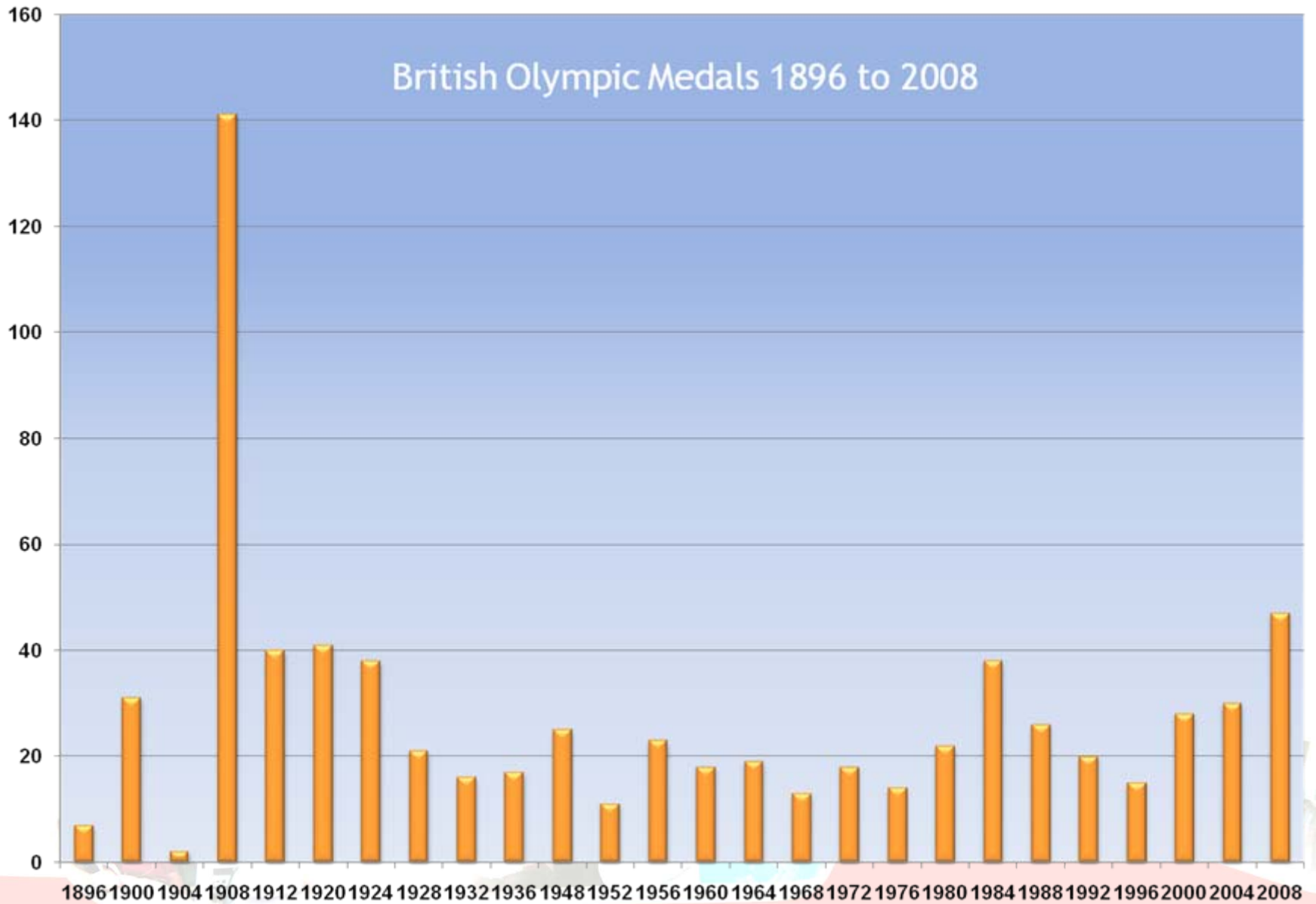


Developing successful research applications: How the RDS can help

Tin Wheeler and Sophie Hyndman
RDS South Central





What does research involve?

- Defining the research problem*
- Setting aims and objectives*
- Reviewing & critically appraising the literature*
- Refining the research area, aims & objectives*
- Determining appropriate study design*
- Determining appropriate data types and sources*
- Determining appropriate outcomes*
- **Writing a research protocol/ grant application***
- Ethical, R&D and other approvals
- Funding the research
- Project management, budgeting & logistics*
- Doing the research, report & paper writing

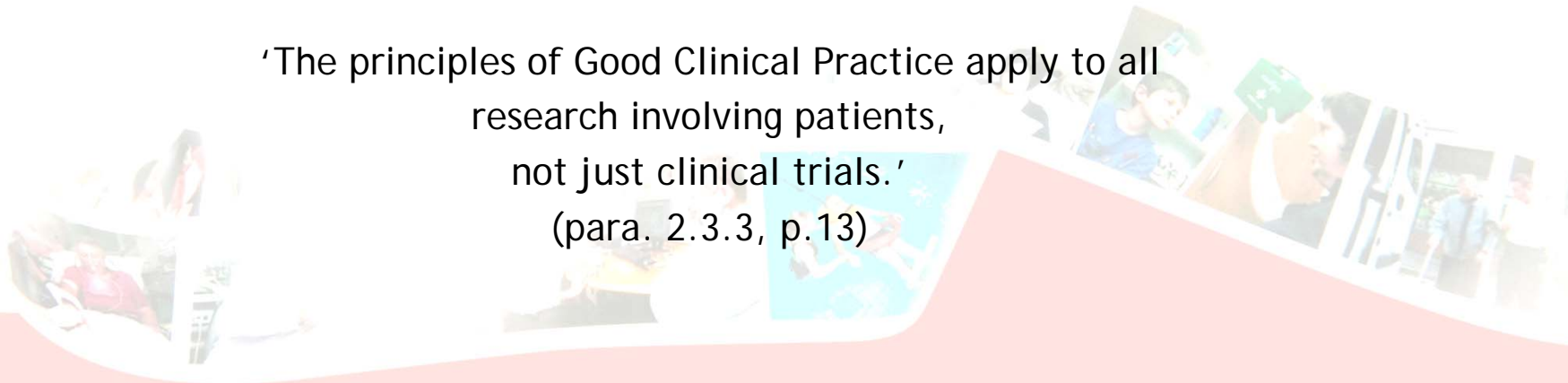


Writing a research grant application

- Usually a two stage process
- Quantitative health research
 - *Clinical trials of investigational medicinal products (ICH GCP Compliant)*
 - *Other quantitative studies*
- Qualitative health research

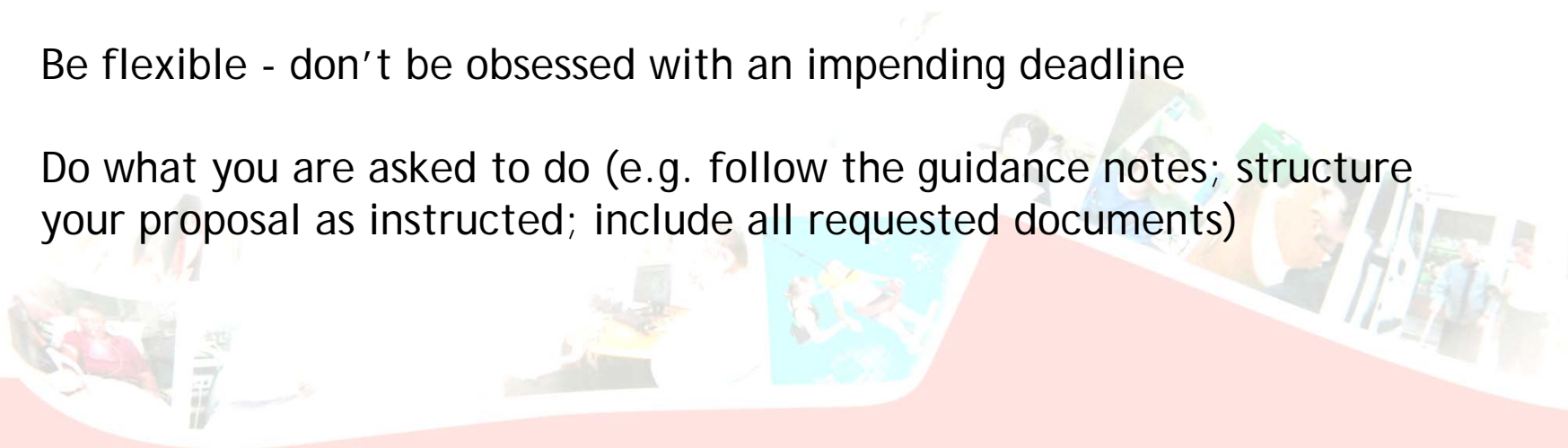
Research Governance Framework for Health and Social Care (2001/2005) -

'The principles of Good Clinical Practice apply to all research involving patients, not just clinical trials.'
(para. 2.3.3, p.13)



General tips

- Seek advice early on in the development of the study
- Is your subject relevant to the potential funder? Address the scope criteria explicitly
- In structuring your proposal, link question, method & analysis
- Get others to read your proposal - inside *and* outside the specialist area
- Proof read your final proposal
- Be flexible - don't be obsessed with an impending deadline
- Do what you are asked to do (e.g. follow the guidance notes; structure your proposal as instructed; include all requested documents)



What's in a grant proposal?



Structuring a grant proposal

Title	<ul style="list-style-type: none"> • Conveys content
Abstract	<ul style="list-style-type: none"> • Summarises purpose of study and justifies it • Summarises methodology to be employed • Lay summary
Purpose/ aims/ objectives	<ul style="list-style-type: none"> • Stated clearly and succinctly
Background	<ul style="list-style-type: none"> • Demonstrates mastery of subject area • Summarises literature, points out gaps • Creates argument and justification for research
Plan of investigation	<ul style="list-style-type: none"> • Study design • Setting • Sample <ul style="list-style-type: none"> - population/ sampling frame - exclusion/ inclusion criteria • Sample size • (where relevant) Intervention • (where relevant) Details of randomisation • Outcomes used • Procedure • Data analysis methods
Timetable/ 'milestones'	
Dissemination	
Implications of research	
Support requested	
Patient & Public Involvement	
Details of applicants	

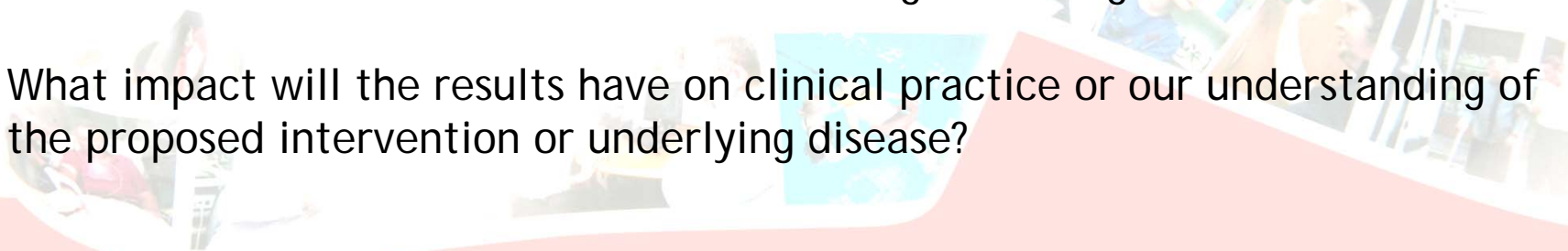


What are potential funders looking for in a grant proposal?

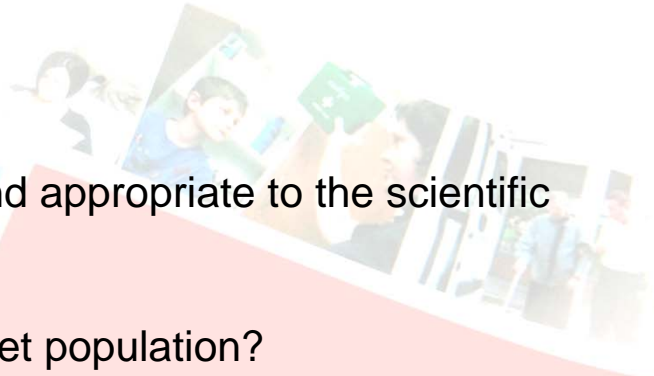


A justification for the study: make a case

- Has the importance of the issue been adequately explained in terms of, e.g. (1) burden of disease, (2) present/ future resource implications, (3) NHS priority?
- What evidence is available to inform the need for and design of the study (e.g. systematic reviews)?
- Does the proposed work fit in with available knowledge nationally and internationally?
- Is the research addressing the right questions in the subject area?
- Is this the right time to conduct the study with respect to current knowledge of the intervention and current use of existing technologies?
- What impact will the results have on clinical practice or our understanding of the proposed intervention or underlying disease?



An appropriate study design

- Is the study feasible?
 - Are the hypotheses /or the study objectives specified and described clearly?
 - Is the design appropriate to answer the research questions posed?
 - Has sufficient account been taken of the issues of generalisability & representativeness?
 - Has the study population been defined adequately in relation to the target population?
 - Where appropriate, has adequate statistical advice been sought and incorporated?
 - Where appropriate, has adequate advice been sought and incorporated on other health services research issues (e.g. health economics)?
 - Where applicable, is the control group appropriate?
 - Are the outcomes and their measures clearly described and appropriate to the scientific hypothesis?
 - Have the measures been validated specifically for the target population?
 - How will potential sources of bias be avoided/ taken account of?
- 

Sensible finances

- Are the costs realistic and accurate?
- How will the resources requested be used?
- Are the resources requested justified?
- Does the proposal represent the most efficient use of resources?
- Is the research good value for money?



Ethical and well regulated research

- Will the study have ethics committee/ other relevant approvals?



Why aren't studies funded?



Common reasons for disapproval of funding requests^[1]

- Lack of new or original ideas
- Diffuse, superficial or unfocused research plan
- Lack of knowledge of relevant published work
- Lack of experience in the methodology
- Uncertainty about future directions
- Questionable reasoning in experimental approach
- Absence of acceptable scientific rationale
- Unrealistic scope of the study
- Uncritical approach to study

Source: Eaves, G. cited in Mateo, M. and Kirckhoff, K. (1991)

^[1] With thanks to Helen Bartlett for the contents of this slide

Research Design Service South Central (RDS SC)

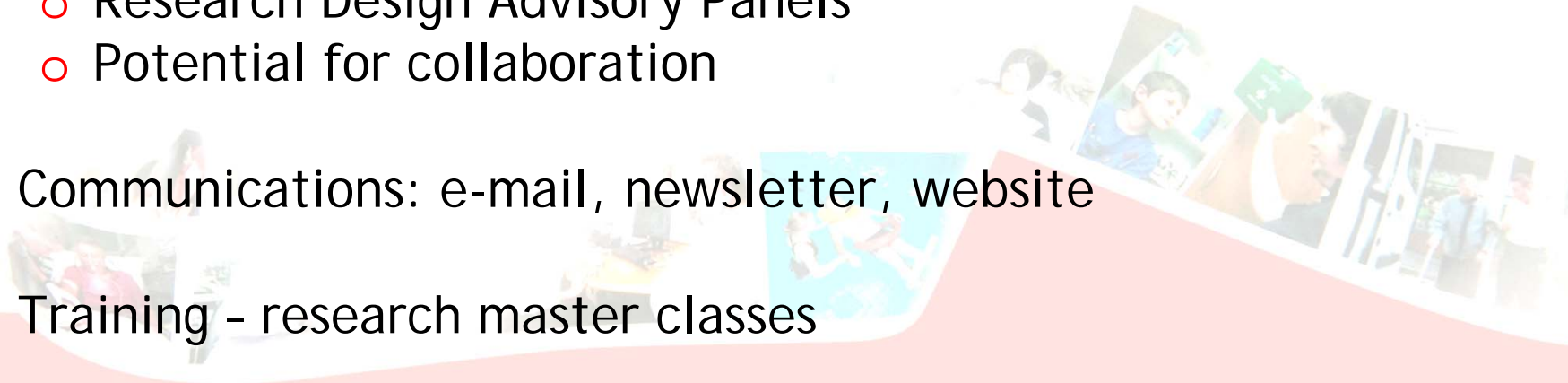
- New service, started 1 January 2009
- National Institute for Health Research funded
- Supports design of studies and preparation of grant proposals
- Co-ordinating Centre in Southampton; sites in Oxford and Portsmouth
- Multi-disciplinary support:
 - Statisticians
 - Clinical Trial Specialists
 - Epidemiologists
 - Qualitative Researchers
 - Health Economists



**FREE OF
CHARGE**

How we can help

- For all aspects of grant preparation, advice on:
 - Sources of funding
 - Reviewing literature
 - Developing and refining research objectives
 - Study design
 - Planning teams and budgets
 - Patient and Public Involvement (PPI)
 - Research Advisor, with access to specific experts as required
 - Research Design Advisory Panels
 - Potential for collaboration
- Communications: e-mail, newsletter, website
- Training - research master classes



NIHR Research Programmes

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- Service Delivery and Organisation
- www.nihr.ac.uk



Questions?

Research Design Service

RDS South Central

Research by design

Email: rds-sc@soton.ac.uk

Web: www.rds-sc.nihr.ac.uk

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