Standardized methods for implementation of OPAT (Outpatient Parenteral Antimicrobial Therapy) services in the UK
Introduction

In the management of infection, Outpatient and parenteral antibiotic therapy (OPAT) provides a solution that satisfies many of the concerns raised in the recent McKinsey report

“The report identifies inefficiencies in the patient pathway. For example, it sets out how around 40 per cent of patients in a typical hospital do not need to be there at any one time. The biggest causes were delays in the patient receiving hospital tests or therapies, and a lack of more suitable care facilities in the patients’ own home or community”


Participation in this stakeholder meeting will help participants meet the following objectives:

1. Understanding of current OPAT experience in the UK and patient experience
2. Engage in the proposed development of national standards of care for OPAT services
3. Inform the proposed development of generic and specific business plans for OPAT services depending on local models of care
4. Engage with a range of multi-disciplinary clinicians and managers who have experience of OPAT
5. Consider how new or existing services are developed, implemented and evaluated
6. Discuss what may be key measures of success with OPAT services and how OPAT services can be expanded in the UK
10.00 Welcome and introduction

10.05 Keynote lecture
OPAT: the current picture, the vision and the patient experience
Dilip Nathwani, Dundee

Presentation overview: Acute and chronic infections present the NHS with a considerable healthcare burden. Their management is becoming increasingly complex with significant impact on healthcare resources. Clinical teams need a number of alternatives or options to manage these infections in the hospital and ambulatory setting. Outpatient and parenteral antimicrobial therapy (OPAT) fulfils many of the essential criteria (e.g. choice, locally driven, high quality, patient centred and integrated) outlined in the NHS reforms that plan to improve patient care and access and would also address the recent concerns about NHS waste and inefficiency. The objectives of this presentation are to set the scene for subsequent presentation by communicating to participants the value, safety of OPAT combined with a vision of how innovative services, such as OPAT, in the UK should evolve in the future. The emphasis of further development should be focused around investment in a high quality service valued by clinicians, patients and carer’s but also highlighting opportunities to address inefficiencies in health care. OPAT represent a truly multi-professional service and offers a potential opportunity to evaluate the impact of such services on topical outcomes such as reduced healthcare acquired infections, potential to reduce C. difficile and cost-effectiveness from a societal and primary care perspective.

10.35 Plenary one: Setting the standards
Development of a patient focussed and safe service
Ann Chapman, Sheffield

Presentation overview: Outpatient Parenteral Antibiotic Therapy (OPAT) offers a rare opportunity to improve patient care and choice while at the same time reducing costs. However, it is important to develop a service that is patient-focused and safe, in order to minimise the risks associated with treating patients with severe infections out of hospital. In this talk, we will consider safety issues relating to patient selection, service design, clinical pathways and documentation, and lines of communication, as well as discussing patients’ views on OPAT.

10.50 Products (agents & devices) – types, routes, transport, storage, administration
Brendan Healy, Cardiff & Victoria Parker, Sheffield

Presentation overview: The idea that IV antibiotics could be safely administered at home, by patients themselves, is one that some years ago may have cause gasps of horror amongst the medical fraternity. Modern equipment and newer, once daily antibiotics have led to this idea being possible, with the development of OPAT services. This presentation will briefly discuss the devices, equipment, training and support that enable such a service to be offered from the Infectious Diseases Unit in Sheffield. Commonly used equipment includes PICC lines, Alaris infusion pumps and giving sets, along with drug paraphernalia such as dry powder vials and ready mixed infusions. Combined with expert training and supervision, these items help to form the OPAT ‘Tools of the Trade’. Dr Healy will give a brief overview of the pharmacokinetics of antibiotics and the relevance of pharmacokinetics in choosing appropriate antibiotic therapy for OPAT.

11.05 COFFEE

11.30 Models of medical and nursing management and care: who do you really need & why?
Carol Low, London & Albert Lessing, London

Presentation overview: Modern medical healthcare offers antiinfective treatment modalities not previously available to the patient with significant bacterial infection. Similarly healthcare has contributed to new infections attributed to devices and deep-seated infection. A clear diagnosis by an consultant adept in infectious processes need to be made and an appropriate in or out of antiinfective treatment agreed by a multidisciplinary team based on evidence, clinical and cost effectiveness, and safety. Patient safety is paramount. Studies in the US has shown that where infectious disease physicians take the lead quality care is delivered – however such lead is only available in half of cases, many non-experts contributing to substandard care models. Infectious processes should be stratified into a smaller case-load of more intensive and longer duration treatment plans in contrast to a larger and potentially poorly selected superficial infections. The care setting will depend on locality and expertise. Delivery includes a dedicated “outpatient” setting (eg. “Scottish-model” or “home” setting (eg. “English-model) where the antiinfective is administered by a specialist nurse or self-administered per peripheral inserted central catheter (PICC).
11.45  Outcome evaluation and review  
Bridget Atkins, Oxford

Presentation overview: Outpatient parenteral antimicrobial therapy is a popular concept amongst healthcare professions, managers and patients as it potentially reduces the number of hospital bed days and allows care of the patient in the setting they are most familiar and comfortable with – their own home. They may also be extra benefits in terms of reduction in the risk of acquisition of nosocomial infections such as MRSA and Clostridium difficile associated diarrhoea. The process should however not be regarded as risk free. There is a significant risk of developing acute or sub-acute and sometimes life threatening complications (e.g. anaphylaxis, other drug toxicity, line infection) or failure to resolve the original underlying infection. These may require urgent or semi-urgent re-admission to a health care facility and further investigations and change of plan. A process need to be in place whereby all patients have 24 hour access to and have regular review by medical staff trained in infection issues, in addition to OPAT nurse specialists and pharmacists. A registry of adverse effects and treatment outcomes is recommended plus regular feedback to all involved. More research is needed to establish ideal durations and routes of antibiotic administration.

12.00  Q&A

12.20  Clinical and economic drivers for OPAT success  
Paul Chadwick, Salford

12.35  Developing and presenting your business model  
Brian Ward

Presentation overview: Since the reforms of the NHS back in 1990 the NHS has moved to a more business-like footing, while staying mindful to keep the interests of patients’ upper most. We now have very sophisticated systems in place throughout the NHS for measuring value for money investments in healthcare service delivery. The recent economic downturn is having an impact on the NHS and is predicted to be a fact of life for us in the U.K. for years to come. Funding for services is likely to be even more closely scrutinised in future. OPAT represents an important opportunity to enhance patient care in appropriate circumstance. The establishment by BSAC with the BIS of standard methods of implementing OPAT services comes at a time when managers and clinicians are working together in many parts of the NHS to find safe and more efficient ways of delivering improved services to patients.

The objectives of my presentation are to describe:
1. The benefits of preparing a business plan for OPAT.
2. The role of the OPAT team in preparing the plan.
3. The benefits of fitting the aims for OPAT into the vision of your Trust.
4. What to include in the plan.
5. Ways of minimising rejection.
6. Some of the “immutable laws” of marketing as they are likely to apply to OPAT service delivery in any NHS hospital Trust or PCT.

Dwight D. Eisenhower said in 1944. “Plans are nothing; planning is everything”. Does this philosophy hold true when writing a business plan for OPAT? Perhaps.

12.50  Q&A

13.00  LUNCH

13.50  Poster presentations

14.10  Not one size fits all – defining your OPAT requirement(s)  
Graeme Jones, Southampton

Presentation overview: Every healthcare provider has an individual case mix determined by local factors and so will have different requirements of an OPAT service. Individual OPAT services have developed differently to meet these local requirements and each model of service delivery has strengths and weaknesses. Adopting the appropriate service model will maximise the impact of the business case to develop your OPAT service.

Following this presentation you will be able to:
1. Identify patient groups suitable for OPAT in your practice
2. Appreciate the range of different service models to deliver safe OPAT care that you could employ
3. Review how different models of service delivery address the essential components of a safe OPAT care that you will need to consider
Presentation overview: In the ever changing world of the NHS, we all have a responsibility to strive for clinical excellence under the umbrella of clinical governance. Outpatient Parenteral Antimicrobial Therapy (OPAT) fits nicely into recent government and patient agenda’s into providing healthcare services, although difficulty sometimes comes in determining what the markers for success for such a service are? Is it clinical effectiveness, risk management, patient experiences, strategy, finance or something else? This short presentation will give suggestions as to how the multidisciplinary team (clinical + non clinical) can evaluate OPAT and what markers can be used to examine patient outcome, satisfaction, service development and economic determinants.
SPEAKER BIOGRAPHIES

Bridget Atkins
Consultant, Microbiology and Infectious Diseases, Oxford Radcliffe Hospitals


The OPAT setup in Oxford pre-dated my consultant post but for the past 9 years I have been closely involved with clinical assessments, supervision on call, outpatients, guidance documents, recruitment, service level agreements, risk management and clinical governance issues related to the service. Also co-author on recent publication (Matthews et al, JAC) on the safety of S-OPAT vs. H-OPAT.

Ann LN Chapman
Consultant in Infectious Diseases, Royal Hallamshire Hospital, Sheffield, S10 2JF
ann.chapman@sth.nhs.uk

I have been working in Sheffield as a Consultant in Infectious Diseases since 2002. Prior to my arrival there was local interest in developing an OPAT service since it was recognised that many inpatients were in hospital purely to receive intravenous antibiotic therapy: a local survey published by my hospital Trust in 2004 put this at 4.2% of inpatients. I decided to set up an OPAT service, and set about doing this by visiting 3 services in the UK that were already in operation, collecting local data on likely demand, and writing a business case to present to our Business Planning Team. Three more business cases later, we now have a purpose-built unit with 6 chairs/ bed for OPAT, staffed by 2 nurse specialists, 2 nurse practitioners and support staff, an OPAT Specialist Registrar and myself, and treat around 250 patients annually, either as outpatients or in their own homes, saving 2700 bed days/year. The use of OPAT in the UK is likely to increase substantially over the next few years, driven by cost considerations, patient choice and the government agenda to move care closer to home, and I have a particular interest in developing minimum national standards of care to ensure that all services provide safe and high quality care.

Mark Gilchrist
Lead Pharmacist Infectious Diseases, Imperial College Healthcare NHS Trust, Charing Cross Hospital, London, W6 8RF; mark.gilchrist@imperial.nhs.uk

When I started at Charing Cross, there was always a strong focus on antibiotic stewardship however, if patients needed prolonged intravenous (IV) antibiotics we as the infection team would advise therapy and let the ward organise community nursing. Whilst this worked, there were a few patients who ran into difficulty and so in early 2006 we started to examine the possibility of OPAT and optimising the way we send patients home on IV antibiotics. By mid 2006 myself and an ID physician had looked at various models, examined length of stays for particular conditions, written a business case and started to recruit our OPAT nurse. In January 2007 we accepted our first patient. Over that year the way we managed patients and how we tried to reduce risk is something that has continued to interest me. In 2009 we continue to accept more challenging patients, adapting OPAT to deliver a safe and effective service.

Brendan Healy
Consultant in Microbiology and Infectious Diseases, NPHS Wales Cardiff, University Hospital of Wales, Cardiff.

Brendan Healy trained in Liverpool University and then carried out his training in Microbiology and Infectious Diseases in Cardiff. He was appointed as a Consultant in Cardiff in January 2008. There are currently no OPAT services in Wales with outpatient therapy being delivered through a nurse led acute response team that deliver all outpatient IV therapy. Dr Healy is in the process of developing a proposal for Cardiff with a plan to roll this programme out across Wales if successful.
When I arrived in Dundee as a consultant in medicine and infection I became aware of many patients with a range of infections, but dilip.nathwani@nhs.net
Consultant Physician and Honorary Professor of Infection, Ninewells Hospital and Medical School, Dundee DD1 9SY;
Dilip Nathwani
After devising a protocol (using US experience) to do OPAT on my own unit and a period of trial and error (now called PDSA by the nurse to travel with us to Dundee to see how Dilip Nathwani’s OPAT service worked. That was in 1999. Our service outgrew the large cupboard in which we initially saw patients and we became steadily embedded in the acute medicine unit that was being developed at that time. We encouraged referral of patients with other infections.

A Physician colleague and I met regularly to discuss his infected patients. Several had cellulitis and discussion was about getting them home as soon as was safe. It was almost invariably the antibiotic treatment and not their clinical condition that was the rate-limiting step. Why couldn’t we manage them like we did DVTs – and not admit them at all unless clinically indicated? Outpatient DVT management was safe so why not adopt outpatient cellulitis care?
And so our OPAT business case was born. Armed only with enthusiasm and an audit of cellulitis case numbers, we convinced our DVT nurse to travel with us to Dundee to see how Dilip Nathwani’s OPAT service worked. That was in 1999. Our service outgrew the large cupboard in which we initially saw patients and we became steadily embedded in the acute medicine unit that was being developed at that time. We encouraged referral of patients with other infections.

Graeme Jones
Consultant in Medical Microbiology, Southampton University Hospitals NHS Trust SO16 6YD graeme.jones@suht.swest.nhs.uk
A Physician colleague and I met regularly to discuss his infected patients. Several had cellulitis and discussion was about getting them home as soon as was safe. It was almost invariably the antibiotic treatment and not their clinical condition that was the rate-limiting step. Why couldn’t we manage them like we did DVTs – and not admit them at all unless clinically indicated? Outpatient DVT management was safe so why not adopt outpatient cellulitis care?
And so our OPAT business case was born. Armed only with enthusiasm and an audit of cellulitis case numbers, we convinced our DVT nurse to travel with us to Dundee to see how Dilip Nathwani’s OPAT service worked. That was in 1999. Our service outgrew the large cupboard in which we initially saw patients and we became steadily embedded in the acute medicine unit that was being developed at that time. We encouraged referral of patients with other infections.

Albert Lessing
On appointment as Consultant in Medicine to the local acute Trust it became clear that the clinical antifungal management of especially deep seated device-associated infections required optimisation. A multi-layered approach was required including diagnostics, shared care and setting up an ID-Consult Service and ID-Clinic, multidisciplinary team and funding stretching beyond the confines of the acute Trust into PCT-territory.
The clear advantages supported by funding of the acute Trust for the inpatient-component and the PCT for the outpatient-component yield a combination of quality and safe care and reduced length-of-inpatient stay.
The infrastructure of the OHPAT-Service was in place on inception albeit interim in nature only. A single Consultant was supported first by one nurse and then a second all working in different directorates, and a single nurse colleague in the Community. This arrangement has developed into a fully fledged Service supported by Infection Consultants and establishment of an acute Trust Lead Nurse for OHPAT, a formal after hour oncall service by the acute Trust and close liaison with the community-based Infusion Specialist of the PCT.
From the Pharmacy-perspective, Industry, compliant with quality assurance dictates, prepares and deliver medicines for administration by NHS staff, funded by the PCT and or Strategic Health Authority.
The first five years establishing the Service was a challenging time. Today, the local health economy, patients and staff alike enjoy the ability to offer patients the care they need, out of hospital.

Dilip Nathwani
Consultant Physician and Honorary Professor of Infection, Ninewells Hospital and Medical School, Dundee DD1 9SY; dilip.nathwani@nhs.net
When I arrived in Dundee as a consultant in medicine and infection I became aware of many patients with a range of infections, but particularly cellulitis, treated in hospital with IV antibiotics for a mean of around 6 days. Most were otherwise stable and did not require other healthcare interventions or support. After some rough and ready research it transpired that in the UK there are nearly 70,000 admissions with this diagnosis and up to 3-5 percent of acute medical emergency admissions. I set about on a mission to reduce this.

After devising a protocol (using US experience) to do OPAT on my own unit and a period of trial and error (now called PDSA by the improvement Guru’s!), I collected data to show that the patients came to no harm, indeed they were delighted to not be in hospital, the infections resolved as effectively and I had saved a large number of potential occupied bed days. I then sought a view from our GP and hospital colleagues of what they would feel about an OPAT service, the types and numbers of patients they would potentially refer. All this formed a rough and ready business case which included some selected “satisfied patient” quotes and a letter from a “local celebrity” on why her OPAT experience was so fantastic (God bless her!). Bingo I get an OPAT nurse practitioner to run the service, some basic infrastructure (gear) and a pat on the back from the managers. Alas, the sting in the tail was I loose 4 ID beds as disinvestment! Never a perfect world!

Victoria Parker
As directorate pharmacist for Communicable Diseases, the OPAT service falls within my pharmaceutical area, and has allowed me to be involved in delivering this important service. My role includes counselling patients on long term antibiotics regarding side effects, liaising with the CIVAS service to ensure timely preparation and delivery of pre-mixed antibiotics, and participation in weekly multidisciplinary meetings where all current and potential patients are discussed. Use of various antibiotics is monitored, in particular “restricted” antibiotics, to ensure that antibiotics are used appropriately and in keeping with trust wide prescribing policies. I also provide our nursing and medical staff with pharmaceutical information regarding adverse effects, compounding issues and administration details.

Brian R Ward
Independent Business Consultant, Wardround Consultancy Service. brian@wardroundconsultancy.com or www.wardroundconsultancy.com
I am an independent business consultant. I have worked with blue chip businesses in the U.K., Europe, Africa and in the USA and I have been associated with quite a few business plans over many years. Many I have seen succeed because they were good ideas presented in a professional way. There have been a few I also that I have seen which have struggled - and the reasons were often obvious!
About the UK OPAT Project

Established under the auspices and of the BSAC, and in academic partnership with the British Infection Society, the aim of the multi-stakeholder project will be to support, guide and encourage the establishment of standardized OPAT services throughout the UK wherever the clinical need may exist. The project will comprise the following:

- The review, update and peer-review publication of existing standards for the delivery of OPAT services. This would include a risk-benefit assessment of OPAT services.
- Development of business case models to help health professionals develop bids for local OPAT services.
- Series of pilot sites to assess the proposed OPAT model(s) and measure the impact of the project (clinical effectiveness, economic impact, patient experience).
- A series of UK-wide educational workshops to inform, instruct and support those wishing to implement OPAT services in their locality.
- Development of educational resources to support those with, or wishing to establish, OPAT services

Organising Secretariat

Esme Hewings
BSAC
Griffin House
53 Regent Place
Birmingham B1 3NJ
Tel: 0121 236 1988
Fax: 0121 212 9822
Email: ehewings@bsac.org.uk
Website: www.bsac.org.uk