. February 1990
5. MKMODEL - A Pharmacological Modelling Tool. Center for Drug Evaluation and Research, Food and Drug Administration. Rockville, MD, USA. March 1990
6. Drug concentration, time and effect. Symposium on "The Measurement of Drug Effect in Man". British Pharmacological Society. Sheffield, UK. April 1990
7. Physiological alternatives to the effect compartment model. Biomedical Simulations Resource Workshop on "Advanced Methods of Pharmacokinetic and Pharmacodynamic Systems Analysis". Los Angeles, USA. May 1990
8. Concepts of pharmacodynamic modelling. Servier Laboratories, Paris, France. June 1990
9. Physiological pharmacodynamic models. Pre-Satellite Workshop. IUPHAR Satellite Symposium "Measurement and Kinetics of *In Vivo* Drug Effects". Noordwijk, The Netherlands. June 1990
10. Concentration, dose and pharmacological effect: some theoretical issues. Drug Information Association, Amsterdam, The Netherlands. October 1990.
11. Pharmacodynamics and therapeutic drug monitoring. Swedish Clinical Pharmacology Group, Stockholm, Sweden. September 1990.
12. Physiological alternatives to the effect compartment model. Pharmacokinetics UK, November 1990.
13. Population pharmacokinetics and pharmacodynamics / A rational approach to drug development. Workshop at Goedecke, Freiburg, Germany. November 1990
14. Parametric Pharmacodynamic Models. The Population Approach. Manchester, England. September 1991.
15. Population pharmacodynamic models for analgesia. 5th World Congress on Clinical Pharmacology and Therapeutics. Yokohama, Japan. July 1992.

16. General concepts of parametric pharmacodynamic modelling. Second Intl. Workshop on Pharmacodynamics of Anticancer Agents. Eze, France. September 1992
17. A constructive approach to population pharmacodynamics. American Association of Pharmaceutical Scientists, Orlando, FL, November 1993.
18. Model based meta-analysis: Application to the pharmacodynamics of tacrine in Alzheimer's disease. Second International Symposium on Measurement and Kinetics of In Vivo Drug Effects, Noordwijkerhout, The Netherlands, April 1994
19. Pharmacokinetics/Pharmacodynamics in Phase III/IV. Workshop "PK/PD and Dose-Effect Relationships in Pharmaceutical Research and Development". Paris, France, April 1994
20. The blood is not a barrier to the brain. Symposium "Human Pharmacodynamics", ASCEPT Annual meeting, Auckland, New Zealand, December 1994
21. The effect of tacrine in Alzheimer's disease: the results of a population pharmacokinetic-pharmacodynamic approach. Symposium "Awakenings", ASCEPT Annual meeting, Auckland, New Zealand, December 1994
22. Target concentration intervention. Symposium "Therapeutic Drug Monitoring", Joint ASCEPT/APSA satellite meeting, Auckland, New Zealand, December 1994
23. Population approach to pharmacodynamics. European Association of Clinical Pharmacologists, First Congress, Paris, France, September 1995
24. Understanding clinical drug development by modelling drug response. FDLI/CDDS Conference "Drug Development: Who knows where the time goes?" Washington DC, USA, June 1996
25. The target concentration approach to clinical trials. VI World Conference on Clinical Pharmacology and Therapeutics. Buenos Aires, Argentina, August 1996
26. RIDO - What is behind it? ECPM/CDDS Workshop on Clinical Trial Simulation, Basel, October 1996
27. RIDO clinical trial simulator. ECPM/CDDS Workshop on Clinical Trial Simulation, Basel, October 1996
28. The role of PK/PD modelling in drug development. Arbeitsgemeinschaft f r angewandte Humanpharmakologie, Neu-Ulm, February 1997
29. Complex PK/PD models - an alcoholic experience. Arbeitsgemeinschaft f r angewandte Humanpharmakologie, Neu-Ulm, February 1997
30. Population models for Alzheimer’s and Parkinson’s disease. COST B1 Conference on the Population Approach "Measuring and Managing Variability in Response, Concentration and Dose", Geneva, February 1997
31. Clinical Development of New Drugs and Therapeutic Agents: Art, Science and New Frontiers. Stanford University, CA, USA. "Pharmacokinetic and Pharmacodynamic Assessment in Patients: Phase II", July 1997.
32. Modeling and Simulation of Clinical Trials in Drug Development and Regulation. Reston, VA, USA. "Teaching Modelling and Simulation via Interactive Multimedia: RIDO", November 1997.
33. Modeling and Simulation of Clinical Trials in Drug Development and Regulation. Reston, VA, USA. "Modelling Therapeutic Effects and Disease Progress", November 1997.
34. Modeling and Simulation of Clinical Trials in Drug Development and Regulation. Reston, VA, USA. "Present Role & Future of Modeling & Simulation in Drug Development: Academia", November 1997.
35. Population Pharmacokinetics: An Underutilised Resource?. Canberra, ACT, Australia. "Case Study: Examples for the Pharmaceutical Industry", December 1997.
36. Population Pharmacokinetics: An Underutilised Resource?. Canberra, ACT, Australia. "Study Design, Statistics – The Maths and Modelling", December 1997.
37. Public Discussion of Draft FDA Population Pharmacokinetics Guidance, "Validation". , University of Maryland Shady Grove, MD, USA, April 1998.
38. Population Analysis Group Europe Annual Meeting, "Clinical Trial Simulation". Wuppertal, Germany, June 1998.
39. South African Pharmacology Society, 1998 Congress, "Clinical Trial Simulation", MV Symphony, South Africa, October 1998.

40. Modelling and Simulation Workshop, "Model Building Practices: Disease Progress and Covariate Models", Arlington, VA, USA. February 1999.
41. Clinical Development of New Drugs and Therapeutic Agents: Art, Science and New Frontiers. Georgetown University, Washington DC, USA. "Good Practices in The Application of Computer Based Modeling and Simulation of Clinical Trials", June 1999.
42. European Centre for Pharmaceutical Medicine Workshop on Drug Development. "Using RIDO for Clinical Trial Simulation", Basel, Switzerland, September 1999
43. International Biometric Society Region Oesterreich-Schweiz (ROeS) Seminar "Simulating Disease Progress and Drug Action in Clinical Trials", Basel, Switzerland, September 1999
44. Jerusalem Conference for Pharmaceutical Scientists. "PD Rationale for Optimising Drug Delivery in Parkinson's Disease", Jerusalem, Israel, October 1999
45. Workshop on guidance for population approach to pharmacokinetics and pharmacodynamics. United States Food and Drug Administration. University of Maryland Shady Grove, MD, USA, Dec 1999.
46. East Coast Population Analysis Group Annual Meeting. "Disease progress modelling", University of Maryland Shady Grove, MD, USA, Dec 1999.
47. Population Analysis Group Australia and New Zealand. "Background, rationale for Population Approaches",Annual Meeting, Brisbane, Queensland, Australia, January 2000
48. Population Analysis Group Australia and New Zealand. "Applications: Covariate models",Annual Meeting, Brisbane, Queensland, Australia, January 2000
49. Population Analysis Group Australia and New Zealand. "Overview of the WinNonMix Program",Annual Meeting, Brisbane, Queensland, Australia, January 2000
50. Population Analysis Group Australia and New Zealand. "Three Stage Model Evaluation - a Form of Posterior Predictive Check",Annual Meeting, Brisbane, Queensland, Australia, January 2000
51. TDM 2000. "Individualization: Why? How? When?", University of Basel, Basel, Switzerland, February 2000
52. Academics to CDER: PK & PD for CDER Reviewers PKPD 101. "The time course of drug effect". FDA, Rockville, MD, USA, Feb 2000
53. COST B15 Expert Meeting "Modelling of Disease and Disease Progression", Leiden, Netherlands, April 2000
54. Millennial World Congress of Pharmaceutical Sciences, Chairman, "Mechanism based PK/PD in Drug Development", San Francisco, CA, USA, April 2000
55. Parkinson Study Group 13th Annual Meeting. "Modeling Parkinson's disease progression and its response to treatment " Indian River Plantation, Stuart, FL, USA, May 2000
56. Quantitative Methodogies to Improve Drug Development and Therapy, Lewis B Sheiner 60th Birthday Symposium, "Target Concentration Strategy", San Francisco, CA, USA, May 2000
57. South African Pharmacology Society, 2000 Congress. "Target concentration intervention or therapeutic drug monitoring", Durban, South Africa, September 2000
58. South African Pharmacology Society, 2000 Congress. "Understanding drug effects in chronic disease - the role of disease progress models", Durban, South Africa, September 2000
59. DIA 2000 Evolution of Drug Regulatory Practices in Asia "Clinical trial simulation - Levodopa in Parkinson's disease". Seoul, Korea September 2000
60. Esteve Foundation Symposium IX: Optimal Dose Identification "Concentration controlled therapy", Lloret de Mar, Spain, October 2000
61. Population Analysis Group Australia and New Zealand. " NONMEM and Bayes", PAWS, Christchurch, New Zealand, January 2001
62. Population Analysis Group Australia and New Zealand. " Hands on using PRIOR with NONMEM ",PAWS, Christchurch, New Zealand, January 2001
63. Population Analysis Group Australia and New Zealand. "Comparison of NONMEM and WinBUGS/PKBUGS ",PAWS, Christchurch, New Zealand, January 2001
64. Population Analysis Group Australia and New Zealand. "Using NONMEM for Clinical Trial Simulation", Annual Meeting, Christchurch, New Zealand, January 2001

65. Food and Drug Administration Science Forum, Science Across the Boundaries, "The Exposure Response Relationship and Clinical Trial Simulation", Washington DC, February 2001
66. Population Analysis Group Europe. "Auckland Bones and Summer Sun". Basel, Switzerland, June 2001
67. American Association of Pharmaceutical Scientists, Short Course on Clinical Trial Simulation. “Clinical Trial Simulation Software”. Denver, CO, USA, October 2001.
68. European Federation of Pharmaceutical Sciences " Understanding the mechanism of drug action and disease process: Alzheimer’s disease as a model for biomarker-based, disease-oriented approach", Basel, Switzerland, December 2001.
69. 4th International Symposium on Measurement and Kinetics of *In Vivo* Drug Effects, "Understanding disease progression using clinical pharmacology", Noordwijkerhout, The Netherlands, April 2002
70. MUFPADA, “Disease Progress and Drug Action Models, Scope and Implementation", Indianapolis, Indiana, USA, May 2002
71. Population Analysis Group Europe. "Population Disease Progress Models for the Time Course of HAMD Score in Depressed Patients Receiving Placebo in Anti Depressant Clinical Trials". Paris, France, June 2002
72. Population Analysis Group Europe. Bayesian Modelling Workshop. "NONMEM and Bayes". Paris, France, June 2002
73. Clinical Trial Simulation in Drug Development, Institute of International Research, "Asking the Questions That Matter", Washington DC. August 2002.
74. National Center for Co-ordination of Clinical Trials. Clinical Trial Simulation Workshop, Havana, Cuba, November 2002
75. Population Analysis Group Australia and New Zealand and Africa. "Parkinson's Disease: Progression of Disease and Drug Action", Cape Town, South Africa, November 2002
76. Population Analysis Group Australia and New Zealand. "Population Pharmacokinetics of Aminoglycosides – The Importance of Within Subject Variability", Annual Meeting, Sydney, Australia, January 2003
77. Meet the Expert “Clinical Pharmacology=Disease Progress+Drug Action”. American Society for Clinical Pharmacology and Therapeutics. Annual Meeting, Washington DC, April 2003
78. Memorial Sloan Kettering Cancer Institute. "The Exposure Response Relationship", New York, NY. April 2003
79. European Association for Clinical Pharmacology and Therapeutics. "Clinical Pharmacology=Disease Progress+Drug Action". 6th Congress, Istanbul, Turkey, June 2003
80. National Center for Co-ordination of Clinical Trials. 3 day Clinical Pharmacology Workshop, Havana, Cuba, October 2003
81. American Association of Pharmaceutical Scientists, Short Course on Bayesian Modelling. “NONMEM and PRIOR”. Salt Lake City, UT, USA, October 2003.
82. Australasian Society for Clinical and Experimental Pharmacology and Toxicology, "Clinical pharmacology and rational clinical trial design and analysis". Sydney, Australia, December, 2003
83. Population Analysis Group Australia and New Zealand. "Disease Progress and Drug Action Models Scope and Implementation", Annual Meeting, Adelaide, Australia, January 2004
84. Population Analysis Group Australia and New Zealand. "Parameter Variability Theory and Application", Annual Meeting, Adelaide, Australia, January 2004
85. Population Analysis Group Europe. "Disease Progression in Parkinson’s Disease – Evidence for Protective Effects of Drug Treatment". Uppsala, Sweden June 2004
86. International Biometrics Conference. "The Drug Treatment of Parkinson’s Disease The interaction between disease progress, drug action and biostatistics". Cairns, Australia, July 2004
87. Population Analysis Group Australia and New Zealand and Japan. Clinical Pharmacology and Pharmacometrics Workshop. Tokyo, September 2004

88. World Conference on Anti-Infectives "Sex and Age are Unimportant for Pharmacokinetics", Nuremberg, September 2004
89. PKPD Symposium, "Disease Progress and Neuroprotection - Alzheimer's and Parkinsons' Disease". Pfizer, Groton, CT, USA, October 2004
90. National Center for Co-ordination of Clinical Trials. 1 day Clinical Pharmacology Workshop, Havana, Cuba, November 2004
91. Third International Workshop on the Design and Conduct of Clinical Trials, "The Drug Treatment of Parkinson's Disease. The interaction between disease progress, drug action and biostatistics". Havana, Cuba, November 2004
92. Keio University, 15th International Symposium for Life Sciences and Medicine, Symposium speaker "CNS Disease Progression and Drug Action", Tokyo, Japan, January 2005
93. 125th Meeting of Japanese Pharmaceutical Society, Plenary keynote speaker "Clinical Pharmacology = Disease Progress + Drug Action", Tokyo, Japan, March 2005
94. American Society for Clinical Pharmacology and Therapeutics. Symposium speaker "PKPD models for red blood cell responses to erythropoietic stimulation with and without chemotherapy and iron supplements", Annual Meeting, Orlando, FL, USA, March 2005
95. Food and Drug Administration, Office of Clinical Pharmacology and Biopharmaceutics, Seminar, "Placebo Response and Disease Progression: CNS and Osteoporosis Examples", Rockville, MD, USA, March 2005
96. National University of Singapore, Dept of Pharmacology, Seminar "Disease Progression and Drug Action The Clinical Pharmacology of Levodopa", Singapore, April 2005
97. University of Leiden, Dept of Pharmacology, Seminar "Clinical Pharmacology = Disease Progress + Drug Action", Leiden, The Netherlands, May 2005
98. AstraZeneca Seminar "Disease Progression Concepts with Specific Applications to Alzheimer's and Parkinson's Disease", Sodertalje, Sweden, June 2005
99. Population Analysis Group Europe, Plenary tutorial "An overview on how to use NONMEM for PK/PD analyses", Pamplona, Spain, June 2005
100. University of Sheffield, Dept Pharmacology, Seminar "Clinical Pharmacology = Disease Progress + Drug Action", Sheffield, UK, July 2005
101. Medical Faculty of Cienfuegos, Lecture "Clinical Trial Science", Cienfuegos, Cuba, October 2005
102. 6th Congress of Pharmacology and Therapeutics, Cuban Society of Pharmacology, Plenary lecture "Clinical Trial Science", Santiago de Cuba, Cuba, November 2005
103. Centre for Molecular Immunology, Lecture "Clinical Trial Science", Havana, Cuba, November 2005
104. American Association of Pharmaceutical Sciences Annual Meeting, Symposium lecture "The Time Course of Placebo Response in Clinical Trials", Nashville, TN, November 2005
105. American Association of Pharmaceutical Sciences Annual Meeting, Symposium lecture "Why Oncologists and Their Patients Need Model Based Clinical Pharmacology", Nashville, TN, November 2005
106. American Association of Pharmaceutical Sciences Annual Meeting, PKPDM Round Table Presentation "The FDA Critical Path and the Placebo Response", Nashville, TN, November 2005
107. Drug Information Association Conference Exposure/Response Best Practice design, analysis, and review, Symposium lecture "Tricky Hypothesis testing - A Mix of Methods", Philadelphia, PA, USA, December 2005
108. Bichat University, Seminar “Survival in a bathtub”, Paris, France, June 2006
109. International PKPD Symposium, Yonsei University, Symposium Lecture “The Time Course of Response to Antidepressants in Clinical Trials – Do Antidepressants Really Take 2 Weeks To Work?”, Seoul, Korea, October 2006
110. Australian Health and Medical Research Council Congress, Symposium Lecture “The Time Course of Response to Antidepressants in Clinical Trials – Do Antidepressants Really Take 2 Weeks To Work?”, Melbourne, Australia, November 2006

111. Lewis B Sheiner Memorial Symposium, “When PK is not needed”, University of California, Washington DC, USA December 2006
112. Population Analysis Group Australia and New Zealand. "Time to Event Analysis", Annual Meeting, Singapore, February 2007
113. Pharmaceutical Sciences World Congress, “Bone Disease Progression and Drug Action”, Amsterdam, April 2007
114. Population Analysis Group Europe, Plenary tutorial "Disease Progress Models", Copenhagen, Denmark, June 2007
115. University of Koeln, Clinical Pharmacology, “Nature or Nurture – PKPD of Warfarin”, Koeln, Germany, June 2007
116. 7th International Workshop on Cancer PKPD, “The Time Course of Tumor Size Response to Gemcitabine – What Can We Learn About Pharmacology?”, Liberia, Costa Rica, September 2007
117. American Association of Pharmaceutical Sciences Annual Meeting, Research Achievement Award lecture "All Models are Wrong - Stamp Collecting to Physics", San Diego, CA, USA November 2007
118. American Association of Pharmaceutical Sciences Annual Meeting, Bone Symposium, " Linking PKPD of a Biomarker to Outcome Events - Application to Osteoporosis", San Diego, USA CA, November 2007
119. American Association of Pharmaceutical Sciences Annual Meeting, CPTR Point Counterpoint, "'Individualized' (PKPD-guided) but not 'personalized' (pharmacogenetic-guided) is a better approach to dosing of medicines than 'one-dose-fits-all ", San Diego, CA, USA November 2007
120. American Conference on Pharmacometrics. “How drugs may slow disease progression”, Phoenix, AZ, USA March 2008
121. Cincinnati Children’s Hospital, Seminar “A mechanistic approach to size and maturity”, Cincinnati, OH, USA March 2008
122. European Medicines Evaluation Authority Workshop on Models in Paediatric PK “Mechanism based concepts of size and maturity”, London, UK April 2008
123. 13. Pharmakokinetik/Pharmakodynamik-Expertentreffen, “Disease progression in Parkinson’s disease”, Isny, Germany May 2008
124. Population Analysis Group Europe, “Stuck in Modelling – Attempts to describe disease progress and the action of oral hypoglycaemic agents in type 2 diabetes”, Marseille, France June 2008
125. Population Analysis Group Europe, Tutorial “Visual predictive check” (with Prof Mats Karlsson, Univ Uppsala), Marseille, France June 2008
126. Michael J Fox Foundation Meeting on Parkinson Disease Sub-Types “Disease Progress and Clinical Outcome in Parkinson’s Disease”, New York, NY, USA July 2008
127. IXth World Congress on Clinical Pharmacology & Therapeutics, “PKPD model development in infants and children”, Quebec, Canada July 2008
128. University of Stellenbosch, Medical Grand Rounds, “Osteoporosis and fractures – why time cannot be ignored”, Stellenbosch, South Africa, February 2009
129. University of Cape Town, Medical Grand Rounds, “Clinical Pharmacology=Disease Progress + Drug Action”, Cape Town, South Africa, March 2009
130. University of Cape Town, Dept Statistics, “Time to event analysis”, Cape Town, South Africa, March 2009
131. Population Analysis Group Europe, Debate “Children are small adults”, St. Petersburg, Russia June 2009
132. International Association of Therapeutic Drug Monitoring & Clinical Toxicology. “Quantitative Rules for Target Concentration Intervention”, Montreal, Canada. October 2009
133. International Association of Therapeutic Drug Monitoring & Clinical Toxicology. “Time course and pharmacodynamics of non-small cell lung cancer size changes in patients treated with gemcitabine”, Montreal, Canada. October 2009
134. American Association of Pharmaceutical Sciences Annual Meeting, Sunrise Session, "Quantitative Basis of Dosing", Los Angeles, CA, USA November 2009

135. American Association of Pharmaceutical Sciences Annual Meeting, RoundTable, " Model Evaluation - A Pharmacologists View", Los Angeles, CA, USA November 2009
136. University of Cape Town, Department of Paediatrics, “Dosing in Children”, Cape Town, South Africa, February 2010
137. University of Cape Town, Department of Clinical Pharmacology, “Target Concentration Intervention The Science of Dose Individualization”, Cape Town, South Africa, February 2010
138. University of Cape Town, Department of Clinical Pharmacology, “Clinical application of plasma protein binding”, Cape Town, South Africa, February 2010
139. American Society of Clinical Pharmacology and Therapeutics. “Three Strikes And You are Out! Why traditional statistical practice is stopping therapeutic progress in Parkinson's disease”, Atlanta, GA, USA, March 2010
140. Oregon Health Science University, Department of Neurology, “Three Strikes And You are Out! Why traditional statistical practice is stopping therapeutic progress in Parkinson's disease”, Portland, OR, USA, April 2010
141. 6th International Symposium on Measurement and Kinetics of In Vivo Drug Effects; “Target Concentration Intervention Can we hit the targets?” Noordwijkerhout, the Netherlands, April 2010
142. 6th International Symposium on Measurement and Kinetics of In Vivo Drug Effects; “Delaying Time-to-Event in Parkinson’s Disease: Prognostic Tools for Managing PD?” Noordwijkerhout, the Netherlands, April 2010
143. CHU de Limoges, Service de Pharmacologie et Toxicologie, “Delaying Time-to-Event in Parkinson’s Disease”, Limoges, France, May 2010
144. Unversity of Cincinnati Children’s Hospital, Department of Clinical Pharmacology, “PK of Creatinine in Neonates -- Vancomycin as a covariate?”, Cincinnati, OH, July 2010
145. University of Queensland, Pharmacy Australia Centre of Excellence, “Disease Modifying Treatments. Design and Analysis for Demonstrating Disease Modifying Effects”, Brisbane, QLD, Australia, November 2010
146. American Association of Pharmaceutical Sciences Annual Meeting, Symposium, " Disease Modifying Treatments. Design and Analysis for Demonstrating Disease Modifying Effects", New Orleans, LA, USA November 2010
147. American Association of Pharmaceutical Sciences Annual Meeting, RoundTable, " Pharmacokinetics in Humans -- the Gold Standard", New Orleans, LA, USA November 2010
148. University of Rochester, Department of Neurology, “Clinical Pharmacology Disease Progress and Drug Action”, Rochester, NY, USA, November, 2010
149. University of Rochester, Department of Biostatistics, “Delaying Time-to-Event in Parkinson’s Disease: Prognostic Tools for Managing PD?”, Rochester, NY, USA, November, 2010
150. State University of New York at Buffalo, Department of Pharmaceutical Sciences, “Time to event analysis”, Buffalo, NY, USA, November 2010
151. University of Cape Town, Department of Clinical Pharmacology, “Interpreting the results of Parkinson's disease clinical trials: Time for a change”, Cape Town, South Africa, March 2011
152. American Society of Clinical Pharmacology and Therapeutics. “The Effects of Informative Dropouts on the Design and Evaluation of Clinical Trials”, Dallas, TX, USA, March 2011
153. American Society of Clinical Pharmacology and Therapeutics. “Dosing in children – how to reach the target effect”, Dallas, TX, USA, March 2011
154. American Society of Clinical Pharmacology and Therapeutics. “Disease Progress”, Dallas, TX, USA, March 2011
155. Population Approach Group of Europe, Holford NHG, Lavielle M. “A tutorial on time to event analysis for mixed effect modelers”, Athens, Greece, June 2011
156. AstraZeneca, “Interpreting the results of Parkinson's disease clinical trials: Time for a change”, Gothenberg, Sweden, June 2011

157. Rosa, Webinar, “Clinical pharmacology=Disease progression+Drug action”, September 2011
158. American Association of Pharmaceutical Sciences Annual Meeting, Symposium, " Understanding Why Hazard is Important", Washington, DC, USA November 2011
159. Indiana University, CTSI Symposium, “Disease Progression and Disease Modification of Parkinson’s disease”, Indianapolis, IN, USA, November 2011
160. Monash University, CMUS Seminar, “The first dose of morphine – are children small adults?”, Melbourne, Victoria, Australia, November 2011
161. Australasian Society of Clinical and Experimental Pharmacology and Toxicology (Australia), “The design and analysis of clinical trials in Parkinson’s disease”, Perth, Western Australia, Australia, December 2011
162. Holford NHG, Harankarn S, Dombrowsky E, Patel D, Barrett JS. What is the between cycle variability in methotrexate clearance? PAGANZ,2012, Melbourne.
163. Holford NHG. Safe and effective variability:The rational basis for dose individualization, Australasian Society of Clinical and Experimental Pharmacology and Toxicology (New Zealand), 2012, Queenstown, New Zealand
164. Holford NHG. Quantitative pharmacology. PAGJA, 2012, Osaka, Japan
165. Holford NHG. Quantitative pharmacology. CTSI, 2012, Indianapolis, USA
166. Holford NHG. PKPD tutorial, World Conference on Pharmacometrics, 2012, Seoul, Korea
167. Holford NHG. Clinical pharmacology and disease progress. Centre for Health Research, 2012, Luxembourg
168. Holford NHG Time to event analysis for pharmacokineticists, AAPS, Webinar, 2012
169. Holford NHG History of pharmacometrics, PAGANZ Annual Meeting, Brisbane, Australia, 2013
170. Holford NHG Tacrolimus and haematocrit, CHU Limoges, France, 2013
171. Holford NHG Population pharmacokinetics of busulfan, University of Washington, Seattle, USA, 2013
172. Holford NHG Tumour size and survival, Seattle Genetics, Seattle, USA, 2013
173. Holford NHG Mechanism based disease progression. International Society of Quantitative Pharmacology, Beijing, China.2013
174. Holford NHG Systems Pharmacology and Clinical Outcome. 7th Noordwijkerhout Symposium, Netherlands, April 2014
175. Holford NHG Target concentration intervention – can we hit the target? Conference de Prestige, University of Montreal, Montreal, Canada, May 2014
176. Holford NHG, Disease progression and survival. State University of Buffalo, New York, USA, May 2014
177. Holford NHG. Power and Type 1 Error of Tumour Size Metrics Used to Predict Survival. Population Approach Group of Europe, Alicante, Spain, June 2014
178. Holford NHG. Busulfan dosing – initial and next doses. Necker Hospital for Children, Paris, France, July 2014
179. Holford NHG Safe and effective variability. World Congress on Pharmacology, Cape Town, South Africa, July 2014
180. Holford NHG Rational clinical pharmacology – concentration not dose. Plenary lecture, World Congress on Pharmacology, Cape Town, South Africa, July 2014
181. Holford NHG Systems Pharmacology and Clinical Outcome. CTSI Symposium, Indiana University, USA, Nov 2014
182. Holford NHG Modelling Description Language – Structure and MDL-IDE Implementation. DDMoRe Consortium, Amsterdam, March 2015
183. Holford, NHG Why children are small adults - The first dose of morphine, Necker Hospital for Children, Paris, France, April 2015
184. Holford NHG Bootstrap and Confidence Intervals, Chugai Clinical Pharmacology Seminar, Tokyo, Japan, July 2015
185. Holford NHG Modelling informative dropout, Astellas Clinical Pharmacology Seminar, Tokyo, Japan, July 2015

186. Holford NHG Quantitative Pharmacology - Birth, Maturation, Adulthood, Dept Clinical Pharmacology seminar, Indiana University, USA, Nov 2015
187. Holford NHG Rational Clinical Pharmacology – Concentration not dose, CTSI Symposium, Indiana University, USA, Nov 2015
188. Holford N, Kenealy T. Growth and decline of body size and composition – Prediction of the transition from pre-diabetes to Type 2 diabetes in humans PAGE 25 [wwwpage-meetingorg/?abstract=5848]. Lisbon, Portugal, 8 June 2016.
189. Holford NHG, Using normal fat mass to account for body size and composition. World Conference on Pharmacometrics; 24 August 2016; Brisbane.
190. Holford NHG Why clearance is my religion, American Association of Pharmaceutical Science, Denver, CO, USA, Nov 2016
191. Holford NHG. Systems Pharmacology – Learning from GAVamycin. PAGANZ, Adelaide, SA, Australia, 2017 https://wwwpaganzorg/abstracts/systems-pharmacology-application-to-gavamycin/.
192. Holford NHG. NextDose – A web based dosing tool – Development version 2017. PAGANZ, Adelaide, SA, Australia, 2017 https://wwwpaganzorg/abstracts/nextdose-a-web-based-dosing-tool-development-version-2017
193. Holford NHG. Disease and disease progression. Farewell symposium or Prof Meindert Danhof, Leiden University, March 2017
194. Holford N. Sherwin C. Scaling renal function in neonates and infants to describe the pharmacodynamics of antibiotic nephrotoxicity PAGE 26 (2017) Abstr 7208 [www.page-meeting.org/?abstract=7208] Budapest, June, 2017
195. Holford N. Principles of time to event analysis and diagnostics. Pharmacometrics for Academia and Industry, 3rd Seminar, University of Toyama, Toyama, Japan, 18 July 2017
196. Holford N. Disease Progression and Parkinsons Disease– Interpretation of the ELLDOPA study. Chugai Clinical Pharmacology Seminar, Tokyo, Japan, 20 July 2017
197. Holford N. Babies, Children, Adults – Integrated Dosing. US Food and Drug Administration Seminar, Silver Spring, MD, USA, 14 September, 2017
198. Holford N, Nomogram to NextDose. Distinguished Investigator Award, American College of Clinical Pharmacology, San Diego, CA, USA, 17 September, 2017
199. Holford N. Disease and disease progression. FIP From Bench to Bedside, Glasgow, Scotland, 3 September 2018
200. Holford N, Clinical pharmacology = Disease progression + Drug action. PMDA Workshop, Tokyo, Japan, 3 September 2019
201. Holford N, Target concentration intervention for drug development, Chugai Pharmaceuticals, Tokyo, Japan, 13 September 2019
202. Holford N, TDM is dead – long live TCI, 7th Pharmacometrics for Academia and Industry, Tokyo, Japan, 13 September 2019