



EDUCATION

Diploma in Hospital Infection Control: a progress report

B. D. Cookson*, E. A. Jenner†, C. Roberts*, B. Drasar‡ and G. Ridgway§

*PHLS, Colindale Avenue, London NW9 5HT; †Faculty of Health and Human Sciences, University of Hertfordshire, Hatfield, Hertfordshire AL10 9AB; ‡London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT; and §University College London Hospital, Grafton Way, London WC1E 6DB, UK

Summary: The Diploma in Hospital Infection Control (DipHIC) was established by the Hospital Infection Society (HIS), the London School of Hygiene and Tropical Medicine (LSHTM) and the Public Health Laboratory Service (PHLS) in 1997 and has now completed two examinations. We outline progress since the announcement of the diploma and changes to the written examination and reflective portfolio. The reflective process is described and guidance provided to active infection control practitioners wishing to consider application for the diploma by accreditation of prior learning.

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Introduction

The Diploma in Hospital Infection Control (DipHIC) was established in 1997.¹ As outlined previously, a major driver for this initiative was the realization that the training for infection control doctors (ICDs) was less formalized than that for infection control nurses (ICNs).² There are many reasons why the diploma has become even more relevant since the idea was first conceived. The profile of infection control has never been higher in the UK and will become even more important. Pivotal to this has been the introduction in the UK of performance indicators³ which also address hospital infection control. Standards⁴ and audit of control and prevention of communicable disease in hospital and the community provide important measures of the quality of the whole health care organization.

These performance indicators³ and standards⁴ encompass many aspects of Clinical Governance.

There is a need for clear lines of accountability for the overall infection control programme, a comprehensive quality improvement approach, continuing professional development, infection control policies for all professional groups aimed at managing risk and procedures to identify or remedy poor infection control performance. There will be additional benefits from the DipHIC as infection control teams reflect on their practices and hopefully ensure that relevant courses and other educational activities are extended to all healthcare workers. This will comprise a major contribution to the prevention and containment of these infections.

The value of the DipHIC for both UK and overseas candidates is of a structured supervised course supported by direct theory and practical contact teaching and an increasing element of distance learning. It is assessed by project, reflective portfolio, written and oral examinations.

Update of progress

Since the publication of the previous article¹ there have been over 120 enquiries about the DipHIC from individuals in several countries. Thirty-six of

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Author for correspondence: Dr B. D. Cookson, Laboratory of Hospital Infection, Public Health Laboratory Service, 61 Colindale Avenue, London NW9 5HT, UK.

these have progressed to full registration and include three from overseas. The majority of the registrations have been from consultants or specialist registrars in medical microbiology with several years experience in infection control, who have wished to benefit from the modules and reflective aspects of the course. However, there is one clinical scientist and an ICN now registered. Several other ICNs and clinical scientists have expressed interest in the DipHIC. The Examination Committee has assessed applicants' CVs and, on occasion, has also requested written reflections so that they can provide the applicant with the best advice on how to proceed. This might be to recommend additional training, language or writing skills, rather than immediate registration.

A Course Committee was established in 1999 to replace the former Advisory Committee. It will review the syllabus, modules and additional recommended material as requested by, or submitted to, the Examination Committee. The Course Committee would welcome the receipt of details of any infection control related courses or distance learning packages in the UK or abroad. A book to accompany the course is to be written.

Alterations to the DipHIC examination regulation

Following the setting and completion of the first examination and after consultation with many medical microbiologists and ICNs, the Examination Committee has made several alterations to the guidelines for the DipHIC which will be of interest to applicants. These are as follows:

- (1) The written examination will now comprise one paper requiring answers to six out of eight questions rather than two papers. The latter was felt to be more appropriate for MRCPATH than the DipHIC. Short note answers would be the favoured examination paper style rather than essays. Candidates should make good use of headings.
- (2) The previous advice on the reflective portfolios has been revised. There will now be 10 reflective subjects (reflections), each utilizing no less than three or more than six single spaced sides of A4 (750–1000 words) plus the commentary from the mentor (see below). Longer reflections in the previous format do not need to be revised. We include below a description of reflective practice.
- (3) Previous work submitted towards a higher publication cannot form part of a submission towards a DipHIC project, but could be the starting point for submission of a further piece of work based on that subject, and this should be reflected in the personal statement accompanying the project.
- (4) Publications arising from the project and portfolios are to be encouraged and could precede their submission to the Examination Committee.
- (5) Mentors⁵ will be expected to meet with the candidate two or three times per year and would only need to make one or two comments per portfolio reflection, to which the candidate would respond as appropriate. It is important that candidates formulate aims and learning outcomes for each planned activity.
- (6) Applications for the examination will include the reflective portfolio and project report, together with the examination fee of £500 payable to the London School of Hygiene and Tropical Medicine (LSHTM). These must be received by the Deputy Registrar at the LSHTM by the 31 March. The examiners will then assess these. If they are acceptable, or need only minor modifications, then the candidate will be allowed to sit the examination in the following June and a viva voce examination in the July. At that time a decision will also be made on the project or portfolio modifications. More major project or portfolio modifications would require re-submission and detailed re-assessment before the examination can be sat, but no new examination fee.
- (7) Portfolios are considered as confidential and will be stored in a locked facility at the London School of Hygiene and Tropical Medicine.

DipHIC by accreditation of prior learning

Several members of the DipHIC Advisory Committee were assessed by 'grandparents' appointed by the London School of Hygiene and Tropical Medicine (Professors David Speller and Graham Ayliffe, Dr Mary Cooke and Sir Joseph Smith) and an award of Honorary DipHIC was recommended for their contributions to infection control and the establishment of the DipHIC.

Following discussions with the LSHTM and following the award of the first DipHIC by examination in July 1999 a process has been agreed whereby the DipHIC may be applied for by Accreditation of Prior Learning (APL). Applicants

need to make their prior learning explicit rather than just listing past achievements. Thus, any such submission must include an element of reflection that shows how the evidence is relevant to course aims and assessment guidelines. This supplementary regulation will be available until, and then be reviewed in, 31 December 2002. It is intended as a means of recognizing those senior individuals who have contributed in different ways to the study of hospital infection and to the establishment of the academic credentials of the subject.

All candidates for the DipHIC by APL from the UK or abroad will have an active professional involvement in the control of hospital infections. There will be an assessment fee of £50 and a diploma fee of £450 if granted. Applicants should initially submit a curriculum vitae to illustrate their relevant experience, skill and knowledge. Whilst general guidance is provided with relevant examples, the DipHIC Examination Committee may modify these as necessary.

The initial curriculum vitae should be written to cover the following areas:

(1) Knowledge

Evidence based on qualifications, peer-reviewed publications, presentations at scientific and clinical meetings mainly devoted to infection control or infection:

Degree or Certificate obtained from a substantive course devoted to infection control or infection e.g. in UK: BSc (Hons) Infection Control, Diploma level—120 credits at level 2 and overseas qualifications.

Publications in peer-reviewed scientific journals on infection control and related research.

Teaching and education at postgraduate level.

Presentations at national and international level.

Evidence of an existing relevant qualification obtained by examination, dissertation or similar work e.g. MPhil, MSc, PhD, MRCPATH relevant to infection control.

Adviser to a Department of Health.

A member of local working parties devoted to infection control including for example a Hospital, Trust or Community Infection Control Committee.

Teacher or mentor on the DipHIC or other infection control courses and modules.

Examiner in a relevant subject e.g. PhD, MD or equivalent knowledge as judged by the Examination Committee.

Or equivalent knowledge as judged by the Examination Committee e.g. development of a Distance Learning Programme, self-directed learning modules.

(2) Skill

Contributions on infection control to learned societies etc.

Regional, national or international organisations, government, select committees e.g. Working Parties related to infection control such as MRSA, Isolation or representation on Committees and Working Groups (e.g. BSI, CEN, ISO).

Systematic review experience in infection control related subjects.

Officer or Council member of a Society or Association whose activities substantially include or are primarily in the field of infection control or infection (e.g. HIS, ICNA, CSC).

Equivalent skill as judged by the Examination Committee e.g. editorial activities in a relevant specialty or area.

(3) Experience

Practical experience in the field of infection control as:

a full or part-time appointment as a Control of Infection Officer for 5 years at consultant level.

a full or part-time appointment as a Control of Infection Nurse for 5 years at minimum of diploma level.

and equivalent experience as judged by the Examination Committee e.g. experience in infectious diseases, genito-urinary medicine, HIV clinical units, national surveillance scheme activities, major outbreak co-ordinator, Communicable Disease Consultant or Nurse.

(4) Other contributory factors which the Examination Committee or its assessors decide are relevant.

The reflective portfolio is the most testing part of the assessment procedure and after this initial assessment, candidates for award of the Diploma by APL will be required to produce a reflective portfolio that substantiates their claim to the award by reference to the syllabus which will be sent to them. The portfolio will normally consist of a number of brief accounts of particular activities related to events in which candidates have participated as part of their role in hospital infection control.

The portfolio will normally include 10 pieces of work covering a range of activities; several accounts of the same type of activity, such as outbreak control, will not be acceptable, unless diverse lessons or major contributions to the literature can be drawn. Candidates should include publications, official reports and other public documents and outline the way in which they have contributed. The purpose of this evidence is to show that their academic expertise is up to date and matches that required for the award of the diploma.

In addition to such public evidence, candidates will be required to submit a reflective statement showing how the evidence substantiates their candidacy, illustrating the learning outcomes needed for the award.

Reflective practice

There have been many enquiries about the reflective portfolio and so we decided to provide some background information relating to this. The portfolio was designed as a major tool to achieve our goal of enabling the DipHIC to develop competent practitioners. In our view, this needed to involve work-based practice with identified learning outcomes. Reflection is commonly used for this purpose and has been defined as: 'The process of internally examining and exploring an issue of concern, triggered by an experience which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective.'⁶ The learning generated from the critical analysis of a work based event has been considered essential to the development of a competent practitioner.⁷

Key theoretical models of reflection

Schön⁸ describes two approaches to reflection; reflection-in-action, which takes place during, and reflection-on-action, which takes place after, the event in question. In the former,⁹ the reflecting practitioner thinks about what is being done during their activity; it is usually stimulated by surprise. As sense is made of the situation encountered, questions are asked of oneself such as 'what are the criteria by which I make this judgement?' One reflects on understandings that have been implicit in one's actions and the feelings which led to that particular course of action and the way one had structured the problems initially. All these are brought to the surface, criticised, restructured and embodied in further practice. Reflection-on-action, on the other

hand, involves what Greenwood⁹ describes as 'a cognitive postmortem'. Learning occurs from both types of reflection which can be facilitated most effectively by a mentor within a practicum.

Kolb¹⁰ presents another theoretical model as an experiential learning cycle whereby the process of reflection following a concrete experience leads to the formation of abstract concepts which are then tested out in the practice setting. This cyclical approach facilitates the analysis of learning from the processes of assessment, planning, intervention and evaluation. Gibbs¹¹ described a theoretical model for reflection (Figure 1) which requires the recognition of three mutually dependent elements of reflection, as described by Goodman.¹² These are the focus, the process and the attitudes to reflection.

Model of structured reflection

This model adapted from Johns¹³ and Carper¹⁴ consists of a series of questions which should help the student to identify an experience in a structured and meaningful way. It can be used as a framework for the DipHIC reflective portfolio.

Core Question—What information do I need to access in order to learn through this experience?

Cue Questions

(1) Description of the experience

What was special about the experience? What essential and significant background factors contributed to this experience and what were the key processes (for reflection) in this experience?

(2) Feelings (Reflection)

What was I trying to achieve? Why did I intervene as I did? What were the consequences of my action for myself, the patients, their families, the people I work with? How did I feel about this experience when it was happening? How did the patients feel about it and how do I know how the patients felt about it?

(3) Influencing factors

What internal factors and external factors influenced my decision making and what sources of knowledge did/should have influenced my decision making? Could I have dealt better with the situation? What other choices were there and what would be their consequences?

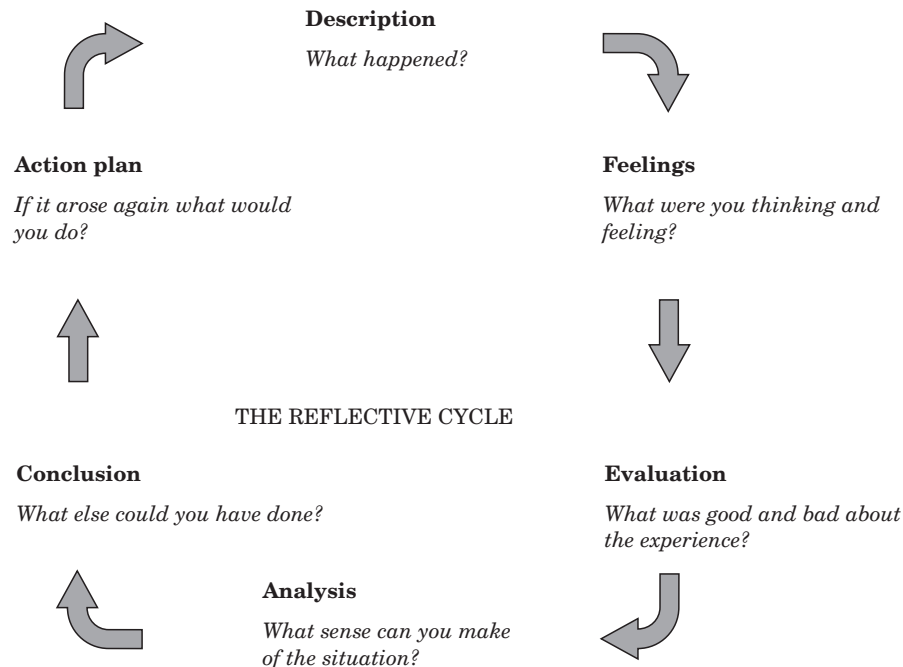


Figure 1 The Reflective Cycle based on the model described by Gibbs.¹¹

(4) Learning

What was good and bad about it? How do I now feel about this experience and how have I made sense of this experience in the light of past experiences and future practice? How has this experience changed my ways of knowing: the empirics, the aesthetics, the ethics, personal aspects?

(5) Analysis

What sense can I make out of the situation?

(6) Conclusion

What else could I have done?

(7) Action plan

If it arose again what would I now do?

The future

The DipHIC by examination is now established. The APL route will enable infection control practitioners of some years standing to obtain this qualification also. The new Course Committee will interact with the Examination Committee to further improve the standard of the DipHIC so that it becomes recognized as a highly respected and desirable qualification in the UK and abroad.

Acknowledgements

We would like to thank all the members of the advisory and examination DipHIC committees and attendees of the Hospital Infection Society and Laboratory of Hospital Infection courses who have contributed so much to the establishment of this diploma.

Applicants for the DipHIC by APL should submit their CV together with a cheque for £50.00 made payable to the London School of Hygiene and Tropical Medicine and address it to: DipHIC, The Registry, London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT.

The Royal College of Pathologists have assigned one CPD credit for each reflection. Other relevant colleges will also be approached.

This article is also available on the www at <http://www.his.org.uk>

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Appendix

Diploma of Hospital Infection Control Syllabus

1. History of infection control
2. Epidemiology of hospital infections
3. Organisms causing hospital-acquired infections (HAI)
4. Typing
5. Systems-based approach to HAI
e.g. cardiovascular, urinary tract, respiratory tract, surgical site, brain and spinal, orthopaedic, burns, gastro-intestinal tract, gynaecology, obstetrics, paediatric, high risk units (e.g. special care baby and intensive care, bone marrow, renal (including dialysis), liver, solid organ transplants, immunosuppressed), elderly care.

6. **Organization, roles, responsibilities and resource implications of effective infection control** (e.g. accreditation, committees, teams, link nurses, budgets, accounting etc.)
7. **Healthcare workers and related issues**
Health and safety at work, e.g. principles of risk assessments, regulations, immunization, needle-stick injuries.
8. **Surveillance strategies for hospital infection**
9. **Statistics in infection control**
10. **Strategies for infection control (e.g. policies, review and audit)**
Local, national and international approaches including standards and guidelines.
11. **Strategies for control of antibiotic prescribing** (e.g. policies, formularies, restriction, pharmacists role, review and audit). Local, national and international approaches including standards and guidelines.
12. **Information technology**
13. **Socio-economic aspects of HAI**
14. **Medico-legal aspects of HAI**
15. **Social psychological aspects of HAI control and education: communication, theories of learning and their applications** (e.g. handwashing; 'bottom-up' approaches to total quality management, patient advocacy, change agents and opinion leaders.)
16. **Interactions between the community and hospitals including nursing home infection**
17. **Disinfection**
18. **Sterilization**: principles, standards, commissioning and efficacy tests and practice.
19. **Aerobiology**: transmission of infections, commissioning of laboratories, A&E and ward isolation rooms and theatres.
20. **Isolation measures**
21. **Hospital food services**: relevant aspects after discharge in e.g. the immunosuppressed.
22. **Clinical waste and laundry**
23. **Contribution of the laboratory to infection control**
24. **Antibiotic resistance**
25. **Global impact and differences internationally in problems** (including attitudes/political/health care delivery related) to the approaches to HAI and lessons to be learnt. Problems facing countries with few resources.
26. **New developments**: the students will be expected to keep in touch with advances in the subject by reading widely in infection control and related journals and books.