Introduction

Though the administration of intravenous antimicrobials in Ireland has traditionally occurred in in-patient settings-acute hospitals, there is a growing trend internationally to deliver intravenous antimicrobials in a non-in-patient setting. Such programmes are often referred to as

1. out-patient parenteral antimicrobial therapy (OPAT)
2. community-based parenteral antimicrobial therapy (CoPAT)
3. hospital in the home therapy (HITH) programmes.

Although Ireland currently has several productive OPAT programmes, there is a lack of conformity across programmes, including formal national structures of clinical governance and standards of care. OPAT has the potential to deliver bed-day and cost savings and reduce risk of healthcare associated infections (HAIs) if such programmes are expanded throughout the country in a regulated and structured manner.

Standards for the administration of out-patient parenteral antimicrobial therapy (OPAT) in Ireland have recently been completed. The working group has proposed standards and clinical governance mechanisms for this mode of care delivery following discussions with the Health Service Executive’s (HSE) National Director for Quality and Clinical Care. The document outlines the benefits of OPAT and reviews infections appropriate for OPAT management. Out-patient parenteral therapy must be governed by the same standards of antimicrobial stewardship, intravascular catheter care and clinical governance as traditional in-patient, hospital-based care.

A national registry for all patients receiving OPAT will be established. Proposed models of care delivery, standard operating procedures and management algorithm for patient management are described in the standards document.

Aims, Objectives, Solutions

Over arching aim – To ensure that no patient receiving IV antimicrobials, who could be treated out of hospital, remains an in-patient

Quality
To care bed days by reducing length of stay and avoiding admission
To ensure all patients referred receive appropriate antimicrobial stewardship care
Patients can return to home / work when appropriate; Patient satisfaction surveys
To reduce nosocomial complications associated with long-term IV antimicrobial utilisation

Access
Provide 57 day access to specialist opinion
Review all patients within 24 hours of referral and discharge within 24 hours post review if suitable for OPAT
Provide direct access for ER, AMUs, secondary/tertiary care services, primary care

Cost
Bed days saved through reduced length of stay, admission avoidance
Reduction in cost of management of HAIs
Antimicrobial stewardship

Solutions Proposed:
To establish agreed criteria and standards – IDSI/HSE/Doh/RCPI/SARI OPAT Standards 2010
Care pathways -develop and agree a standardised national care pathway and standards of care
Introduction of care bundles (antimicrobial stewardship)
Define models of care

Governance
- Interface with Acute Medicine Programme (AMAPs)
- Initial establishment of 4 regional ID hubs providing the following services:
  - Direct Emergency Department assessment
  - Rapid access clinic for ED and primary care/secondary referrals
  - Antimicrobial Stewardship
  - Audit and research
- Establishment of a national registry with agreed datasets

Benefits of OPAT

Patient Benefits
Remain at home
Remain at work, school
Preferred by patients when given choice
Reduced risk of health-care associated infection

Financial Benefits
US – costs 6.5 times less than in-patient care
Sheffield – cost 41% of equivalent inpatient costs for an ID Unit
Canada – 57% of in-patient costs
Singapore – 61% of in-patient costs

Organisational Benefits
Oxford, UK – 6,200 bed days saved in 286 OPAT episodes one year
SJH – 2166 bed days saved over 3 years
MMUH – 2019 bed days save in 3 years
CUNH, Temple St. – 859 bed days saved in 2 years

Meets Irish Health Care Policy
Transformation Programme 2007-2010

Management Algorithm for OPAT Care Delivery

Referral for OPAT
Assessment by OPAT Team at hospital or healthcare facility
Appropriate infection
Requires Parenteral Antimicrobials
Medicines Stock
Appropriate Vascular Access
Patient and Care Information

Additional Methods of Communication Established
Source of Antimicrobials and support established
Funding secured

Minimum of One Dose of Antimicrobial Given in Hospital or healthcare facility
Access for Advance Decision Patient and Care Education

Discharge to OPAT Programme with plan for duration of therapy and monitoring of response

Daily visit by OPAT community healthcare professional/OPAT administration/antimicrobials (H-OPAT)

Patient Care Assessment and inclusion in antimicrobial stewardship plan

A fully resourced OPAT programme could lead to defined reductions in admission rates or duration of hospital stay for common conditions like pneumonia, pyelonephritis, cellulitis and reduce LOS for conditions like osteomyelitis, septic arthritis and endocarditis.

Potential Benefits for In-patient Services

Review of hospital inpatient data for 2009 shows the number of admissions and hospital bed days used for some of the conditions potentially treatable by an OPAT programme.

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2009 Hospital Data:
Condition No of Admissions Beddays Used
Osteomyelitis 340 5310
Endocarditis 153 428
Septic Arthritis 192 3686
Cellulitis 3877 28264
UTI 6161 51046
Pneumonia 8213 100001

OPAT Standards Writing Group
Out-patient Parenteral Antimicrobial Therapy in Ireland: Practice Standards
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