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APPENDIX

Antimicrobial stewardship: Systems and processes for effective antimicrobial medicine use within human health and healthcare in New Zealand

A. The NICE Guideline Development Group & New Zealand contextualisation group

- A.1 Guideline Development Group
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NICE National Institute for
Health and Care Excellence

A. The Guideline Development Group, NICE project team, NICE quality assurance team, New Zealand contextualisation group, and declarations of interest

A.1 Guideline Development Group

Chris Cefai	Consultant in Clinical Microbiology and Infection Control, Betsi Cadwaladr University Health Board, North Wales
Esmita Charani (until 27 November 2014)	Academic Research Pharmacist, the National Centre for Infection Prevention and Management, Imperial College London and Honorary Clinical Pharmacist, Imperial College Healthcare NHS Trust
Lynne Craven	Lay member
Martin Duerden	Sessional/Locum GP, North Wales and Clinical Senior Lecturer, Centre for Health Economics and Medicines Evaluation, Bangor University
Heather Edmonds	Lead Medicines Optimisation and Antimicrobial Pharmacist, Leeds North Clinical Commissioning Group
Alastair Hay (Chair)	Professor of Primary Care and NIHR Research Professor, Centre for Academic Primary Care, School of Social and Community Medicine, University of Bristol; and GP, Concord Medical Centre, Bristol
Philip Howard	Consultant Antimicrobial Pharmacist, Leeds Teaching Hospitals NHS Trust
Sanjay Kalra	Consultant in Trauma and Orthopaedics and Clinical Lead for Infection Control, Royal Liverpool University Hospitals NHS Trust
Tessa Lewis (Vice Chair)	GP and Medical Adviser to All Wales Therapeutics and Toxicology Centre
Kym Lowder	Head of Medicines Management, Integrated Care 24 Limited, Kent
Clodna McNulty	Head of Primary Care Unit, Public Health England
John Morris	Lay member
Sanjay Patel	Consultant in Paediatric Infectious Diseases and Immunology, University Hospital Southampton NHS Foundation Trust
Wendy Thompson	Associate Dentist, Sedbergh Dental Practice, Clinical Supervisor, Blackpool Teaching Hospitals NHS Foundation Trust, Lecturer in Antimicrobial Prescribing, Health Education NE
Susan Walsh	Lay member

A.2 NICE project team

Emma Aaron	Administrator, Medicines and Prescribing Centre, NICE
Anne Louise Clayton	Editor
Leighton Coombs	Data Analyst, Health Technology Intelligence, NICE (from July to December 2014)
Johanna Hulme	Project Lead and Associate Director, Medicines and Prescribing Centre, NICE
Debra Hunter	Assistant Project Manager, Medicines and Prescribing Centre, NICE (from 29 September 2014)
Dominick Moran	Data Analyst, Costing and Commissioning Implementation, NICE (from July to December 2014)
Greg Moran	Senior Adviser, Medicines and Prescribing Centre, NICE
Roberta Richey	Senior Adviser, Medicines and Prescribing Centre, NICE (from 1 August 2014)
Rebekah Robinson	Assistant Project Manager, Medicines and Prescribing Centre, NICE (until 26 September 2014)
Erin Whittingham	Public Involvement Adviser

A.3 NICE quality assurance team

Mark Baker	Clinical Adviser
Christine Carson	Guideline Lead
Louise Shires	Guideline Commissioning Manager
Judith Thornton	Technical Lead

A.4 NZ Guideline Review and Contextualisation Group

Scott Metcalfe	Public Health Physician, Wellington
Alan Moffitt	General Practitioner, Director, Procure, Auckland
Pauline Norris	Pharmacist, Professor of Social Pharmacy, University of Otago, Dunedin,
Mark Thomas (Chair)	Infectious Diseases Physician, University of Auckland, Auckland
Nigel Thompson	General Practitioner, bpac ^{nz} , Dunedin
Arlo Upton	Microbiologist and Medical Director, Labtests, Auckland
Theresa McClenaghan	Project Manager, bpac ^{nz} , Dunedin

A.5 Declarations of interests

The following members of the NICE Guideline Development Group (GDG) made declarations of interests. All other NICE GDG members stated that they had no interests to declare. The conflicts of interest policy (2007) was followed until September 2014, when an [updated policy](http://www.nice.org.uk/About/Who-we-are/policies-and-procedures) [www.nice.org.uk/About/Who-we-are/policies-and-procedures] was published.

Member	Interest declared	Type of interest	Decision taken
Alastair Hay (Chair)	Member of Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection.	Personal specific non financial	Project lead will monitor for any potential conflict. Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
	Would like to be aware of evidence gaps and GDG research recommendations that could influence future research programme.		
	Has an interest in the Longitude prize, no financial interests, no involvement in any new antimicrobials.		
Alastair Hay (Chair)	No financial conflicts of interest to declare. Lead a group at the University of Bristol conducting research into primary care infections and antimicrobial resistance.	Personal non financial non specific	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Esmita Charani	Published in peer reviewed journals.	Personal non financial non specific	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles. Reminded that opinions expressed that may be relevant to the guideline may lead to a conflict of interest.
Esmita Charani	Published author on research into antimicrobial stewardship interventions and behaviour change in this field including Cochrane reviews (one ongoing at present). Has also published research on use of mobile health technology to deliver antimicrobial stewardship interventions.	Personal non financial non specific	Chair and Project lead will monitor for any potential conflict. Also discussed with the NICE Medicines and Prescribing Centre Programme Director. Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles.
	Salary is funded by the National Institute of Health Research on a grant investigating behaviour change in antimicrobial prescribing.	Non personal financial non specific	
	Honorary visiting researcher to Haukeland University in Norway where advice on the implementation of the national implementation of an antimicrobial stewardship programme.	Personal non financial non specific	

Esmita Charani	<p>Undertaking research at PhD level into antibiotic prescribing behaviours in secondary care.</p> <hr/> <p>Published author in the field of antibiotic prescribing behaviours and antimicrobial stewardship.</p>	Personal non financial non specific	Chair and Project lead will monitor for any potential conflict. Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles.
Martin Duerden	<p>Received personal payment (honoraria) plus reimbursement of expenses from Reckitt Benckiser (RB) to speak at 2 meetings in the last 12 months. The subject of the talks was antibiotic use in respiratory infections at each meeting but there was no promotion of products marketed by Reckitt Benckiser in the content.</p> <hr/> <p>In the last 12 months has also received payment from the publishers of Pulse, GP and Prescriber for writing various articles on prescribing and therapeutics, including antibiotic use.</p>	<p>Personal financial non specific</p> <hr/> <p>Personal financial non specific</p>	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles. Advised not to write for any publication until the guideline has published.
Martin Duerden	Clinical Adviser on Prescribing for the Royal College of General Practitioners but does not receive payment for this.	Personal non specific non financial	None
Martin Duerden	<p>Member of the Global Respiratory Infection Partnership (work declared above with Reckitt Benckiser done in this capacity). Now spoken at 4 meetings in the last 12 months.</p> <hr/> <p>Member of the Paediatric Formulary Committee for the British National Formulary (BNF); payment not received for this.</p> <hr/> <p>On the editorial board of Prescriber (a Wiley publication) which is an unpaid position. Occasionally writes opinion based editorials and articles for this publication. Receives payments for these.</p> <hr/> <p>In the last year was commissioned and co wrote a report on Polypharmacy for the King's Fund and received payment for this. Also spoke at a King's Fund seminar on the topic.</p> <hr/> <p>On the Editorial Board of Drug and Therapeutics Bulletin, a BMJ Group publication, this is a paid position.</p> <hr/> <p>Has received small payments for articles on the Lipid Modification Clinical Guideline from Pulse and from Guidelines in Practice.</p>	<p>Personal non specific non financial</p> <hr/> <p>Personal non specific non financial</p> <hr/> <p>Personal non-specific non financial</p> <hr/> <p>Personal non specific non financial</p> <hr/> <p>Personal financial non specific</p> <hr/> <p>Personal financial non specific</p>	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles. Advised not to write for any publication until the guideline has published.

Martin Duerden (continued)	Member of the NICE Guideline Development Group on lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease.	Personal non specific non financial	
	On the Medicines Committee for the Royal College of Paediatrics and Child Health – payment not received for this.	Personal non specific non financial	
	Member of the NICE technology appraisals Committee until October 2014. This is not a paid position.	Personal non specific non financial	
Martin Duerden	Presented at workshops for commissioners introducing the proposed new national Antimicrobial Prescribing Quality Premium and guide commissioners towards resources and best practice – March 2015 in Leeds.	Personal non specific financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles. Chair and Project lead will monitor for any potential conflict.
	Delivered a session on sharing success and the work that has been done in Leeds. No financial payment was received for presenting.	Personal non specific non financial	
Heather Edmonds	Involved in a Royal College of Nursing published position statement which was sponsored by Pfizer.	Personal non specific non financial	None
Rose Gallagher	Paid consultancy work on antibiotics for the pharmaceutical industry: Pfizer (linezolid), Astellas (levofloxacin), AstraZeneca (ceftaroline), Novartis (daptomycin), Gilead (AmBisome).	Personal non specific non financial	Chair and Project lead will monitor for any potential conflict. Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Philip Howard	Paid consultancy work with Danone on antimicrobial stewardship.	Non specific personal financial	Advised not to undertake any further consultancy work in this area during the development of the guideline through to publication.
	Committee member of UK Clinical Pharmacy Association – Pharmacy Infection Network.		
	Council member of British Infection Association (until May 2013).		
	Council member of British Society of Antimicrobial Chemotherapy.		
	Represented International Pharmaceutical Federation (FIP) at WHO (World Health Organisation) Antimicrobial Resistance Strategic Technical Advisory Group (May 2014).		
	Published unpaid articles related to antimicrobial stewardship.		
Spokesman on Antimicrobials for Royal Pharmaceutical Society.			

Philip Howard	Involved in Antimicrobial Resistance Summit at the Royal Pharmaceutical Society in November 2014.	Personal non specific non financial	Advised not to undertake any further consultancy work in this area during the development of the guideline through to publication. Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc. Chair and Project lead will monitor for any potential conflict.
Philip Howard	Sponsorship to present work at international conferences (no money received directly): <ul style="list-style-type: none"> - European Association of Hospital Pharmacy (B. Braun 2013 and 2014) - European Congress of Clinical Pharmacy and Infectious Diseases (Gilead 2014). Received expenses and conference paid directly to conference	Personal non specific financial	Advised that as the evidence of the NICE guideline will have been presented he will need to ensure that information he has learnt as being on the GDG is not shared. He agreed and understood.
	Lecture on <i>Clostridium difficile</i> multicentre local service evaluation of fidaxomycin. European Advisory Board on pipeline antibiotics (January 2014) funded by Sanofi. Lecturing/consultancy about: <ul style="list-style-type: none"> - role of the pharmacist in antimicrobial stewardship - antimicrobial medicine specific topics - data warehousing - pipeline agents. Carried out in September/October 2014. Fees paid into Leeds Teaching Hospitals NHS Trust Charitable Trustees. Funding from Astellas, Baxter, Pfizer and Cubist.	Non personal non specific financial	
	Paid by College of Pharmacy Practice and Education to develop Antimicrobials in Focus (Antimicrobial Stewardship for Community Pharmacists).	Personal non specific financial	
	Research funding from Novartis and Astellas paid directly to an independent audit company to undertake audit. Audits not directly related to antimicrobial stewardship topic.	Non personal non specific financial	
	Committee member of European Society of Clinical Microbiology and Infectious Diseases, Antimicrobial Stewardship Group (ESGAP). Member of the Department of Health/Public Health England ESPAUR group.	Personal non specific non financial	

Philip Howard (continued)	Department of Health ARHAI (Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection) Start Smart then Focus guidance for hospitals group.	Personal non specific non financial	
	PHE (Public Health England) and RCGP (Royal College of General Practitioners) TARGET AMS for primary care group. PHE (Public Health England)/Department of Health Competencies of Antimicrobial Prescribing and Antimicrobial Stewardship.	Personal non specific non financial	
	Lead a research project on surveying antimicrobial stewardship in hospitals across the world.	Personal non specific non financial	
	Part of a research group developing an antimicrobial guideline application with a European group "Panacea".	Personal non specific non financial	
	Part of a joint NIHR (National Institute for Health Research) Programme grant AMR themed call on behalf of Leeds and Oxford Universities on antimicrobial allergy.	Personal non specific non financial	
	Antimicrobial resistance round table group (unfunded) with AstraZeneca to help pharmaceutical industry discussion with Government.	Personal non specific non financial	
Lecture at Clinical Pharmacy Congress (2013 and 2014). Updates provided on respiratory infections in 2013. Updates provided on <i>C. difficile</i> , ESBL and drug allergy in 2014. Payment received directly.	Personal non specific financial		
Philip Howard	Speaker for Royal Pharmaceutical Society at the Royal Colleges Summit on Antimicrobial Resistance. No payment received.	Non specific non personal financial	Project lead reiterated the importance that work from this group is not shared with other work that he is involved with. Chair and Project lead will monitor for any potential conflict.
Introduction of proposed ESPAUR/NHS England on Quality Premium to reduce antibiotic prescribing.	Specific personal non financial		
Secondment to NHS England as Regional Healthcare Associated Infections Project Lead from November 2014 to March 2015.	Non specific non personal financial		
Speaker at British Society for Antimicrobial Chemotherapy Antimicrobial Stewardship conference in India.	Non specific personal non financial		
British Society of Antimicrobial Chemotherapy (BSAC) workshop on antimicrobial stewardship in India (27–28 November 2014).	Non specific personal non financial		

Philip Howard	BSAC workshop on antimicrobial stewardship in Bahrain (24–26 February 2015).	Non specific, personal non financial	Project lead reiterated the importance that work from this group is not shared with other work involved with. Chair and Project lead will monitor for any potential conflict.
	BSAC round table talk on pharmacy's role in antimicrobial stewardship.	Personal non specific non financial	
	Advisory board for new pipeline product, Durata (February 2015). Fees paid into Leeds Teaching Hospitals NHS Trust Charitable Trustees.	Personal non specific financial	
Philip Howard	Advisory boards for: – Durata (Dalbavancin) (February 2015) – Cubist (Tedeozolid) (March 2015). Payment to be made to employer (Leeds Teaching Hospitals) for time.	Personal non specific financial	Advised that the GDG discussions remain confidential although the draft guideline contents can be used now they are in the public domain.
	Attendance at European Association of Hospital Pharmacy conference. B. Braun paid for accommodation, travel paid and attendance. No direct payment received.	Personal non specific non financial	
	Secondment to NHS England as Regional Healthcare Associated Infections Project Lead from November 2014 to March 2015. Extended to June 2015. NHS England payment to Leeds Teaching Hospital Trust for time.	Personal non specific non financial	
	Speaker at 3 antimicrobial resistance study days for NHS commissioners and a single <i>C. difficile</i> day (March 2015) (NHS England role).	Personal non specific non financial	
	GP <i>C. difficile</i> event in Hull (NHS England role).	Personal non specific non financial	
	Part of a Public Health England project on tailoring antimicrobial programmes.	Personal non specific non financial	
	Speaker at British Society of Antimicrobial Chemotherapy Gulf Antimicrobial Stewardship conference in Bahrain.	Personal non specific non financial	
	National Sepsis Programme Board (March 2015 onwards).	Personal non specific non financial	
	POC CRP testing in Primary Care (Alere) – February 15.	Personal non specific non financial	
Philip Howard	Associate for the NICE Medicines and Prescribing Centre.	Non specific personal non financial	Advised that the GDG discussions remain confidential although the draft guideline contents can be used now they are in the public domain.

Kym Lowder	Stated no conflicts to declare. Spoken at antimicrobial resistance symposia sponsored by public bodies and one by bioMeriuex but received no payment. Leads the development of national Public Health England antibiotic and laboratory use guidance for GPs which covers the diagnosis and treatment of urinary tract infections. She has received grants from several publically funded research bodies.	Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Cliona McNulty	Lead for e Bug project across Europe.	Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Cliona McNulty	Member of Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection.	Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Cliona McNulty	Observer on British Society for Antimicrobial Chemotherapy Council. Member of English surveillance programme for antimicrobial utilisation and resistance. Lead in the development of Treat Antibiotics Responsibly, Guidance, Education, Tools (TARGET) and promotes the TARGET resources hosted by the Royal College of General Practitioners.	Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc.
Cliona McNulty	Involved in judging the Longitude prize.	Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups etc
Cliona McNulty	Attended advisory board meeting organised by Hayward Medical Communications on 16/05/14 to discuss procalcitonin: event organised on behalf of Thermo Fischer. Honorarium paid to University Hospital Southampton, travel expenses reimbursed.	Personal non specific non financial	None
Sanjay Patel	Has written a paper on antimicrobial stewardship.	Non specific personal non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups, etc
Sanjay Patel	Author of book chapter about antimicrobial stewardship in paediatric care. Manuscript prepared April 2015 for Oxford University Press.	Non specific personal non financial	None

Sanjay Patel	Has had a relevant journal article published.	Personal non specific non financial	None
Wendy Thompson	Lectured to foundation dentists on antimicrobial prescribing in general dental practice. Guidance to Foundation Dentists in Health Education (North East). Lecturer on antimicrobial stewardship prescribing at a Local Professional Network event in Chester in in November and sponsored by Colgate.	Specific personal non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles
Wendy Thompson	Offer received from Leeds University re PhD sponsored financially by Leeds University entitled educating patients about dental treatment rather than antibiotic prescriptions for dental pain. Lecturing at British Dental Association Conference on prescribing standards and guidance – May 2016 – no financial gain.	Personal non specific financial Personal non specific non financial	Advice given regarding ensuring that information learnt as part of the NICE guideline process is not shared with other committees/groups or included within any written articles.
Wendy Thompson	Represents and works for organisations that support people with faulty immune systems. Antimicrobials are life saving medicines for these patients.	Personal non specific non financial	None
Susan Walsh	Primary Immunodeficiency UK (PID UK) received 2 grants from CSL Behring in the last 12 months. They were unrestricted and were unrelated to antimicrobials.	Non personal non specific financial	None
Susan Walsh	Restricted grant from Biotest UK Ltd to PID UK. Sponsorship from Bio Products Laboratory Ltd to attend a European Society for Immunodeficiencies conference – unrelated to antimicrobial stewardship.	Non personal non specific financial	None
Susan Walsh	Appointment as community member of NICE Public Health Advisory Committee: guideline on 'Antimicrobial resistance: changing risk related behaviours in the general population' (confirmed 27 January 2015).	Non personal non specific financial	None

A.5.1 Declarations of interests

A.5.2 The following members of the bpac^{nz} Guideline Review and Contextualisation Group (GRCG) made declarations of interests.

Member	Interest declared	Type of interest	Decision taken
Mark Thomas (Chair)	<p>Member of the Joint NZ Ministry of Health /Ministry for Primary Industries New Zealand Antimicrobial Resistance Action Plan Development Group. http://www.health.govt.nz/our-work/disease-and-conditions/antimicrobial-resistance</p> <p>Investigator in a HRC and ADHB funded study of the impact of smart phone app (SCRIPT) on the level of adherence of antimicrobial prescribing to Auckland City Hospital antimicrobial guidelines- since 2015.</p>	Personal, non-financial, non-specific.	Project lead will monitor for any potential conflict.
Scott Metcalfe	<p>Employed by PHARMAC (NZ Pharmaceutical Management Agency), a crown entity directly affected by the contextualised guideline. Dr Metcalfe undertook this contextualisation work explicitly in a private capacity as a public health medicine specialist, without recourse to PHARMAC and his views do not represent PHARMAC.</p> <p>Observer(without formal group consensus decision-making role) -Joint NZ Ministry of Health /Ministry for Primary Industries New Zealand Antimicrobial Resistance Action Planning Group</p> <p>Member, NZ College of Public Health Medicine (NZCPHM) Policy Committee. The NZCPHM is a NZ health professional organisation affected by the contextualised guideline, advocates for public health, and has a formal stance on the control of AMR.</p> <p>Board Member, NZ Medical Association (NZMA). The NZMA is a NZ health professional organisation affected by the contextualised guideline, advocates for public health, and has a formal stance on the control of AMR.</p> <p>Executive Board Member, OraTaiao: The New Zealand Climate and Health Council</p> <p>Led the NZCPHM's August 2016 AMR policy statement http://www.nzcphm.org.nz/medica/97734/2016_08_24_nzcphm_antimicrobial_resistance_policy_statement.pdf</p> <p>Led NZCPHM/NZMA joint editorial in the NZMJ October 2016 on AMR http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2016/vol-129-no-1444-28-october-2016/7042</p>	Personal, non-financial, non-specific.	Chair and Project lead will monitor for any potential conflict.
Alan Moffitt	<p>Clinical Director of ProCare PHO & Management Services Organisation</p> <p>Chair Auckland/Waitemata Diabetes Service Level Alliance Team</p> <p>Was Chair now Member – Metropolitan Auckland Clinical Governance Forum. Has input to clinical pathways and guidance for PHOs & DHBs in Auckland</p> <p>Member Counties Manukau health Alliance leadership Team. Decision-making forum for PHO & DHB activity</p>	Personal, non-financial, non-specific	Chair and project lead will monitor for any potential conflict.

Alan Moffitt (continued)	Member Auckland-Waitemata Alliance Leadership team. Decision-making forum for PHO & DHB activity		
	Member Primary Care Expert Advisory Group – NZ Health Quality and Safety Commission		
Pauline Norris	Published author of research in the field of antibiotic consumption in the community	Personal, non- financial, non- specific	Chair and project lead will monitor for any potential conflict.
Nigel Thompson	No conflicts to declare		
Arlo Upton	Work for Healthscope NZ which is a publicly listed company (private laboratories)	Personal, financial, non-specific.	Chair and project lead will monitor for any potential conflict.
	Owns shares in BLIS Technologies Limited (produces probiotic for GAS throat infections)		



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