

Fundamental aspects of infection prevention and control

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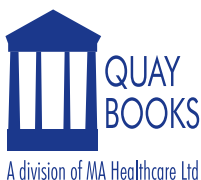
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Edited by

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Foreword

Infection prevention is a responsibility everyone shares, and the reduction of healthcare-associated infections (HCAI) remains a duty of every NHS organisation. Good hand hygiene, high standards of cleanliness, prudent antimicrobial prescribing and effective patient screening are all vitally important in the fight against HCAs.

There has already been a significant reduction across the NHS in some HCAs, specifically MRSA and *Clostridium difficile*. However, there remains capacity for these and other infections to be reduced further.

Within the pages of this book, you will find information and guidance, with tools and examples of successful infection prevention and control practice. These will help you, your organisation, and patients and visitors to play a part in reducing infections. By reducing infections, we can save lives and reduce the unnecessary pain and suffering caused to patients, their families and loved ones.

Patients and service users expect high standards of safety and cleanliness in their care. Reducing HCAI rates and communicating these results will help those you care for have confidence in the service you provide and reduce their fears and anxieties. The prevention and control of infections is not just a professional duty but also a clinical and managerial responsibility.

HCAs cost the health service around £1 billion per year. In addition, evidence suggests that service users with MRSA bacteraemia spend on average an additional 10 days in hospital, whilst those with *Clostridium difficile* spend an additional 21 days in hospital. Reducing HCAs helps the NHS make the most of its resources and deliver more for its users.

All healthcare staff have a duty and responsibility to provide an environment within which clean, safe care can be delivered. Reducing infection improves care and overall health outcomes for patients.

Find out what you and your organisation can do to help tackle infections.

Professor Janice Stevens CBE

Introduction

Vinice Thomas

Purpose

The purpose of this chapter is to set the context for infection prevention and control within health and social care settings, and to provide a brief overview of the book.

Learning outcomes

By the end of this chapter, you will have learned:

- The importance of infection prevention and control.
- The key components of effective infection prevention and control.
- How to use this book as a tool for personal and professional development.

Introduction

Infection control is an exciting and rewarding aspect of patient care which has evolved over the past decade. It is exciting because of the ongoing medical advances and discoveries that have helped to eradicate or control diseases which, in previous years, would have inevitably resulted in fatalities. It is rewarding because, through good stewardship of antibiotics, consistent application of good hand hygiene, and good management of medical devices and other elements of patient care, recovery from life-threatening infections is possible. Job satisfaction for many is found in the knowledge that one has contributed to a positive outcome be it a speedy recovery or a peaceful and dignified end of life.

In the quest to deliver high standards of care, healthcare workers have strived to overcome barriers to quality care, with the reduction of infections being a key challenge. One commonly held view was that infections were inevitable when patients were admitted to hospital for treatment. As a result significant reductions in healthcare associated infections (HCAIs) had, until recently, been considered to be an unachievable goal. By 2008, there was a significant reduction in methicillin-resistant *Staphylococcus aureus* (MRSA) and an improvement in *Clostridium difficile* rates of infection (Department of Health 2008a). Although these two infections received

a great deal of focus and media attention, it was clear that healthcare organisations were also grappling with other HCAs. However, lessons learnt from tackling MRSA were transferable to other infections. For instance, the elements of care found to be effective in reducing MRSA and *Clostridium difficile* rates, such as good hand hygiene, were applicable to all of the other infections. Indeed some hospitals reported an improvement in other HCAs as a result of improved practices for MRSA.

Although the causes and management of infections are multifaceted and at times complex, national and global work on reducing HCAs has highlighted some key factors that can achieve significant results. This involves the consistent application of a number of actions that together make the reduction of infections achievable. These include the appropriate use of antibiotics, management of invasive medical devices, and cleanliness of the environment, to mention but a few. However, the activities must be applied consistently by all staff. This means there is no room for deviating from what is known to be best practice without a real danger of harm to patients.

In 1859, Florence Nightingale, the founder of modern nursing, stated:

It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm.

(Nightingale 1992)

This can be applied to every setting where care is given to patients or clients, be it in the community, in care or nursing homes, in acute settings within busy wards, or specialist areas such as intensive care units or burns units. Despite various competing priorities, it is important that patients/service users receive care that has no negative effect. As Professor Sir Ian Kennedy expressed aptly:

Safety cannot ever be allowed to play second fiddle to other objectives that may emerge from time to time...it is the first objective.

(Healthcare Commission 2006)

Infection control must be at the heart of safe care, and should be an integral part of daily activities undertaken by staff. No staff member should be excluded from contributing to the control of infections (Healthcare Commission 2007).

Throughout the history of health and social care, there have been incidents where outbreaks of infections have had a devastating effect on individuals and their families. This becomes even more devastating when analysis of the outbreaks has shown incidences where the infection may have been prevented or the spread

minimised. More recently, incidents such as outbreaks of infections in various hospitals have highlighted the far reaching effect poor infection control can have on patients, their relatives and the local community (Healthcare Commission 2006, 2009). In some cases, patients experienced untold suffering resulting in extended hospital stays, others died. The local community, once made aware of this by extensive media coverage, can begin to lose confidence in its local NHS trust.

There are many lessons that can be learnt from these incidents which are relevant to the fundamental aspects of infection prevention and control that, when applied, can significantly reduce the likelihood of infections and outbreaks within homes, clinical areas, healthcare organisations and communities. This book will cover some of these key aspects of care. Drawing on invaluable tools and lessons from the Department of Health (2008b), this book aims to help equip staff with the skills to reduce avoidable healthcare-associated infections.

Outline of the book

This book is divided into three sections:

1. Understanding infection.
2. Prevention and control.
3. Management and treatment.

Understanding infections

The first section begins with an introduction to how infectious agents operate; *Chapter 2* looks at the physiology and classification of these agents and provides a basis for further study into this complex subject. Building on this, *Chapter 3* looks at how these agents are transmitted to others. This enables readers to identify key routes and the subsequent preventative actions that can be taken to break the chain of transmission.

Prevention and control

The next section focuses on the actions health and social care workers can take to prevent and control the spread of infections. *Chapter 4* examines the responsibility of staff to ensure they are fit to practice. The importance of undergoing the necessary precautions to safeguard their health and well-being and ultimately that of their patients is emphasised. National patient surveys have shown the

importance patients place on the appearance of the environment within which they will be nursed. This has often been key when patients are identifying the hospital of their choice. Issues surrounding hygiene, cleanliness of the environment and the use of protective measures are explored in *Chapters 5, 6, 7 and 8*.

Management and treatment

The final section of the book discusses the management and care of patients. There are many medical procedures and devices which, although instrumental in improving patient care, can become a route for infection if not managed safely. *Chapter 9* examines the management of invasive medical devices and the general care required for infected patients. Treatment and procedures are discussed in *Chapter 10*.

Good antibiotic stewardship has been considered one of the most important aspects of treatment because of the rising number of microorganisms resistant to ‘mainstream’ antimicrobials. *Chapter 11* provides a detailed review of antimicrobials.

Building on all the preceding chapters, the final chapter highlights the role and responsibilities of staff to deliver the infection prevention and control agenda.

Psychological effects of infection

Throughout the book, mention is made of the importance of information and reassurance for patients. The psychological effect of infection must not be underestimated or overlooked amidst the busyness of treatment and management. Patients and their relatives may experience the stigma of being infected and placed in isolation. A common complaint of patients is the feeling of loneliness when they have had to be isolated and the sense of rejection they feel when they are cared for by staff wearing protective masks, aprons and gloves. Loss of human contact can have an adverse effect on patients.

Furthermore, the inability to communicate or understand instructions given around infection prevention and control due to a medical disorder, such as Alzheimer’s syndrome, neurological conditions or language barriers, can perpetuate anxiety and fear of the unknown. It is important therefore that patients/service users are provided with information in a variety of ways to enable them to understand the guidance for preventing cross-infection. These problems can be overcome by providing clear information, e.g. patient leaflets translated into different languages, or visual aids and guidance, and psychological support, such as reassurance and comfort.

Study tools

Each chapter provides opportunities for readers to focus on key points, or to undertake reflective or explorative activities in order to apply and improve knowledge. Readers are advised to consider the use of a reflective journal or a similar tool to capture learning. This will be invaluable for sharing with a supervisor within the clinical setting or place of study.

External agencies

At the time of writing there have been significant changes in the political and economical climate within health and social care in Britain. As a result, some of the external agencies referred to in this book, such as the National Patient Safety Agency, will undergo changes to their roles and functions. However, it is envisaged that healthcare organisations will continue to build on the achievements gained to provide safe care for patients.

Summary

This chapter has set the context within which healthcare workers strive to deliver quality care. It has looked at some of the challenges around the infection prevention and control agenda, and at how applying lessons learnt from outbreaks of infection is key to reducing the likelihood of a recurrence. The chapter provided a brief overview of the fundamental issues of infection prevention and control, and looked at how best the reader can achieve the learning outcomes in order to be well equipped to contribute to this important aspect of care.

In the next chapter we will begin to understand infectious agents and how they operate.

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