Program Book

10TH Anniversary

Hospital In The Home

HITH Society Australasia Ltd

ANNUAL SCIENTIFIC MEETING

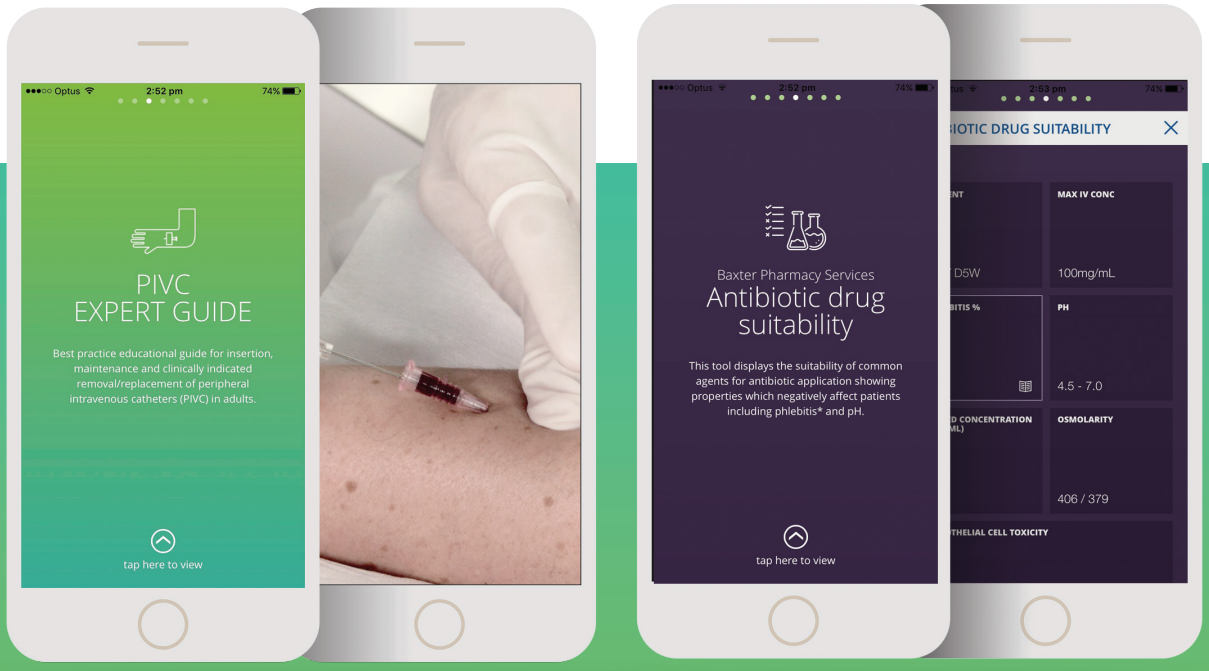
CHANGES, CHALLENGES & OPPORTUNITY

THE *home* CALLING

GET THE UPDATED HOME CALLING APP

Updated with two tools to support the use of Continuous Peripheral Infusion of IV antibiotics

Pharmacy Services



PIVC Expert Guide

A best practice educational guide for insertion, maintenance and clinically indicated removal/ replacement of peripheral intravenous catheters (PIVC) in adults.

IV Antibiotic Suitability for Peripheral Infusion

A concise reference guide that uses common drug characteristics to describe which IV Antibiotics can be considered suitable for Continuous Peripheral Infusion.

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CONVENOR'S WELCOME MESSAGE

Dear Colleagues,

On behalf of the organising committee and the HITH Society executive, it is a pleasure to welcome you all to the Pullman on the Park, Melbourne, for the 10th HITH Society of Australasia Conference.

This year we are pleased to welcome our keynote speaker Mark Gilchrist, who has travelled to us from the UK to give insights into OPAT.

We also welcome a number of Australian and New Zealand guest speakers. This year we have also received a large number of high quality abstracts and congratulate those selected for oral or poster presentations.

In this the 10th year of the conference, we look forwards rather than backwards at how HITH continues to evolve.

We hope all delegates can join us for dinner at a true Melbourne landmark - the MCG - for the annual conference dinner.

Finally, thank you to all our sponsors and exhibitors, many of whom have been long term supporters of the HITH Society Conference, without whom this event would not be possible.

James Pollard
Chair, 2017 Conference Committee

ORGANISING COMMITTEE

Dr James Pollard
Conference Convenor

Barwon Health
VIC

Ian Campbell

Cabrini Health
VIC

Pauline Dobson

John Hunter Hospital
NSW

Angela Ellis

Wide Bay Hospital and Health Service – Bundaberg
QLD

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Sir Charles Gairdner Hospital
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Sue Henning

Silverchain
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Eastern Health
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CONFERENCE SECRETARIAT

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Conference Web:
www.hithsocietyconference.com.au

Organisers Web:
www.conceptevents.com.au

HITH ABSTRACT PRESENTATION PRIZES

To recognise and reward the valuable contribution made by HITH clinicians and managers. These prizes will be awarded for the best oral presentation and best poster presentation at the Annual Scientific Meeting.

KEYNOTE AND INVITED SPEAKERS

International Keynote Speaker

Mark Gilchrist

Consultant Pharmacist Infectious Diseases | Imperial College Healthcare NHS Trust

Honorary Senior Lecturer | Dept Infectious Diseases & Immunity | Imperial College London

Mark Gilchrist is Consultant Pharmacist in Infectious Diseases at Imperial College Healthcare NHS Trust, and Honorary Senior Lecturer at Imperial College, London.

He is immediate past chair of the UK Clinical Pharmacy Association – Pharmacy Infection Network (UKCPA PIN), co-chair of the British Society for Antimicrobial Chemotherapy (BSAC) UK Outpatient Parenteral Antimicrobial Therapy (OPAT) Initiative and a spokesman for the Royal Pharmaceutical Society on antimicrobials.

Invited Speakers

- Tina Asker, Austin and RMH
- Ilona Bader, The Alfred
- Carol Limber, Ministry of Health NZ
- Hana Menezes, The Alfred
- A/Prof Michael Montalto, Epworth Healthcare
- Kathy Puyk, The Alfred
- Meg Ryan, Northern Health
- Michael Walsh, Cabrini
- Mark Williams, Peninsula Health
- A/Prof Stephen Wilson, Royal North Shore Hospital, NSW

PROGRAM


ve evolved
year there were approximately 10,000 HITH
overnight separations
l year there were 21,223 HITH same day and
% of total hospital
are still looking to grow and
NSW
Health

WEDNESDAY 15 NOVEMBER 2017

10.00 - 17.00	**HITH Society Executive Meeting** Stradbroke Room
17.00 - 18.00	**REGISTRATION OPEN** **Registration Desk, Ballroom Foyer**
18.00 - 19.00	**Welcome Reception** Ballroom Foyer, Pullman Melbourne on the Park

THURSDAY 16 NOVEMBER 2017

08.00 - 17.00	**REGISTRATION OPEN - DAY 1** Registration Desk, Conference Floor		
08.00 - 15.20	**Exhibition Open** Ballroom Foyer		
08.30 - 10.40	**CONFERENCE OPENING** **Chair: Barbara Farrelly, President HITH Society Australasia** Ballroom 2 - 3		
08.30 - 09.00	**Welcome to Melbourne and Conference Opening** Dr James Pollard, Conference Convenor		
09.00 - 09.45	**INTERNATIONAL KEYNOTE ADDRESS: BSAC OPAT Initiative – past, present and future** *Mark Gilchrist*, Dept Infectious Diseases & Immunity, Imperial College London		
09.45 - 10.15	**An Australian Hospital in the Home Doctor in Paris - insights into policy from French HITH** A/Prof *Michael Montalto*, Epworth Hospital and the Royal Melbourne Hospital, Victoria		
10.15 - 10.25	**HITH Society Memorial Oration - Dr Nicholas Collins** *A/Prof Stephen Wilson*, Head of Department, Rehabilitation Medicine, Royal North Shore Hospital		
10.25 - 10.40	**Nick Collins Fellowship** Introduction by *Barbara Farrelly*, President HITH Society Australasia; Presentation by *Dr Laila Ibrahim*, The Royal Children's Hospital Melbourne - Nick Collins Fellowship Award Winner 2016 Announcement of 2017 winner by *Dr Victor Carey*, Director Medical Affairs, Baxter Baxter		
10.40 - 11.10	**MORNING TEA, EXHIBITION AND POSTER VIEWING** Ballroom Foyer		
11.10 - 12.20	Workshop A **SAFETY & QUALITY** Accreditation: Lessons Learnt Ballroom 1	Workshop B **RESEARCH** Ballroom 2 - 3	Workshop C **JOY IN THE WORKFORCE** Maintaining Enthusiasm and Avoiding Burnout – How Do We Make Joy an Everyday Part of our Work? Delacombe Room
	Mary O'Reilly, Eastern Health **Michelle Horsnell,** Cabrini	**Dr Daryl Kroschel,** Silver Chain **Ian Campbell,** Cabrini **Dr Penelope Bryant,** The Royal Children's Hospital	**Dr James Pollard,** Barwon Health **Dee Loader,** The Alfred
12.20 - 13.20	**NETWORKING LUNCH, EXHIBITION AND POSTER VIEWING** Ballroom Foyer		

THURSDAY 16 NOVEMBER 2017

13.20 - 14.50	**Concurrent Session 1: Presentation of Papers** **Chair: Dr James Pollard, Barwon Health** Ballroom 2 - 3		**Concurrent Session 2: Presentation of Papers** **Chair: Ian Campbell, Cabrini** Ballroom 1	
13.20 - 13.35	Results of a Hospital-in-the-Home Antimicrobial Stewardship Survey **Prof N. Deborah Friedman, Barwon Health**	**OR01**	Hospital in the Home admissions directly from the emergency department: A retrospective review **Sarah Pinto, Royal Children's Hospital, Parkville**	**OR07**
13.35 - 13.50	Addition of Weekend Hospital in the Home at two Local Health District Hospital Facilities **Dr Ann-Marie Crozier, Sydney Local Health District**	**OR02**	Variation of utilisation of area HITH services **Dr Meenakshi Patil, HNE Health**	**OR08**
13.50 - 14.05	An overview of hospital in the home services in Australia **Laureen Hines, Queensland Health**	**OR03**	Retrospective analysis of patients with Cellulitis referred to HITH **Dr Ewen Bradbery, HNE Health,**	**OR09**
14.05 - 14.20	A Randomised Controlled Trial Comparing Home to Hospital in Children with Moderate/severe Cellulitis **Dr Laila Ibrahim, The Royal Children's Hospital Melbourne**	**OR04**	Identifying potential patients for Hospital-in-the-Home management of paediatric urinary tract infection/ pyelonephritis **Dr Barry Scanlan, Royal Children's Hospital**	**OR10**
14.20 - 14.35	A Consultative Care Medical Model Improves HITH Antimicrobial Stewardship and Reduces Length of Stay **Dr Eunice Liu, Royal North Shore Hospital**	**OR05**	Nurse-loadaed antibiotic infusors for hospital in the home: Keeping inpatients out **Angela Ellis, Bundaberg Hospital**	**OR11**
14.35 - 14.50	The Holo-Doc will see you now: 3D telemedicine in the 21st Century **Dr Daryl Kroschel, Silver Chain Group**	**OR06**	A Home Based Assessment and Treatment Program for Hyperemesis Gravidarum in the First Trimester of Pregnancy **Dr James McDonald, Cabrini**	**OR12**
14.50 - 15.20	**AFTERNOON TEA, EXHIBITION AND POSTER VIEWING** Ballroom Foyer			
15.20 - 17.00	**PLENARY SESSION** **Chair: Dr James Pollard, Barwon Health** Ballroom 2 - 3			
15.20 - 15.50	**Exploring the HITH NP model - Putting the service back into healthcare** *Mark Williams*, Peninsula Health - Hospital in the Home			
15.50 - 16.30	**Burns Management - Hospital to Home** *Hana Menezes*, The Alfred			
16.30 - 17.00	**Hospital in the Home Society Australasia Annual General Meeting**			
19.00	**Conference Dinner - HITH Cup 2017** *Sponsored by Silver Chain* Jim Stynes Room, Melbourne Cricket Ground			

FRIDAY 17 NOVEMBER 2017

07.30 - 17.00	**REGISTRATION OPEN - DAY 2** Registration Desk, Conference Floor			
07.30 - 08.45	**Satellite Breakfast Session** *sponsored by MSD Australia* **Emerging Trends in Antibiotic Resistance and Antibiotic Stewardship for Nurses** *Dr Joseph Kuti,* Associate Director of Clinical and Economic Studies at the Center for Anti-Infective Research and Development, Hartford Hospital in Hartford, Connecticut Ballroom 1			
08.30 - 15.25	**Exhibition Open and Arrival Tea and Coffee** Ballroom Foyer			
09.00 - 10.30	**PLENARY SESSION** **Chair: A/Prof Mary O'Reilly, Eastern Health** Ballroom 2 - 3			
09.00 - 09.30	**The Future of HITH – A Private Sector Perspective** *Michael Walsh*, Cabrini			
09.30 - 10.30	**An Innovative Approach in Surgical Site Management for the High Risk Patient** *Kathy Puyk,* The Alfred			
10.30 - 11.00	**MORNING TEA, EXHIBITION AND POSTER VIEWING** Ballroom Foyer			
11.00 - 12.15	**Concurrent Session 3: Presentation of Papers** **Chair: Sue Henning, Silver Chain Group** Ballroom 2 - 3		**Concurrent Session 4: Presentation of Papers** **Chair: Angela Ellis, Wide Bay Hospital and Health Service - Bundaberg** Ballroom 1	
11.00 - 11.15	Hospital-In-The-Home Physiotherapy for children with neurodevelopmental disorders – the next frontier? **Stephanie Parsons, Royal Children's Hospital, Melbourne**	**OR13**	Hospital in the Home (HITH) with telehealth - The virtual specialist in your home **Susan Samuels, Nepean Hospital**	**OR18**
11.15 - 11.30	Hospital in the Home Delivery of Conditioning Therapy for Allogeneic Stem Cell Transplantation: A Novel Single Centre Patient Focused Approach **Dr David Routledge, Royal Melbourne Hospital**	**OR14**	Digital Physiotherapy - Innovations in Hospital-In-The-Home Telehealth **Simone Maher, The Royal Children's Hospital**	**OR19**
11.30 - 11.45	Indications for Hospital in the Home overnight oximetry in infants under 12 months **Dr Sarah Pinto, Royal Children's Hospital, Parkville**	**OR15**	Clinical Photography in Wound Management **Emma Bailey, Alfred Health**	**OR20**
11.45 - 12.00	Incidence of Drug-induced liver injury in Hospital-in-the-home Patients on Long-term Antibiotics **Dr Shok Yin Lee, Eastern Health**	**OR16**	How Victoria has implemented hospital in the home **Karen O'Leary, Department of Health and Human Services**	**OR21**
12.00 - 12.15	Cephazolin use on the Alfred Hospital in the Home program from 2005 -2016. The Alfred Health HITH experience **Dr Andrew Fuller, Alfred Hospital**	**OR17**	Allied Health: A Team Player in Paediatric HITH Services in Queensland **Rachel Thomas, Children's Health Queensland**	**OR22**
12.15 - 13.15	**NETWORKING LUNCH, EXHIBITION AND POSTER VIEWING** Ballroom Foyer			

FRIDAY 17 NOVEMBER 2017

13.15 - 15.00	**PLENARY SESSION** **Chair: Dr Peter Bergin, Head of Heart Failure, The Alfred** Ballroom 2 - 3
13.15 - 14.30	**HITH Management of Different Aspects of Heart Failure** **Palliative pathway for CHF patients – is there an unmet need?** *Tina Asker*, Austin and RMH *Meg Ryan*, Northern Health **HITH Heart Failure and Home Inotropes** - *Ilona Bader,* The Alfred
14.30 - 15.00	*Chair: Dee Loader, Alfred Health* **NZ - A Whole System Approach to Managing Acute Demand – Top Tips and Toolkit** *Carol Limber,* Ministry of Health NZ
15.00 - 15.25	**AFTERNOON TEA, EXHIBITION AND POSTER VIEWING** Ballroom Foyer
15.25 - 16.30	**PLENARY SESSION** **Chair: Barbara Farrelly, President HITH Society Australasia** Ballroom 2 - 3
15.25 - 16.00	**INTERNATIONAL KEYNOTE ADDRESS:** **The Antimicrobial Stewardship dilemma with OPAT** *Mark Gilchrist*, Dept Infectious Diseases & Immunity, Imperial College London
16.00 - 16.30	**Awards & Prizes / Conference Handover 2018**
16.30	**Conference Close**

SOCIAL PROGRAM

Welcome Reception

Ballroom Foyer, Pullman Melbourne on the Park

Wednesday 15 November 2017
18.00 – 19.00

The welcome reception will be held throughout the exhibition and provides an opportunity for you to catch up with colleagues and meet some new ones whilst exploring the products and services on offer from the exhibitors. The welcome will include beverages and canapés of excellent quality and all sourced locally.

Cost
Inclusive for delegates
Accompanying Person(s): $50 (incl GST)

Conference Dinner

The HITH Cup – A Night at the Races!

Jim Stynes Room, Melbourne Cricket Ground
Brunton Ave, Richmond

Thursday 16 November 2017
19.00 – 23.00

The highlight of the Melbourne social calendar is the annual Melbourne Cup. The running of the HITH Cup at this year's Conference Dinner promises to be even bigger! Come dressed in your finest or craziest race wear. There will be prizes for Fashions on the Field, plenty of dancing, and of course the running of the Cup – with great prizes.

Please be sure to bring your Conference Dinner Ticket to ensure entry.

Sponsored by:

Silver Chain

Cost
Inclusive for delegates
Accompanying Person(s): $130 (incl GST)

Dress Code
Your best Race Day outfit!

GENERAL INFORMATION

Accommodation

Please ensure you settle your conference account directly with the hotel in full upon departure.

Pullman Melbourne On The Park

192 Wellington Parade,
Melbourne VIC 3002

Tel: (03) 9419 2000

Business Centre

A Connectivity Lounge is located behind the Hotel Reception desk in the Hotel foyer on the Ground Floor.

Car Parking

A discounted self-park rate of $30.00 per vehicle, per day is available to Conference attendees. Should guests prefer a valet parking option, the price is $49.00 per vehicle, per day. Please note that all parking is strictly subject to availability at time of arrival in the Hotel car park and is not reserved.

Catering

Catering during the Conference is included in the registration fee for Delegates, Speakers and Exhibitors. The Welcome Reception and Conference Dinner are also complimentary to Delegates. You must register to attend the Welcome Reception and the Conference Dinner. If you have not already done so, please visit the Registration Desk at your earliest convenience.

Certificate of Attendance

A Certificate of Attendance will be emailed to you post conference.

Conference Registration Desk Hours

The Registration Desk is located in the foyer on the Conference floor, Level 1. The desk will be open during the following hours:

Wednesday 15 November	17.00 - 18.00
Thursday 16 November	07.30 - 17.00
Friday 17 November	07.30 – 16.00

Conference Satchel

You will receive a conference satchel at the time of your registration. The satchel will contain all materials required for the conference.

Dietary Requirements

If you have advised the Conference Secretariat of your dietary requirements, please see the wait staff to receive your special meal. All conference buffets will cater for vegetarian and gluten free dietary requirements.

Disclaimer

The Conference Committee reserves the right to change the scientific program at any time without notice. Please note the program is correct at time of print.

Dress Code

The dress code for the business sessions and events is business casual. Dress code for the Conference Dinner is your finest or craziest Race Day attire.

GENERAL INFORMATION

Exhibition

The Exhibition will be located in Ballroom Foyer of the conference floor and will be open at the following times:

Wednesday 15 November 2017	18.00 – 19.00
Thursday 16 November 2017	08.00 – 15.30
Friday 17 November 2017	08.25 – 15.25

HITH Society Annual General Meeting

The HITH Annual General Meeting will be held in the Ballroom 2-3 at the Pullman Melbourne on the Park on Thursday 16 November 2017 at 16.30. Members are encouraged to attend this meeting.

Mobile Phones

For the convenience of all delegates, please ensure that your mobile phone is switched to silent during all sessions.

Name Badges and Tickets

For security purposes, Delegates, Speakers and Exhibitors must wear their name badges at all times during the Conference. Entrance to the Conference and Exhibition will be limited to name badge holders only. If you misplace your name badge, please see the Registration Desk for a new one. If you have registered for the Conference Dinner, you will have received a ticket in your registration envelope. You must present your ticket for entry to the dinner. To purchase additional dinner tickets (including partner tickets), please see the Registration Desk – places are limited so please do this at your earliest convenience.

Poster Display Times

Please take the time to view the poster presentations which are available for viewing in the foyer areas during conference hours.

Posters will remain on display from the morning of Thursday 16 November 2017, until close of conference on Friday 17 November 2017. Please refer to the Conference Program for all catering breaks, during which time delegates may view posters at their leisure.

Poster Presenters

Poster presenters, your poster number can be found by checking the Author Index in this Program Book. Should you require any assistance with your poster, see the staff at the Registration Desk. Poster authors must be present at their poster on both the Thursday and Friday Lunch Breaks as follows:

Thursday 16 November 2017	12.20 – 13.20
Friday 17 November 2017	12.15 – 13.15

Poster Set Up and Pack Down Times

Set up:
Thursday 16 November 2017, 09.00

Pack down:
Friday 17 November 2017, 15.25

Speakers

Please make yourself known at the Conference Registration Desk upon arrival. If you have not sent your presentation in advance, please ensure you download your presentation and confirm your audio visual requirements at least 3 hours prior to the start of your session, or the day prior for morning sessions. Please ensure you are available in your presentation room at least 15 minutes prior to the start of the session.

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Come to our stand to learn more and for a demonstration of our free, online HITH resources; *'baxterprofessional.com'* and *'thehomecalling'* mobile app.

Rachel Murphy
Senior Product Manager, Antibiotics
Email: rachel_murphy@baxter.com
Tel: +64 21 329259
Address: PO Box 88, Toongabbie NSW 2146 Australia
Web: www.thehomecalling.com , www.baxterprofessional.com.au

Conference Dinner

Silver Chain Group

The Silver Chain Group is a not-for-profit organisation, comprising of Silver Chain in Western Australia, Queensland and New South Wales and RDNS is South Australia. Together, we are one of the largest in-home health and care providers in Australia. Every year, we assist more than 97,000 people to remain living in their home and community.

Rachael Hume
Admin Assistant
Email: Rachael.hume@silverchain.org.au
Tel: 08 6318 7628
Web: www.silverchain.org.au

Satellite Breakfast Session

Merck Sharp & Dohme (Australia) Pty Limited

Lena Lee
Senior Brand Manager
Email: lena.lee@merck.com
Tel: 0414 795 384
Web: www.msd-australia.com.au

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Slade Health

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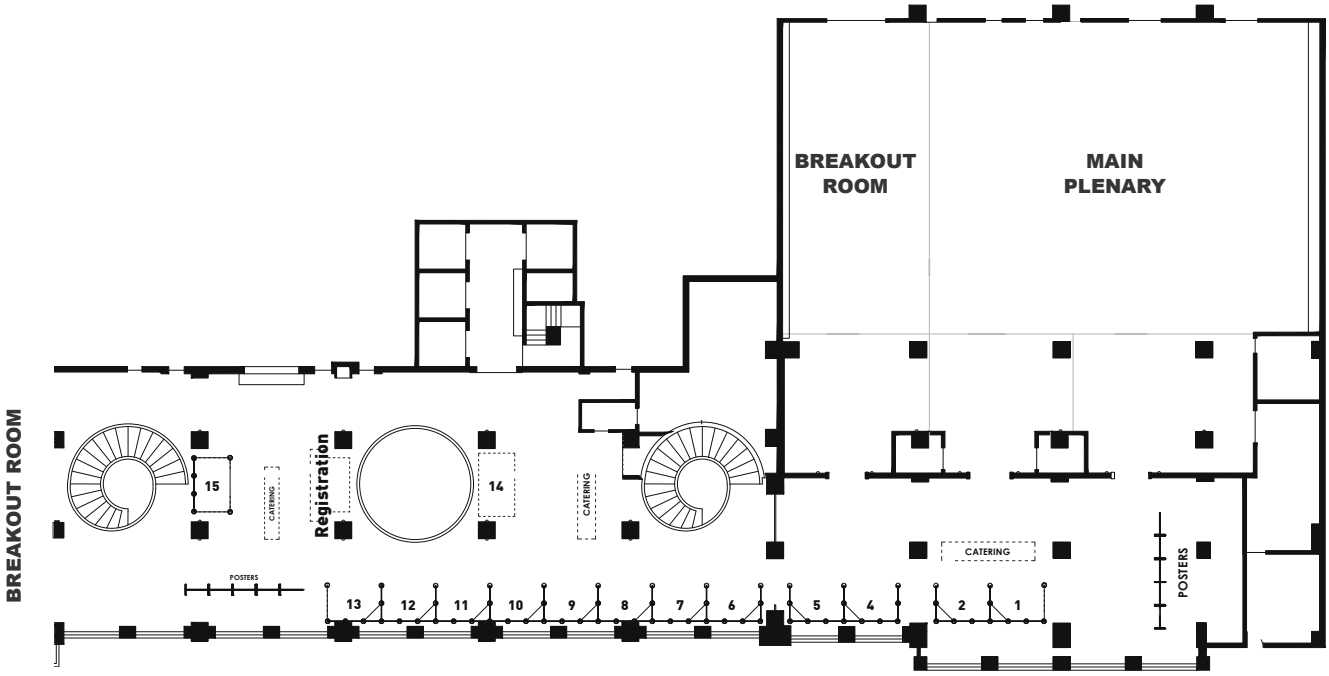
EXHIBITION FLOOR PLAN



Exhibitor	Booth Number
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Baxter Healthcare	6 & 7
Elyptol Pty Ltd	1
HITH Socitey Australasia	14
ICU Medical	12
Nipro Australia	11
NEANN	5
REM SYSTEMS Pty Ltd	8
Slade Health	10
Silver Chain Group	4
Smith & Nephew Pty Ltd	15
Supagas	9
Telflex Medical Australia	13

ABSTRACTS OF ORAL PRESENTATIONS

ORAL ABSTRACTS

Oral Abstract Details	Paper Reference
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ADDITION OF WEEKEND HOSPITAL IN THE HOME AT TWO LOCAL HEALTH DISTRICT HOSPITAL FACILITIES Dr Ann-Marie Crozier, Jodi Mcleod	OR02
AN OVERVIEW OF HOSPITAL IN THE HOME SERVICES IN AUSTRALIA Laureen Hines	OR03
A RANDOMISED CONTROLLED TRIAL COMPARING HOME TO HOSPITAL IN CHILDREN WITH MODERATE/SEVERE CELLULITIS Dr Laila Ibrahim, Dr Sandy Hopper, Francesca Orsini, A/Prof Franz Babl, A/Prof Penelope Bryant	OR04
A CONSULTATIVE CARE MEDICAL MODEL IMPROVES HITH ANTIMICROBIAL STEWARDSHIP AND REDUCES LENGTH OF STAY Jairo Herrera, Thiele Horst, Bernard Hudson, Dr Eunice Liu, Jim Newcombe	OR05
THE HOLO-DOC WILL SEE YOU NOW: 3D TELEMEDICINE IN THE 21ST CENTURY Dr Daryl Kroschel	OR06
HOSPITAL IN THE HOME ADMISSIONS DIRECTLY FROM THE EMERGENCY DEPARTMENT: A RETROSPECTIVE REVIEW Dr Sarah R Pinto, Dr Suzanne L Boyce, Dr Penelope A Bryant	OR07
VARIATION OF UTILISATION OF AREA HITH SERVICES Dr Ewen Bradbery, Dr Meenakshi Patil, Dr Sarah Davies, Jacqueline Greenham, Dr Penelope Webster, Dr Chris Geraghty	OR08
RETROSPECTIVE ANALYSIS OF PATIENTS WITH CELLULITIS REFERRED TO HITH Dr Ewen Bradbery, Dr Meenakshi Patil, Dr Sarah Davies, Jacqueline Greenham, Dr Penelope Webster, Dr Chris Geraghty	OR09
IDENTIFYING POTENTIAL PATIENTS FOR HOSPITAL-IN-THE-HOME MANAGEMENT OF PAEDIATRIC URINARY TRACT INFECTION/PYELONEPHRITIS Dr Barry Scanlan, Dr Laila Ibrahim, Dr Sandy Hopper, A/Prof. Franz Babl, Prof Andrew Davidson, A/Prof. Penelope Bryant	OR10
NURSE-LOADED ANTIBIOTIC INFUSORS FOR HOSPITAL IN THE HOME: KEEPING INPATIENTS OUT Tracey Watson, Angela Ellis	OR11
A HOME BASED ASSESSMENT AND TREATMENT PROGRAM FOR HYPEREMESIS GRAVIDARUM IN THE FIRST TRIMESTER OF PREGNANCY Dr James McDonald, Dr Stephen Dang, Michelle Horsnell, Dr Danielle Wilkins	OR12
HOSPITAL-IN-THE-HOME PHYSIOTHERAPY FOR CHILDREN WITH NEURODEVELOPMENTAL DISORDERS – THE NEXT FRONTIER? Stephanie Parsons, Philip Lo, Brenda Savill, Penelope Bryant	OR13

Oral Abstract Details	Paper Reference
HOSPITAL IN THE HOME DELIVERY OF CONDITIONING THERAPY FOR ALLOGENEIC STEM CELL TRANSPLANTATION: A NOVEL SINGLE CENTRE PATIENT FOCUSED APPROACH Dr David Routledge, Prof Michael Montalto, Dr Salvatore Fiorenza, Dr Andrew Lim, Melissa Todd, Prof David Rtichie	OR14
INDICATIONS FOR HOSPITAL IN THE HOME OVERNIGHT OXIMETRY IN INFANTS UNDER 12 MONTHS Dr Sarah Pinto**,** Andrew Gusman, Dr Kate Simpson	OR15
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ALLIED HEALTH: A TEAM PLAYER IN PAEDIATRIC HITH SERVICES IN QUEENSLAND Rachel Thomas, Marissa Ehmer, Meaghan Hollamby, Dr Kellie Stockton	OR22

OR01

RESULTS OF A HOSPITAL-IN-THE-HOME ANTIMICROBIAL STEWARDSHIP SURVEY

A/Prof N. Deborah Friedman[1], Robyn Ingram[2], Rodney James[2], Dr James Pollard[1], Sonia Koning[3], Prof Mary O'Reilly[3], A/Prof Kirsty Buising[2]

[1]Barwon Health, Geelong, Australia, [2]National Centre for Antimicrobial Stewardship, Melbourne, Australia, [3]Eastern Health, Box Hill, Australia

Aims

To identify similarities and differences between hospital-in-the home (HITH) services with regards to; governance, clinical oversight, clinical resources, prescribing of antimicrobial agents and access to antimicrobial stewardship (AMS).

Methods

An inter-disciplinary working group comprising infectious diseases (ID) physicians, and pharmacists with expertise in AMS and the HITH setting was established. An electronic HITH survey comprising 29 questions was developed in SurveyMonkey™ and launched to all HITH services in August 2016.

Results

39 HITH services, representing all states and territories except Tasmania, participated in the HITH antimicrobial survey. Most participating HITH services were located in public hospitals, with regional centres and external HITH contractors also represented. The majority of HITH services receive clinical oversight from the inpatient unit and the HITH service doctors. Antibiotic prescribing is usually overseen by ID, and all patients receiving antimicrobials have a medical review. Most HITH services provide intravenous (IV) antimicrobials to residents in aged care but do not allow for self-administration of IV antimicrobials. The top indications for IV antibiotics via HITH are cellulitis, osteomyelitis, and prosthetic joint infection. The antimicrobial agents most often administered by continuous infusion are; benzylpenicillin, ceftazidime, flucloxacillin, piperacillin-tazobactam and vancomycin. The antimicrobial agents most often administered by once daily doses are; ceftriaxone, ertapenem and gentamicin. Most HITH services have access to AMS via their public hospital, but only some are subject to restriction of antimicrobials. Few HITH services had protocols for IV to oral switch, and duration or choice of antimicrobials.

Conclusions

The HITH AMS survey has revealed that top indications for IV antimicrobials are cellulitis and osteomyelitis, and that AMS is often available to HITH services but may not result in antimicrobial prescribing restriction. The availability of HITH prescribing guidelines, including advice on IV to oral switch, was identified as an area for potential intervention.

OR02

ADDITION OF WEEKEND HOSPITAL IN THE HOME AT TWO LOCAL HEALTH DISTRICT HOSPITAL FACILITIES

Dr Ann-Marie Crozier[1], Jodi McLeod[1]

[1]*Sydney Local Health District, Sydney, Australia*

Aims

To provide more equitable access of care to patient population who require care on weekends by:

- Providing care for current HITH patients should they require ongoing nursing care or clinical review that was unable to be attended in the community setting
- Identifying referral of new HITH suitable patients

Methods

Hospital One: The embedding of a Registered Nurse within the ED to assess and manage existing HITH patients and to identify new HITH suitable patients. The Registered Nurse is allocated to HITH and works in the ED to manage HITH patients and is supernumerary to the ED nursing profile.

Existing patients continued medical governance with the weekend on-call HITH Consultant For new patients' medical governance was maintained by the ED Consultant until transfer to the HITH Staff Specialist on call.

Hospital Two: In addition to Registered Nurse as in Hospital One, enhancement for a Medical Staff Specialist embedded in ED to be available to review current HITH patients as clinically indicated.

Results

97 additional overnight separations over a 6 month period and an additional 152 episodes of care were attended by HITH staff that would otherwise have been admitted to a facility or treated in the ED.

The percentage of HITH overnight separations increased, for the same period, from 1.47% in 2016 to 2.32% in 2017.

100% of patients appropriately admitted to HITH.

100% patients surveyed agree or strongly agree with the statement "Overall, you were satisfied with your experience"

Conclusions

The specialist knowledge of HITH medical and nursing staff is integral to the recruitment of HITH suitable patients who could be safely treated at home.

An unanticipated positive result is the improved workflow and collaboration between HITH and ED during the week due to closer working relationships on the weekend.

OR03

AN OVERVIEW OF HOSPITAL IN THE HOME SERVICES IN AUSTRALIA

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Aim

To explore the similarities and differences between Hospital in the Home (HITH) services around Australia, with a specific focus on providing a comparative analysis of HITH metrics, to identify the possibility of developing national HITH Key Performance Indicators (KPISs) for the future.

Methods

To investigate the viability of the potential development of national HITH KPIs, a comparative data analysis was undertaken from five Australian jurisdictions (Queensland, New South Wales, South Australia, Victoria and Western Australia). The data analysis was over a 5 year period, under the following domains:

- Service spread and availability
- HITH governance models
- Service volumes and HITH as a percentage of total acute admissions
- Changes and differences in DRGs and length of stay
- Changes and differences in treatments

Results

There is variability in HITH services between jurisdictions, specifically:

- The definition of HITH
- Complex governance systems, with a variety of internal and external models identified.
- Variability in the uptake and acceptance of HITH as a valid model of care impacting on activity levels.

There were similarities between jurisdictions including:

- The types of treatments delivered
- DRG profile and changes in DRG volume in response to changes in treatment protocols
- Length of stay for common, high-volume DRGs
- Use of HITH for part of or the entire admission.

Conclusions

Overall, the analysis demonstrated variability between HITH services across Australia. Whilst there is a desire to have national KPIs, this study highlights the requirements for clear and transferrable data definitions, these definitions would need to be developed and cross jurisdictional agreement would need to be reached.

OR04

A RANDOMISED CONTROLLED TRIAL COMPARING HOME TO HOSPITAL IN CHILDREN WITH MODERATE/SEVERE CELLULITIS

Dr Laila Ibrahim[1,2,3], Dr Sandy Hopper[1,2,3], Francesca Orsini[2], A/Prof Franz Babl[1,2,3], A/Prof Penelope Bryant[1,2,3]

[1]The Royal Children's Hospital Melbourne, [2]Murdoch Childrens Research Institute, [3]University of Melbourne, Department of Paediatrics

OR05

A CONSULTATIVE CARE MEDICAL MODEL IMPROVES HITH ANTIMICROBIAL STEWARDSHIP AND REDUCES LENGTH OF STAY

Jairo Herrera[1], Thiele Horst[1], Bernard Hudson[2, 3], Dr Eunice Liu[1, 2, 3], Jim Newcombe[1, 2, 3]

[1]Acute Post-Acute Care HITH service, Northern Sydney Local Health District, NSW Health, Sydney, Australia, [2]Royal North Shore Hospital, St Leonards, Australia, [3]University of Sydney, Sydney, Australia

Aims

To assess the impact of a consultative care medical model on antimicrobial stewardship, length of stay (LOS) for key conditions and case mix for patients on parenteral antibiotic therapy (PAT) on a large metropolitan HITH service.

Methods

In 2017, an infectious diseases physician joined our HITH service and a new quality system was introduced for all referrals to our HITH service for PAT. This includes:

- 3-way teleconference at intake with referrer, HITH intake registered nurse (RN) and HITH ID doctor to determine the PAT plan.
- Daily paper round by the HITH-ID Registrar and ID consultant which reviews all new PAT referrals
- Weekly multidisciplinary team meeting reviewing all PAT patients on the service

Patients can be flagged for clinical review by the HITH-ID team at any point during the three levels of medical input. *A priori* process and outcome measures were analysed after 6 months of implementation.

Results

93% of PAT patients received ID input via 3-way teleconference at time of referral. There was 100% compliance with discussion of all PAT patients in the weekly multidisciplinary meeting (average 32 patients/round); 45% discussed required additional follow-up action by the multidisciplinary team. 23% of PAT patients were reviewed by the HITH-ID team in clinic, whilst an additional 24% receiving HITH-ID phone consultation to the HITH admitting team. Analysis of appropriateness of antibiotic treatment used is ongoing, but preliminary review shows high levels of appropriateness of antimicrobial use on the HITH service. There was a significant reduction in PAT LOS on HITH, particularly for cellulitis, as well as increased acuity case-mix for PAT.

Conclusions

The availability of in-house infectious diseases expertise for our HITH service has improved antimicrobial stewardship and decreased HITH LOS for patients on PAT.

OR06

THE HOLO-DOC WILL SEE YOU NOW: 3D TELEMEDICINE IN THE 21ST CENTURY

Dr Daryl Kroschel[1]

[1]*Silver Chain Group, Perth, Australia*

Aims

The term ‘telemedicine’ was coined in the 1970s and has a broad definition pertaining to the use of information and communication technologies in the provision of health care services by health professionals where distance is a critical factor. In a health care system that claims to be ‘patient centred’ the telemedicine model has not always been a great patient experience. The author will outline a world-first 3D platform that puts the patient at the forefront of the telemedicine experience.

Methods

Conventional telemedicine platforms are based around internet video conference calls that enable peer-to-peer 2D video images e.g. skype or facetime. In the quest for an improved patient experience, an extensive workshop was undertaken at Microsoft Headquarters in the US in order to design a solution. Subsequently SAAB technologies, based in Adelaide, were commissioned to build a novel 3D holographic application under the HoloLens Enterprise Acceleration Program to enable holoportation of Doctors into patients’ homes.

Results

The holoportation concept has been proven in the Microsoft Research Lab in Redmond. SAAB technologies is currently in the testing phase of deployment of this technology in the Australian NBN environment determining the best configuration for fidelity and latency dependant on the local broadband speed.

Conclusions

The deployment of this technology is a game-changer for the patient experience of telemedicine in the Australian Hospital in the Home (HITH) model and will help overcome the tyranny of distance for regional and remote patients.

OR07

HOSPITAL IN THE HOME ADMISSIONS DIRECTLY FROM THE EMERGENCY DEPARTMENT: A RETROSPECTIVE REVIEW

Dr Sarah R Pinto[1,2], Dr Suzanne L Boyce[1,2], Dr Penelope A Bryant[1,3,4]

[1]Hospital in the Home, Wallaby Ward, The Royal Children's Hospital, Parkville, Australia, [2]Department of General Medicine, The Royal Children's Hospital, Parkville, Australia, [3]Infectious Diseases Unit, The Royal Children's Hospital, Parkville, Australia, [4]Murdoch Children's Research Unit, The Royal Children's Hospital, Parkville, Australia

Background

Providing medical interventions to children in the home setting has been shown to be safe and effective with better patient satisfaction and reduced overall cost[1]. Following the introduction of Hospital in the Home (HITH) to The Royal Children's Hospital Melbourne (RCH), children were referred to the service following a period of in hospital stay. After a campaign to promote direction admissions to HITH from the Emergency Department (ED), referrals from ED have gradually increased.

Aim

To review admissions directly to HITH from ED:

1) Identify proportion of children admitted under the HITH bedcard versus other inpatient bedcards
2) Compare reasons for admission, treatment required and length of stay for each cohort

Method

Clinical and demographic data including admission duration was prospectively recorded for patients admitted directly from the ED to HITH from August 2012 until August 2017.

Results

428 patients were admitted directly to HITH from ED over the study period, with majority admitted under the HITH bedcard (373 children, 87%). Direct admissions under the HITH bedcard were most commonly for skin and soft tissue infections (73%) and genitourinary infections (18%). For children admitted under other bedcards, the most common reasons for admission were suspected or confirmed bacteremia (including central line associated infections) (25%), followed by skin and soft tissue infections (20%) and respiratory infections (20%).

Intravenous antibiotic administration was the most common intervention performed in both groups (HITH Bedcard 85% versus other bedcards 84%).

Overall length of stay was longer for other bedcard admissions (mean 4.3 days, range 1-41 days) compared to admissions under the HITH bedcard (mean 2.55 days, range 1-18 days).

Conclusion

Since its introduction, there has been a significant increase in admissions direct to HITH from ED.

The majority of direct admissions occur under the HITH bedcard and for intravenous antibiotic administration.

References

1. Bryant PA, Katz NT. Inpatient versus outpatient parenteral antibiotic therapy at home for acute infections in children: a systematic review. Lancet Infect Dis. 2017 Aug 16

OR08

VARIATION OF UTILISATION OF AREA HITH SERVICES

Dr Ewen Bradbery[1], Dr Meenakshi Patil[1], Dr Sarah Davies[1], Jacqueline Greenham[1], Dr Penelope Webster[1], Dr Chris Geraghty[1]

[1]HNE Health, Newcastle, Australia

Aims

To determine if our Hospital In The Home (HITH) cellulitis service is being underutilised and if so how many acute hospital bed days could be saved by directing patients to a HITH admission rather than an acute inpatient admission. Our HITH service takes consistent referrals from two hospitals within its area. Our research was to determine if there was a difference between these two hospitals by comparing patient encounters from each referral location.

Methods

The HITH cellulitis service was audited from 01/01/2013 – 31/12/2016 with data collection items including referring hospital, length of stay, length of treatment, treatment failure/success and alternate diagnosis. 312 patient encounters were referred from a major tertiary hospital (MTH) and 166 patient encounters were referred from a smaller peripheral hospital (SPH), totalling 478 encounters.

Data was then also collected from the two emergency departments to determine the number of patients that visited the ED with cellulitis as a primary diagnosis. Data was also collected to determine the length of stay of those patients admitted to acute hospital care.

Results

The overall HITH cellulitis referral rate for the four years reviewed were 11.62% for MTH and 14.07% for SPH. This is a statistically significant difference of 2.45% ($p = 0.0331$, CI 0.1340 – 4.8767). When comparing referral rates over time, the MTH rate decreased consistently over time, whilst the SPH referral rate remained relatively constant (Figure 1). The groups admitted to HITH from both sites showed no statistically significant difference in treatment outcomes.

Conclusions

Our audit findings are consistent with our HITH's cellulitis service being underutilised by MTH. The reasons for this are multifactorial. By increasing the HITH service provision, acute inpatient bed days could be made available for MTH, resulting in an economic and social *benefit.*

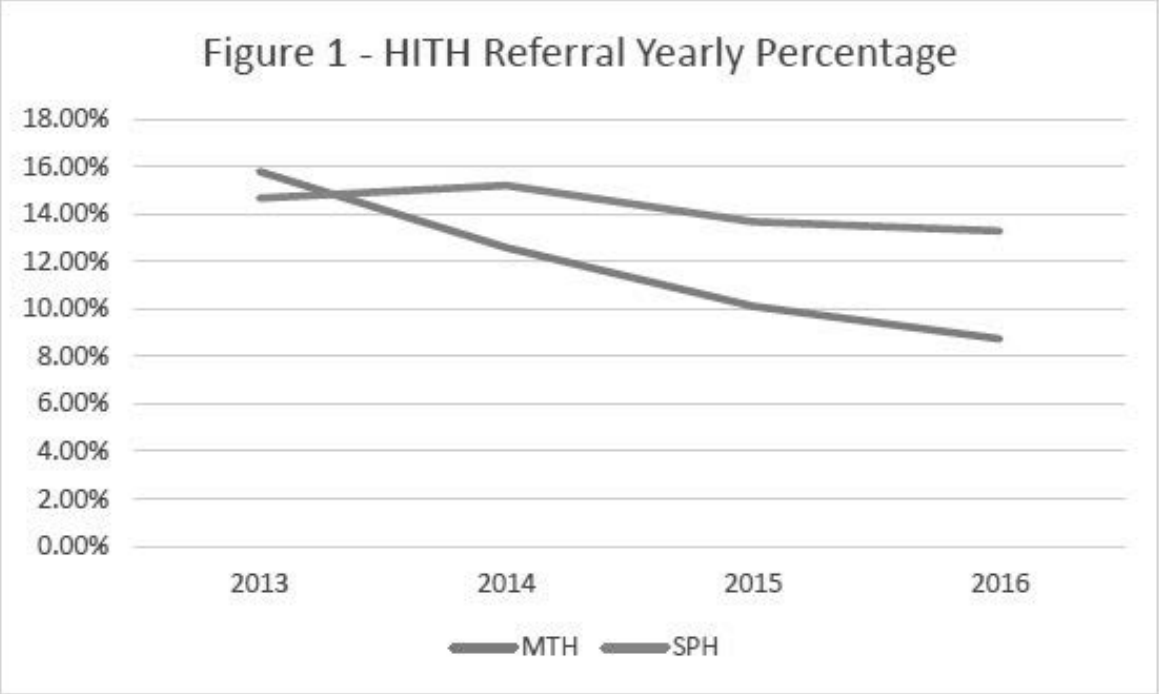


Figure 1 - HITH Referral Yearly Percentage
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
2013
2014
2015
2016
MTH
SPH

OR09

RETROSPECTIVE ANALYSIS OF PATIENTS WITH CELLULITIS REFERRED TO HITH

Dr Ewen Bradbery[1], Dr Meenakshi Patil[1], Dr Sarah Davies[1], Jacqueline Greenham[1], Dr Penelope Webster[1], Dr Chris Geraghty[1]

[1]HNE Health, Newcastle, Australia

Aim

Cellulitis is the most common infection managed in Hospital In The Home (HITH) services [MacKenzie, M., Rae, N., & Nathwani, D. (2014). International journal of antimicrobial agents, 43(1), 7-16.]. Internal audit is a key component for risk management, clinical governance and continuous improvement. This audit was conducted to better characterise key clinical characteristics of cellulitis patients referred to our HITH service, from 01/01/2013 – 30/04/2017, and assess their treatment outcome.

Methods

Retrospective analysis was performed on 628 cases of cellulitis referred to our HITH Cellulitis program, who met the service's inclusion criteria. These patients were diagnosed and referred to HITH by hospital-based medical officers for daily IV cephazolin and probenecid treatment at home. All patients were reviewed by HITH medical officers to assess clinical progress and for pertinent treatment decisions.

Results

628 cases were analysed with average patient age of 58 years, with 62.9% being males (table 1). The mean length of stay (LOS) was 6.4 days and the mean duration of IV antibiotics was 6 days (table 2). 5.1% of patients required a change in antibiotics, while 5.4% of patients were given an alternate diagnosis. Swab reports were available for 273 (43.5%) patients (table 3). Hospital readmission rate was 7.8% whilst on HITH.

Conclusion

This analysis confirms the effectiveness of HITH services in improving patient health outcomes outside hospital settings. The data shows that patients were appropriately diagnosed and referred to the service. When benchmarking against previously published data our study shows that this patient groups' LOS, mean duration of treatment and readmission rate were all better or comparable to the published data [Lasschuit, D., Kuzmich, D., & Caplan, G. (2014). OA Dermatology, 2(1), 2.]. This analysis lays the foundation for further prospective research into increasing the service provision of HITH.

Table 1 - Age and Gender of Referrals

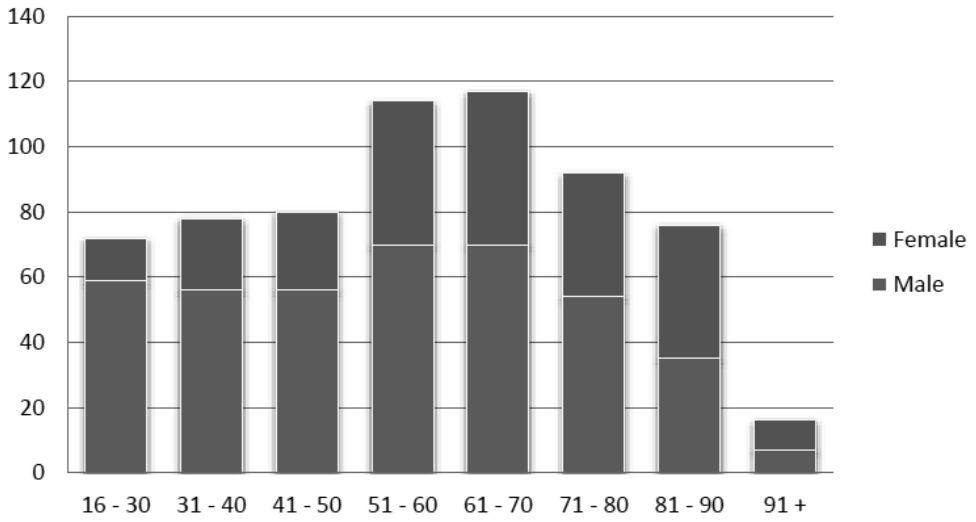


Table 2 - Duration Of Abx (Days)

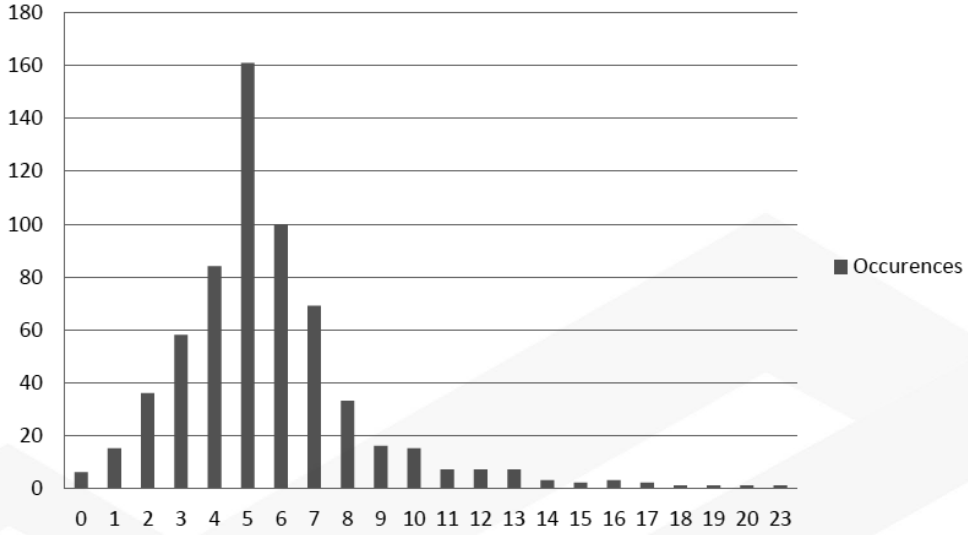
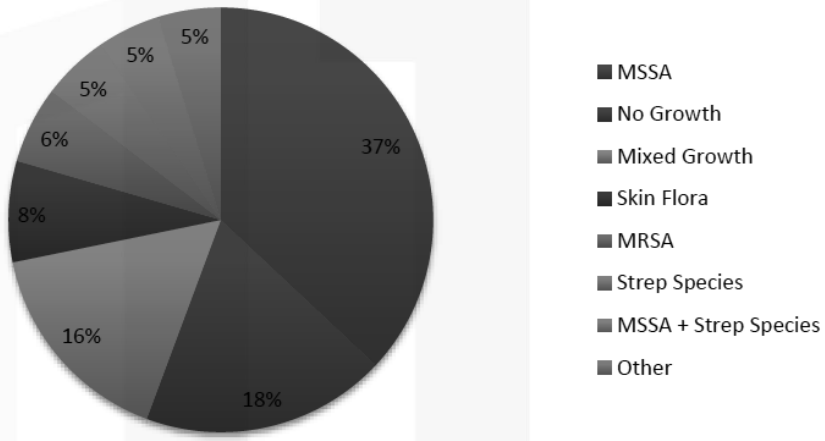


Table 3 - Swab Results



OR10

IDENTIFYING POTENTIAL PATIENTS FOR HOSPITAL-IN-THE-HOME MANAGEMENT OF PAEDIATRIC URINARY TRACT INFECTION/PYELONEPHRITIS

Dr Barry Scanlan[1,2,3], Dr Laila Ibrahim[1,2,3], Dr Sandy Hopper[1,2], A/prof. Franz Babl[1,2,3], Prof Andrew Davidson[1,2,3], A/prof. Penelope Bryant[1,2,3]

[1]Royal Children's Hospital, Parkville, Australia, [2]Murdoch Children's Research Institute, Melbourne, Australia, [3]University of Melbourne, Melbourne, Australia

Aims

Hospital-in-the-Home (HITH) provides an alternative to hospitalisation for the intravenous treatment of children with urinary tract infection(UTI)/pyelonephritis. We aimed to identify patients presenting to ED who could potentially receive intravenous antibiotic treatment at home directly from ED.

Methods

A retrospective study (May to July 2016) of all children (3 months to 18 years) presenting to the ED, diagnosed with UTI/pyelonephritis. Clinical and demographic features, length of stay and complications were collected. Patients in two groups were also further analysed patients who could have potentially treated been directly from ED with HITH. These were:

1. Those treated with ≤ 3 days of intravenous (IV) antibiotics and received no intravenous or nasogastric fluids outside ED.
2. Those treated with a single intramuscular or IV antibiotic dose and discharged on oral antibiotics.

Results

Over a 3-month period, 211 patients were diagnosed with UTI/pyelonephritis (*Figure 1*). Forty-four (21%) were hospitalised for intravenous antibiotics and only 2 (1%) received intravenous antibiotics at home under HITH care. Of those hospitalised for intravenous antibiotics, 85% were treated for ≤ 3 days (*Figure 2*). Twenty (45%) did not receive additional intravenous or nasogastric fluids. Fifty-four (26%) either vomited in ED or had a history of vomiting (*Table 1*). Of the 16 (8%) patients given a single dose of intravenous or intramuscular antibiotics in ED, 4 re-presented to ED of which 2 were re-admitted. There is the potential to treat 18% of patients presenting with UTI/pyelonephritis, and 64% of those deemed to require parenteral antibiotics could be treated directly in HITH.

Conclusions

The ED direct-to-home pathway under HITH care is significantly underutilised in the treatment of UTI/pyelonephritis. This study outlines a significant population of patients who could have there have their treatment via this pathway.

Figure 1

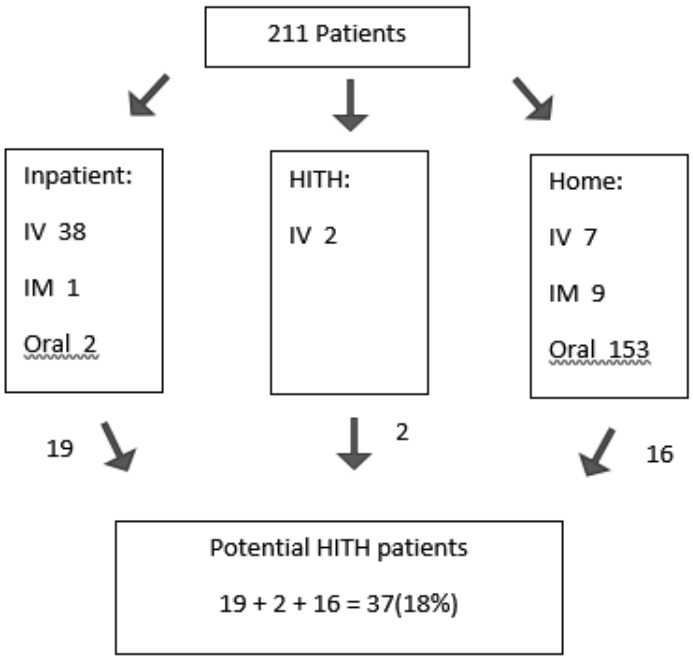


Figure 2

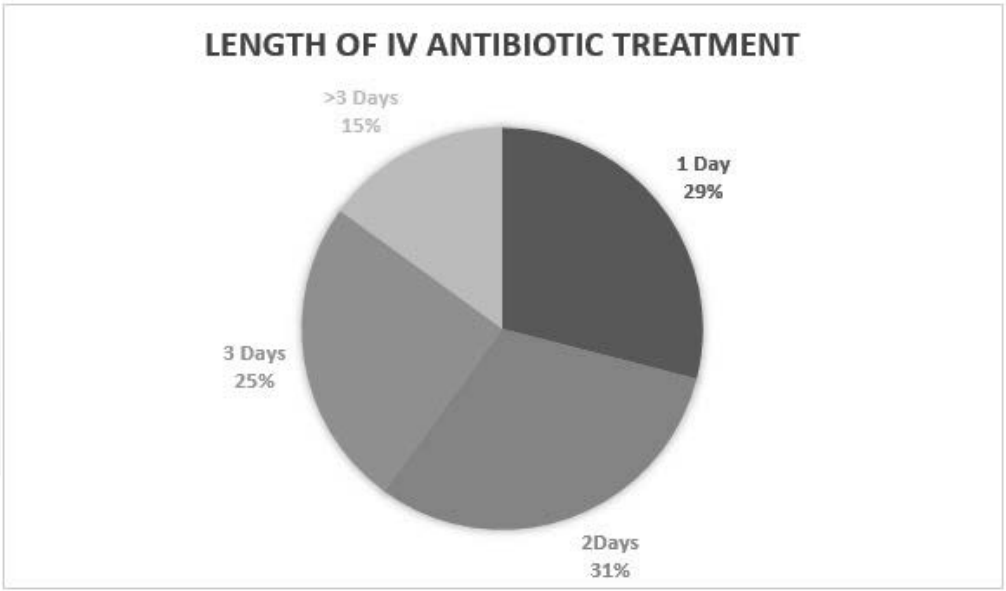


Table 1

	Oral antibiotics	Intravenous antibiotics
Fever	52%	81%
Rigor	1%	13%
Vomiting	35%	54%
Lethargy	11%	23%

OR11

NURSE-LOADED ANTIBIOTIC INFUSORS FOR HOSPITAL IN THE HOME: KEEPING INPATIENTS OUT

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[1]*Bundaberg Hospital, Bundaberg, Australia*

Background

The potential for nurse compounding of elastomeric infusors has recently drawn great interest and increased utilisation by Hospital In The Home (HITH) programs. Despite increased utilisation the supposed benefits of decreasing avoidable occupied bed days is yet to be quantified.

Aims

To detail the utilisation of nurse-loaded antibiotic infusors in a regional hospital HITH program and quantify the impact on avoidable occupied bed days.

Methods

A two year retrospective observational study was conducted of all HITH patients who had received a nurse-loaded infusor since their implementation in September 2015. For each occasion the reason for using a nurse-loaded infusor(s) was identified as either to prevent an unavoidable delay for patient admission/transfer to HITH or to prevent an unavoidable HITH readmission.

Results

In the two years post-implementation 137 patients received a total of 1692 infusors of which 19.5% (330/1692) were nurse-loaded, corresponding to 330 occupied beds days being averted. 74% of these patients received at least 1 nurse-loaded infusor (102/137), an average of 3.2 nurse-loaded infusors per patient (330/102). 84% of nurse-loaded infusors were used to facilitate immediate patient transfer from ward to HITH (278/330), while 16% were for current HITH patients to prevent readmission (52/330). Increased HITH patient uptake and retention attributed to the use of nurse-loaded infusors saved the hospital approximately $594,000 in acute bed costs during the two year study period.

Conclusion

The use of nurse-loaded antibiotic infusors has facilitated rapid admission onto our HITH service and ensured continuity of the antibiotic treatment where immediate dose/duration/drug alteration is required. Additionally, this intervention has shown to help reduce the burden of occupied bed days to the hospital.

OR12

A HOME BASED ASSESSMENT AND TREATMENT PROGRAM FOR HYPEREMESIS GRAVIDARUM IN THE FIRST TRIMESTER OF PREGNANCY

Dr James McDonald[1], Dr Stephen Dang[1], Michelle Horsnell[1], Dr Danielle Wilkins[1]
[1]Cabrini Health, Malvern, Australia

Background

In 2014 in conjunction with the obstetricians at Cabrini Hospital in Malvern, Victoria a home based program of regular assessment, investigations and treatment using a track and trigger template FOR hyperemesis in a home setting commenced.

Aims

To safely monitor, assess, investigate and treat women in the first trimester in a home setting with recurrent and chronic hyperemesis gravidarum thus avoiding multiple emergency department visits and hospital ward admissions.

Methods

On referral from the specialist obstetrician an initial assessment of the pregnant women was made in hospital in our clinic. A track and trigger score sheet was used to categorise patients into a low, medium or high risk group. A long term PICC line was inserted in radiology. Patients were reviewed twice or three times weekly and IV fluids and anti-emetics were administered according to the track and trigger category and on clinical assessment by a HITH doctor. Ten case studies were used here to record urgent patient admission, successful cessation of treatment by the end of the second trimester, unsuccessful obstetric outcomes and patient satisfaction using a peer reviewed survey tool.

Results

From our ten case studies, all patients were in the moderately ill group at the time of admission into the program. No patients from this group required re-admission to hospital of ED during their time with HITH. All patients were able to come off their IV fluids and anti-emetics prior the end of the second trimester. Unfortunately, two pregnancies ended in miscarriage while admitted to HITH.

Conclusions

1st and 2nd trimester hyperemesis gravidarum can safely and effectively be treated in a medical lead HITH service for women with an uncomplicated singleton pregnancy. A well monitored home based program probably avoids hospital admissions and is very popular with women admitted to the service. Unfortunately, this is a new service and numbers are very low. Further research needs to be undertaken to confirm that this is an effective, safe and popular model of care.

OR13

HOSPITAL-IN-THE-HOME PHYSIOTHERAPY FOR CHILDREN WITH NEURODEVELOPMENTAL DISORDERS – THE NEXT FRONTIER?

Stephanie Parsons[1], Philip Lo[1], Brenda Savill[1], Penelope Bryant[1,2,3]

[1]Royal Children's Hospital, Melbourne, Parkville, Australia, [2]Mudoch Children's Research Institute, Parkville, Australia, [3]Department of Paediatrics, The University of Melbourne, Parkville, Australia

Introduction

The Royal Children's Hospital Hospital-in-the-Home (HITH) provides physiotherapy to patients with neurodevelopmental disorders presenting with acute lower respiratory tract infections (LRTI). However, these patients likely represent the tip of the iceberg, as they are frequently admitted to hospital for long durations. Our aims were to identify current use of and satisfaction with HITH physiotherapy for this group and identify ways to improve the service.

Method

A prospective audit was undertaken of HITH admissions for children with neurodevelopmental disorders requiring chest physiotherapy May/2016 – June/2017. Data collection included: number of admissions, total length of stay (LOS) under medical care, HITH LOS, average time transfer to HITH, readmission rate. Barriers to transferring earlier to HITH were identified. Patient satisfaction surveys were distributed to patients and families to better understand families' perception of the service, including overall satisfaction.

Results

Thirty patients were admitted for physiotherapy for 54 admissions, 5 (17%) accessing the service >3 times. The mean total LOS was 14 days, mean HITH LOS 6 days, mean time taken to transfer to HITH 7 days. There were 14 direct admissions from home or Emergency Department (ED). For 12 (22%) admissions, patients were readmitted within 30 days of discharge with further respiratory symptoms. Early survey results suggest patients and families are satisfied with HITH physiotherapy.

Several areas for improvement were identified, and initiatives started: 1) a Developmental Medicine/HITH working group; 2) a pathway for more streamlined transfer from Developmental Medicine to HITH (including direct transfer from ED or home); 3) a telehealth pilot study aiming to improve HITH discharge outcomes.

Conclusion

Given high demand for hospital inpatient beds and increasing presentations through ED, changes have been implemented to HITH for patients with neurodevelopmental disorders to increase use and facilitate earlier transfer from hospital or home whilst maintaining patient satisfaction. Further investigation into factors contributing to readmission is required.

OR14

HOSPITAL IN THE HOME DELIVERY OF CONDITIONING THERAPY FOR ALLOGENEIC STEM CELL TRANSPLANTATION: A NOVEL SINGLE CENTRE PATIENT FOCUSED APPROACH

Dr David Routledge[1], Prof Michael Montalto[1], Dr Salvatore Fiorenza[1], Dr Andrew Lim[1], Melissa Todd[1], Prof David Rtichie[1]

[1]The Royal Melbourne Hospital, Geelong, Australia

Introduction

High dose therapy with Allogeneic Haematopoietic Stem Cell Transplantation (AlloHSCT) has traditionally been performed as an inpatient (IP) procedure. However, with improvements in supportive care and patient selection it is possible to safely deliver conditioning chemotherapy in an outpatient (OP) setting on large day units with daily visits (Subirà M et al., 2003).

To reduce these daily visits The Royal Melbourne Hospital (RMH) Bone Marrow Transplant and Hospital in the Home (HIH) department delivered Fludarabine chemotherapy as part of conditioning for AlloHSCT in the patient's home. Here we report on the safety outcomes of HIH AlloHSCT vs IP care, specifically complications and outcomes.

Methods

A retrospective case note audit identified 395 consecutive AlloHSCT patients who received Fludarabine conditioning between 2011 and 2017, 130 via the HIH Program.

Results

The HIH patients median age was 51 years (range 18-69). 59% were male (n=77) and 41% Female (n=53). Median Length of Stay (LOS) for HIH patients was 27 days (Range 10-97) with a median of 5 days (range 2-8) in HIH. The LOS for IP was not significantly different at 26 days (range 5-174; p=0.209). Total number of bed days saved through HIH was 682. Having chemotherapy as a HIH patient had no effect on outcome (HR 1.01) or Overall Survival (HIH 17 vs IP 16 months - see Figure 1).

Of the 130 patients who were treated in the HIH Program only 11 had an unplanned admission before Day 0 of their AlloHSCT. Reasons for readmission included suspected infection (n=8; only one culture positive), vasovagal (n=1) and anxiety (n=2). Of note, four of these admissions arose in the first three months of the program with the other seven readmissions occurring over the following six years, with a readmission rate of approximately 5% (7/126 patients).

Conclusion

The HIH delivery of chemotherapy and supportive care as part of conditioning for AlloHSCT in the patient's home is both safe and effective. It resulted in a median of five bed days saved per patient (Total number of bed days saved = 682) and the risk of complications was low (5%).

References

Subirà M, Sureda A, Ancin I, et al. Allogeneic stem cell transplantation with reduced-intensity conditioning is potentially feasible as an outpatient procedure. Bone Marrow Transplant. 2003; 32:869–872.

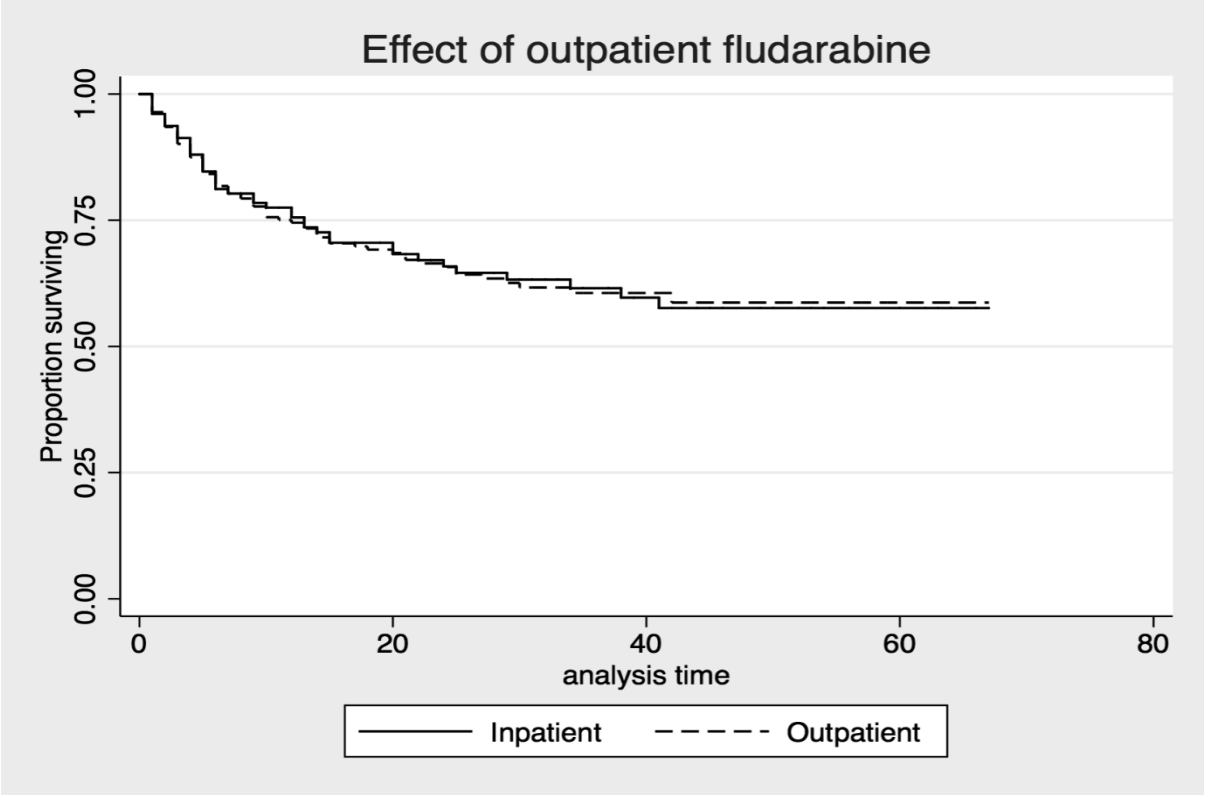

Figure 1 – Comparison of Survival Between HIH and IP AlloHSCT Patients

OR15

INDICATIONS FOR HOSPITAL IN THE HOME OVERNIGHT OXIMETRY IN INFANTS UNDER 12 MONTHS

Dr Sarah Pinto[1,2], Andrew Gusman[1], Dr Kate Simpson[1,2]

[1]Hospital in the Home, Royal Children's Hospital, Parkville, Australia, [2]Department of General Medicine, Royal Children's Hospital, Parkville, Australia

Background

Overnight polysomnography (PSG) is the gold standard test for the evaluation of sleep-disordered breathing in children, but in many centers is difficult to access1. Our 'Hospital in the Home' (HITH) department regularly uses overnight oximetry as a screening tool for sleep-disordered breathing. It has a high positive predictive value in children older than 12 months[2]. Yet despite lack of evidence in the under 12 month age our experience suggests that many clinicians are happy to rely on the overnight oximeter alone to make management decisions.

Aim

We reviewed the data of patients under 12 months age over the first 6 months of 2017 who had overnight home oximetry through HITH at the Royal Children's Hospital.

Specifically we were interested in:

- How many infants went on to have a PSG
    1) Correlation of the PSG and overnight oximetry result
    2) The reasons for overnight oximetry referral

Results

During the study period 46 infants under 12 months had 51 episodes overnight oximetry through HITH at the Royal Children's Hospital. At conclusion of the study period 12 patients (26.1%) had a PSG, with a further 2 patients having been referred and still awaiting PSG.

21 infants (45.6%) had been referred for evaluation of potential obstructive sleep apnoea (OSA), only 6 went on to have a PSG, with 2 still awaiting PSG. Of those referred for evaluation of only 3 actually had OSA on PSG. 1 had central sleep apnoea and 2 had mixed obstructive/ central sleep apnoea (CSA). In all infants that had PSG with a question of OSA, oximetry had not been able to differentiate OSA versus CSA.

Conclusion

Despite its limitations, clinician decision making indicates a high reliance on overnight oximetry in conjunction with the clinical scenario.

References

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2. Brouillette RT, et al. Nocturnal pulse oximetry as an abbreviated testing modality for paediatric obstructive sleep apnoea. Pediatrics. 2000 Feb.

OR16

INCIDENCE OF DRUG-INDUCED LIVER INJURY IN HOSPITAL-IN-THE-HOME PATIENTS ON LONG-TERM ANTIBIOTICS

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Aim

Antibiotics are a common cause of drug-induced liver injury (DILI). We aim to investigate the incidence of DILI in patients receiving long-term antibiotics in Eastern Health's hospital-in-the-home (HITH) program.

Methods

This is a retrospective study analyzing liver function tests (LFTs) of all HITH patients from May 2014 to April 2015 who received antibiotics for at least 2 weeks. The primary endpoint was the incidence of DILI. Secondary endpoints included the risk associated with each antibiotics used.

Results

Of 434 patients who received antibiotics for ≥2 weeks, 285 (66%) had LFTs measured pre- and post-commencement of antibiotics and were included in the analysis. Thirty-seven (13%) patients developed deranged LFTs during treatment. The cause was identified as drug-induced in 21 patients (57%) while 16 (43%) had other causes. Thus, the overall incidence of DILI in patients on antibiotics for ≥2 weeks was 21/285 (7%). Of patients with DILI, 15 (71%) had hepatocellular injury, with one of these patients also meeting criteria for mixed injury and 7 (33%) patients had cholestatic injury. DILI occurred in 5 of 125 (4%) patients receiving cefazolin, 4 of 42 (10%) receiving ceftriaxone, 5 of 34 (15%) receiving flucloxacillin, 4 of 31 (13%) receiving piperacillin-tazobactam, 1 of 23 (4%) receiving vancomycin, and 2 of 18 (11%) receiving meropenem (one of these patients received vancomycin and meropenem). Risk of DILI was 3-fold higher with flucloxacillin compared to cefazolin (p=0.034). 14 (62%) of them required change or cessation of antibiotics.

Conclusion

The overall incidence of DILI in patients on long-term antibiotics is low with higher risk associated with flucloxacillin and piperacillin-tazobactam.

OR17

CEPHAZOLIN USE ON THE ALFRED HOSPITAL IN THE HOME PROGRAM FROM 2005 - 2016. THE ALFRED HEALTH HITH EXPERIENCE

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[1]Alfred Hospital, Melbourne, Australia

Aims

To assess the utilisation and efficacy of IV cephazolin on Hospital in the Home (HITH) at the Alfred hospital.

Method

The hospital in the home database was analysed and patients receiving this antibiotic were evaluated.

Results

There has been 17,718 admissions from 2005 to 2016 and of these 1,571 were for the use of cephazolin. Antibiotic use makes up 58% of all HITH admissions. Cephazolin use has increased steadily on HITH from 22 in 2005 reaching 207 in 2011 and has continued at a high level since then.

The most common reasons for cephazolin use were cellulitis (975 patients), osteomyelitis (160), bursitis (77), bacteraemia (70), septic arthritis (54), wound infection (34), vertebral osteomyelitis (26), abscesses (18), endocarditis (17) and pacemaker infection in 10.

The mean age was 58 and 61% were male. Mean length of stays were hospital inpatient 6 days, HITH 9 days and total admission 15 days. In most the standard dose was 2gms intravenously twice a day and 3gms IV twice a day for patients greater than 80 kg.

Treatment success occurred in 99 %.(2 patients retreated). There were no allergies. 118 (7.5%) patients were readmitted because of minor complications. There were 2 deaths - both expected in nursing homes.

There were no relapses of infection in the more serious infections of staphylococcal bacteraemia, osteomyelitis and endocarditis.

Conclusion

Cephazolin use has increased. It is safe, can be given twice daily and is effective for serious staphylococcal infections on hospital in the home.

Disclosure of interest statement:

No pharmaceutical grants were received in the development of this study.

OR18

HOSPITAL IN THE HOME (HITH) WITH TELEHEALTH – THE VIRTUAL SPECIALIST IN YOUR HOME

Susan Samuels[1], Dr Jinaman Kim, Jillian Hennessy, Susan Tait, Dr James Branley, A/Prof Archana Sud

[1]Nepean Hospital, Kingswood, Australia

Aim

The aim was to extend the Nepean HITH service to upper mountains for treatment in patients' own homes. The patients were to be provided specialist Infectious Diseases (ID) consultations within 72 hours of referral, via Tele health.

Method

We leveraged the Tele health initiative at Nepean Hospital to obtain mobile devices for HITH nurses. An App was designed and developed specially for the purpose of streamlining note and picture taking, providing access to the hospital Cerner system and enabling video-conferenced consultations. Two nurses were recruited to extend treatment services to Blue Mountains. They provided up to twice daily treatments to patients in the upper mountains, particularly patients with cellulitis. The nurses also facilitated Tele health reviews by ID specialists at Nepean to optimize diagnosis and provide appropriate antibiotic therapy.

Outcomes measured were number of days on intravenous antibiotics, number of presentations to Emergency Department (ED) and number of Tele health consultations. Patient satisfaction was assessed via informal feedback. Cost of care was assessed based on bed days.

Results

Over 5 months we saved 99 emergency presentations to Blue Mountains District Hospital (BMDH), a 41% reduction. Antibiotics days for cellulitis were reduced from 4.1 to 3.3, a 21% reduction in length of stay. All patients received an ID review; 50% patients were able to avoid travel to hospital due to consultations via Tele health, resulting in reduction in health costs by AUD 39,204, improved continuity of care and patient satisfaction.

Conclusion

The initiative has allowed more patients to be treated at home with direct access to timely specialist review. Presentations to ED were reduced, so also the prolonged waiting times in ED for patients requiring an evening dose. Readily available specialist advice optimised antibiotic therapy with anticipated secondary gains from reduced indwell times for intravenous cannulas.

OR19

DIGITAL PHYSIOTHERAPY - INNOVATIONS IN HOSPITAL-IN-THE-HOME TELEHEALTH

Simone Maher[1]

[1]*The Royal Children's Hospital, Parkville, Australia*

Aims

Hospital-In-The-Home (HITH) telehealth at the Royal Children's Hospital has been successfully implemented since 2014 for the physiotherapy treatment of children with Cystic Fibrosis(CF). With increasing demands on the physiotherapy service, we sought to explore the use of telehealth across additional patient populations as an adjunct to traditional face-to-face visits, thereby supporting patient care and access to therapy in an ever evolving and expanding service model.

Our aims were to complete a review of the literature exploring the use of telehealth in Physiotherapy, provide recommendations for extending the use of telehealth in our service and establish a Telehealth Pilot Trial.

Method

A literature review exploring the use of telehealth was completed, investigating telehealth as a digital service platform in physiotherapy practice. Positive results informed planning and recommendations for two pilot trials looking at extending the use of telehealth in our current care model.

Trial 1: The use of Telehealth as a bridge to discharge for non-CF respiratory patients

Trial 2: The use of Telehealth to promote exercise progression & adherence to home exercise programs.

Trials are currently underway at RCH. Patients admitted to HITH with a lower respiratory tract infection (LRTI) or for a graded exercise program are eligible to participate. Treatment via telehealth consists of either exercise or respiratory consultation and guidance of treatment. Satisfaction surveys, exercise progression and adherence to home program are key measures.

Results

Early results indicate families are satisfied with telehealth as an adjunct to their physiotherapy management. Families report increasing confidence with respiratory techniques and a sense of connection to the hospital as key positive outcomes.

Conclusions

Telehealth has presented itself as a sustainable, cost effective and successful treatment modality for HITH physiotherapy. Further audits following both trials are required to explore the overarching success of these service initiatives.

OR20

CLINICAL PHOTOGRAPHY IN WOUND MANAGEMENT

Emma Bailey[1]

[1]Alfred Health, Richmond, Australia

Clinical photography is not a new concept; however technology can enhance timely collaboration between the multidisciplinary team, improving patient outcomes.

Aim

As a Hospital In The Home (HITH) service that receives a number of patients requiring on-going wound care from the state-wide provider of burns care, challenges are often presented with coordinating ongoing care in the community throughout the state. In order to ensure a coordinated, timely, multidisciplinary approach to wound care, a standardised approach to clinical photography was implemented. This approach was implemented with the aim of reducing length of stay and improving patient outcomes.

Method

Standardisation in clinical photography for patients was implemented to ensure timely upload of clinical photography in patient's medical record and therefore timely access to images for multidisciplinary team. Improved technology was acquired and education was also provided to staff in regards to clinical photography principles. HITH statistics were analysed and case studies reviewed.

Results

Over the last 5 years (2013- 2017) HITH has averaged 1818 admissions per year. Of these admissions the HITH has averaged 122 BURNS patients a year on the program. The length of stay (LOS) for these patients over the last 5 years averaged 9.5 days. There has been a steady decline of length of stay over the last 5 years, 10.5, 9.8, 9.0, 9.9, 8.7 days. The latest results for 2017 showing an average LOS for BURNS patient on HITH being 8.7 days.

There was a marked decrease in the average and maximum stay of long stay HITH BURNS patients. Average LOS for long stay HITH BURNS patient decreased from 25.5 to 19.5 days. Maximum stay for a HITH BURNS patient reduced from 58 to 30 days.

Case studies (R.G. and M.M., 2017) also evidenced a reduced need for patient's to attend medical reviews.

Conclusion

Introduction of a standardised approach to clinical photography in HITH has seen a decrease in the average length of stay of BURNS patients on the HITH program, especially the long stay BURNS patients. In addition to decreased length of stay, a reduction in patient requirements to attend medical reviews has been evidenced by case studies.

OR21

HOW VICTORIA HAS IMPLEMENTED HOSPITAL IN THE HOME

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[1]*Department of Health and Human Services, Melbourne, Australia*

Aims

To describe the critical success factors that have driven the growth in delivery of hospital in the home in Victoria.

Methods

We explored the separate and combined impacts of five key changes in policy and funding settings:

- the initial two year pilot project in 1994
- moving hospital in the home to the casemix funding model for acute admitted services in 2001–2002
- specific incentive funding ceased in 2003–2004
- revised policy settings and service guidelines in 2009
- revised policy settings and service guidelines in 2014.

Results

Victoria commenced a two year pilot project to fund and support the hospital in the home concept in 1994. The project enabled Victoria to describe a model that was safe, had high patient and staff satisfaction, no more expensive and increased access to a wide-range of hospital-delivered acute services across the state.

Independent audit and reviews have led to policy reform and additional financial investment. Hospital executives and clinicians have responded to these periodic reforms in conjunction with new and emerging technologies and changing treatment options.

The department conducts regular forums with hospital in the home clinicians and managers. This enables logic testing, collaborative implementation of policy, feedback mechanisms and distribution of shared learning.

In 2016–17 Victoria's public hospital delivered more than 37,000 hospital in the home episodes of care, equivalent to more than 650 inpatient beds. Over more than 20 years the chosen policy and funding settings have driven and enabled a steady growth in the scope and volume of hospital in the home in Victoria.

Conclusions

Developing and expanding hospital in the home takes time. It requires ongoing commitment to the concept, supportive policy and funding constructs and active engagement with clinicians and service managers.

OR22

ALLIED HEALTH: A TEAM PLAYER IN PAEDIATRIC HITH SERVICES IN QUEENSLAND

Rachel Thomas[1], Marissa Ehmer[1], Meaghan Hollamby[1], Dr Kellie Stockton[1]

[1]Children's Health Queensland, South Brisbane, Australia

Aims

In January 2017 Children's Health Queensland (CHQ) moved to an in house model to deliver their Paediatric Hospital in the Home services. CHQ staff based at Lady Cilento Children's Hospital provide a unique multidisciplinary service to children within the greater Brisbane area. The aim of this study is to describe innovative alternate models of physiotherapy care that effectively and efficiently contribute to improved patient flow and patient centred care.

Methods

Traditionally children have been seen by physiotherapy staff as part of a hospital in the home model or under a post acute care arrangement to facilitate earlier discharge and prevent readmissions. Increasingly there is recognition of the benefit of physiotherapy in the prevention of emergency department presentations and unplanned admissions in a population of children with complex, chronic health conditions. Demographic information and data specifically related to length of stay and utilisation of physiotherapy is collected to allow comparison of these innovative models of care with traditional Hospital in the Home (HITH) and inpatient models.

Results

Since the transfer of the service in January, physiotherapy have provided services to 155 patients inclusive of HITH, Post-Acute Care (PAC) and Palliative Care Service in their own home. Increasingly, hospital avoidance strategies targeted at children with complex needs have been employed with success. This has positively impacted on the flow of patients within LCCH and use of acute inpatient beds.

Conclusions

As the physiotherapy service becomes further developed and established within the CHQ@ Home model, research has commenced in to the effectiveness of a Physiotherapy Patient Flow position to increase the utilisation of alternative models of care as we move forward in the current tight fiscal health environment. A review of the current data shows Physiotherapy may provide significant contributions for patients outside of the traditional models of care.

ABSTRACTS OF POSTER PRESENTATIONS

POSTER ABSTRACTS

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PO01

INNOVATIONS IN HITH, EXTENDING TRADITIONAL TREATMENT BOUNDARIES

Lisa Brooks[1], Kristine Allan[1], Andrew Russell[1]

[1]Ballarat Base Hospital, Ballarat, Australia

Aims

To expand traditional boundaries of care in Hospital in the Home (HITH) by providing intravenous immunoglobulin Prividgen (IVIg) in the home. To promote patient centred care and provide cost effective treatment by substituting hospital inpatient care to home care.

Methods

Work was undertaken in the HITH unit of Ballarat Health Services in Victoria, by nursing staff to administer IVIg to a patient in a Residential Aged Care Facility. After discussions with the Clinical Director of Medical Services it was established with a focus on safety and patient centred care IVIg could be administered in the home environment instead of in hospital care. The HITH Medical Registrar admitted the 65 year old male patient with a chronic Inflammatory demyelinating polyneuropathy (CIDP) under HITH. The patient was cannulated at his home and a nurse special was supplied for the duration of his four hour treatment. Vital signs were recorded regularly per policy and the patient was monitored throughout the infusion. The cannula was removed post treatment.

Results

The administration of IVIg in the home was achievable with a nurse specialling the patient for four hours. Treatment at home enhanced the patients well being and autonomy as the frail patient wanted his infusion at home, he felt listened to, this promoted patient centred care. The treatment mitigated hospital admission risk factors such as falls, confusion, delirium, hospital acquired infection and clinical deterioration and was more cost effective than treatment in an inpatient hospital setting.

Conclusions

In summary clinical care in HITH was extended beyond its usual treatment boundaries by administering IVIg in the home. The treatment at home provided patient centred care and a cost benefit to the organization of Ballarat Health Services. The use of IVIg in other patient groups could potentially expand the patient group suitable for HITH.

PO02

IDENTIFICATION, PREVENTION AND MANAGEMENT OF OCCUPATIONAL VIOLENCE WITHIN VICTORIAN HOSPITAL IN THE HOME (HITH) UNITS

Mark Williams[1], Louise Hogan

[1]Hospital in the Home, Peninsula Health, Frankston, Australia, [2]St Vincent's at Home, Fitzroy, Australia

Aims

The aim of this study was to identify the incidence and characteristics of occupational violence experienced by Victorian Hospital In The Home staff. Identification and adherence to current guidelines, effective preventative and response strategies was undertaken.

Methods

A Qualtrics E-Questionnaire comprising 64 items was provided to participants by each individual Nurse Unit Manager (NUM). Exposure to occupational violence was classified with evaluation made against demographical data.

Results

Qualtrics E-Questionnaire written with Ethics Committee approval pending.
E-Questionnaire to be distributed and data analysis completed prior to poster presentation.

Conclusions

Qualtrics E-Questionnaire written with Ethics Committee approval pending.
E-Questionnaire to be distributed and data analysis completed prior to poster presentation.

PO03

COMMUNITY WARFARIN MANAGEMENT AT TIME OF HITH ADMISSION

Dr James Pollard[1], Wendy Cumming[1]

[1]Barwon Health, Geelong, Australia

Aims

To assess subtherapeutic INRs on enrolment to our institution's HITH perioperative protocol for warfarin management

Methods

HITH records were invigilated for all patients within calendar year 2016 who had been enrolled onto perioperative anticoagulation management pathway. Those patients with INR on enrolment (Day -4 prior to surgery) below target were further analysed.

Results

There were 253 patients in total enrolled for anticoagulation management. 70 (27.6%) had subtherapeutic INR on enrolment. Of these, 34 (48.5%) were being dosed on basis of GP "coagucheck" process, and a further 34 (38.5%) were being dosed by the local pathology provider. 4 were being dosed by GP on basis of INR performed by central laboratory. Atrial fibrillation, 34 (48.5%) was the most common reason for anticoagulation, followed by DVT 10 (14.2%), PE 8 (11.4%) and DVT/PE 7 (10%). Of the cohort, 11 (15%) were thought of sufficient risk of an event that an off protocol administration of low molecular weight heparin was arranged. 13 (18.5%) had an INR of 1.5 or less. 26 (37%) had an INR of 1.6-1.8.

Conclusions

There is room for improvement in the maintenance of therapeutic INR for community patients on warfarin. Further information could be gained by more analysis of this group as well as other community cohorts. HITH protocols may need adjustment to allow for the greater than 1 in 4 patients who are subtherapeutic on enrolment to their HITH admission.

PO04

EXPLORING THE IMPACT ON POLYPHARMACY USING A GERIATRIC HOSPITAL SUBSTITUTION SERVICE

Richard Bolitho[1], Dr Ann Ruden[1], Megan Sharkey[1], Man Kit Lai[2]

[1]Gold Coast University Hospital, Gold Coast, Australia, [2]University of Queensland, Brisbane, Australia

Aims

Polypharmacy can have a considerable impact on elderly patients' health outcomes, increasing burden of care on the Australian public health care system. Geriatric evaluation medicine in the home, GEMITH, provides specialised interdisciplinary assessment and therapy to older patients. Geriatricians lead a multidisciplinary team whom perform daily interventions within patients' homes, reducing hospital readmissions and lengths of stay. We aimed to determine the impact on polypharmacy for patients transferred into a geriatric hospital substitution program model of care.

Methods

We conducted a retrospective audit of 235 patients' medical records admitted under GEMITH at tertiary teaching hospital. Data was collected over a six month period from 1/1/2017 to 30/6/2017. Patients medications were reviewed for appropriateness by GEMITH in an interdisciplinary team based model of care. Primary end points were whether there was a reduction in number of medications, number of total daily doses and whether medication routine was simplified by reducing daily frequency. Inferential statistical analyses, including paired t- tests, were used to determine if there was a reduction in polypharmacy for these patients.

Results

The mean age was 82 years and 57% were female. Overall 42% of patients had a reduction in medications at time of discharge from GEMITH compared to transfer. There was a notable reduction in the number of medications, total daily doses prescribed and reduction in medication administration times (7%, $p<0.001$; 9%, $p<0.001$; 5%, $p=0.32$ respectively).

Conclusions

Overall there was a significant reduction in polypharmacy for patients admitted under GEMITH. These findings suggest that specialised interdisciplinary interventions can reduce polypharmacy in elderly patients.

PO05

DEVELOPING A HOME-BASED MODEL OF CARE FOR ADMINISTRATION OF IMMUNOGLOBULIN

Jacquie Waymouth[1], Ann-Maree Redden[1], Dr James Pollard[1]

[1]University Hospital Geelong, Barwon Health, Geelong, Australia

Aims

To develop a model of care within the Barwon Health (BH) Hospital in the Home (HITH) program to transition patients from a day stay infusion model of intravenous immunoglobulin (IVIg) to a self-administered home based model of care - subcutaneous immunoglobulin (SCIg). The program is available to all eligible patients currently receiving IVIg in BH day infusion centres and who reside within the local catchment of BH and the surrounding regional communities.

Methods

A model of care has been developed based on previous individual patient approaches to teaching self-management of IVIg infusions with ongoing HITH support and facilitation. This program has required further development and scaling up of existing processes to support a model of care that can support multiple patients in a systematic, efficient and sustainable manner.

This model has adopted a collaborative approach with the support of CSL product advisors and educators, treating clinicians, the BH transfusion services clinical nurse specialists, existing BH day infusion and pharmacy services.

Patient education modules, education brochures, SCIg specific care plans and processes have been developed to support the model of care.

The transition from IVIg to SCIg is occurring with initial treatment and education in the HITH clinic, followed by treatment and education in the home setting, Dependent on patient competency and confidence it is envisaged that most patients will transition to self-management within 4-6 weeks. HITH will provide ongoing support and education with planned reviews and facilitation of product ordering and supply and provision of consumables.

Results

The program is currently in the early stages of implementation. A questionnaire is being used to measure patient experience and satisfaction. An evaluation of the program based on number of patient enrolments, reduction in health service costs and treating clinician engagement and satisfaction of treatment efficacy will be utilized to support this approach to care.

Conclusion

The HITH approach to the implementation of a SCIg program is an important initiative providing patients with an alternative and self-management care option.

PO06

REHABILITATION IN THE HOME IN NSW - ADDRESSING THE OPPORTUNITIES FOR SUBACUTE HITH

Dr Tuan-Anh Nguyen[1], Allison Schwarzel[1], Jade Martin[1], Lukas Szymanek[1], Meagan Elder[1], Loretta Andersen[1]

[1]Campbelltown Hospital, Campbelltown, Australia

Aims

Rehabilitation in the Home (RITH) is a new multidisciplinary service which commenced in April 2017 in the Macarthur region, geographic catchment limited number of inpatient beds. RITH is a short term HITH service offering physiotherapy, occupational therapy, nursing and medical intervention. The goal is to provide an alternative option to subacute rehabilitation hospital admission maximise function for clients in a community setting.

Methods

RITH provides daily clinical care and a 24-hour point of contact directly to a clinician via phone. Clinical care is delivered via face to face or telephone contact, with future scope to provide services via telehealth. Weekly interdisciplinary case conferencing is conducted.

RITH eligibility:

- Over 18 years of age
- Clients who would normally meet admission criteria to inpatient Rehabilitation
- Medically suitable for discharge from hospital,
- Willing/able to participate in a Rehabilitation program
- Have achievable and realistic Rehabilitation goals which can be attained outside of the hospital setting within the expected timeframes
- Functional level currently suitable for care at home

Results

Following outcome measures:

1. Functional improvements using standardised objective scales (Functional Independence Measure, Timed Up & Go, Canadian Occupational Performance Measure)
2. Readmission rates and clinical indications for readmission
3. RITH separations
4. RITH waitlists
5. DRG by LOS comparisons
6. Length of Stay
7. Complications
8. Telemedicine use
9. Patient feedback

Conclusions

RITH provides an opportunity for a new subacute HITH model. RITH will be implemented and evaluated over the next 2 years, with a view to define the model for implementation in other locations.

PO07

ASSISTED AUTOMATED PERITONEAL DIALYSIS – A PILOT PROGRAM IN WA

Narelle Hawkins[1], Debbie Fortnum[1], Dr Aron Chakera[1]

[1]Sir Charles Gairdner Hospital, Nedlands, Australia

Background

Peritoneal dialysis (PD) is a home treatment for End-Stage Kidney disease used by 3000 patients across Australia. It requires a certain level of physical and mental ability which can preclude frail and older populations, or those with illness either long-term or short-term. PD patients can have extended length of stay or an enforced transfer to haemodialysis because of an inability to self-manage their PD. Internationally assisted Automated PD models (aAPD) have been developed to overcome this hurdle

Aims

To develop and evaluate a pilot aAPD programme through a tertiary hospital in WA.

Methods

The nursing service staff received training in the provision of AAPD. Evaluation methods included; 1) Patient user data including Charlson Comorbidity Index (CCI), Quality Of Life (QOL) (SF36), clinical outcomes and quantitative evaluation, 2) Nurse surveys, 3) Economic costings.

Results

18 Patients were enrolled into the service for an average of 37 (range 1-165) days of care (respite and pre-training). Clinical outcomes reflected CCI scores (lower score = better outcome). Qualitatively, patient acceptance was high although QOL of life scores ranged widely. HITH nurses trained successfully with competence improving over exposure to delivering treatment in the home ($p<0.001$). The service model was cost neutral compared to the funding received and cost-savings for transport and hospital bed days were realised for the hospital.

Conclusion

aAPD performed by a nursing service is a viable and cost-effective treatment option for patients reducing the need for both hospital bed days and transfers to Haemodialysis.

PO08

TOTAL PARENTERAL NUTRITION IN THE HOME: A CASE STUDY

Vanessa West[1], Dr Michael Young[2]

[1]Bluecare Hospital In The Home Townsville, Townsville, Australia, [2]The Townsville Hospital and Health Service, Townsville, Australia

Aims

To discuss the successes and challenges encountered when treating a patient with Total Parenteral Nutrition (TPN) in the home

Methods

A 54 year old gentleman was admitted to the HiTH Service at The Townsville Hospital for four weeks of TPN for conservative management of an anastomotic leak post a right hemicolectomy for bowel cancer. Utilising a shared care model with weekly review and advice from the Colorectal surgical team and Dietetics department the patient was visited twice per day for infusion of a proprietary TPN product from Fresenius-Kabi. Guidance around treatment was sought from the previously published AUSPEN guidelines.

Results

The patient was treated for a period of four weeks during which all nutrition was provided via the intravenous route. Serial CT Scans and pathology tests showed stable biochemistry and liver function and a steady improvement in the free air collection in the abdomen. The patient was subsequently transferred back to the hospital inpatient unit for re-feeding.

Conclusions

This case study illustrates the utility of the HiTH model of care for provision of acute TPN in the home.

PO09

IMPACT OF DIFFERENT MODELS OF CLINICAL GOVERNANCE IN A HOSPITAL AT HOME UNIT

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Introduction

For Hospital at Home (H@H) services where inpatient teams provide clinical governance, inexperienced junior doctors are often reluctant to manage patients outside the hospital environment. H@H units with attached dedicated senior doctors may assist with identifying and discharging suitable patients earlier, improve inpatient teams' trust that their patient will be managed appropriately, and facilitate interdisciplinary communication and teamwork between H@H staff and treating clinicians.

In February 2016, the Royal Adelaide Hospital Department of Medicine employed a senior physician to encourage recruitment and provide clinical governance for patients in the medical stream. Surgical patients continued to be managed by inpatient units.

Aim

To assess the impact of a clinical governance model provided by a H@H physician compared to inpatient teams.

Methods

Overall and early (within 4 hours of hospital admission) H@H admissions and lengths of stay (LOS) were compared before and after February 2016 for the two main H@H streams: medical (HXHM) and surgical (HXHS). Additionally, H@H nursing staff were surveyed about their experience with the two H@H clinical governance models.

Results

Compared to the previous 18 months, there were significantly more HXHM and HXHS admissions in the 18 months after February 2016. HXHM admission rates continued to rise after February 2016, whereas HXHS admission rates plateaued. HXHM LOS rose by 0.78 days, whereas HXHS LOS reduced by 1.21 days. Neither stream had significant changes in early H@H admissions.

H@H nurses reported significant improvement with the H@H physician clinical governance model, particularly with communication clarity, decisiveness and appreciation of nursing input.

Conclusions

Introducing a dedicated H@H physician increased admission rates to the medical stream – unseen with other streams - and H@H nurses experienced greater satisfaction with this clinical governance model. However, increased LOS and insignificant changes to early H@H admission rates means the ideal model has yet to be determined.

PO10

RESULTS OF A HOSPITAL-IN-THE-HOME NATIONAL ANTIMICROBIAL PRESCRIBING SURVEY PILOT

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Aims

To modify the existing Hospital National Antimicrobial Prescribing Survey (NAPS) tool to facilitate antimicrobial quality improvement auditing in the Hospital-in-the-Home (HITH) setting.

Methods

An inter-disciplinary working group with expertise in the HITH setting, comprising infectious diseases physicians, a clinical microbiologist, and antimicrobial stewardship pharmacists, was established. The Hospital NAPS data collection tool was modified to suit the HITH setting and trialed in 5 Victorian hospitals representing metropolitan, regional, public and private hospitals. Australian HITH services were and offered the opportunity to participate in a pilot of the HITH NAPS.

Results

Twenty-three HITH services throughout Victoria, New South Wales, Queensland and Tasmania participated in the HITH NAPS pilot. In total, 1154 prescriptions for 722 patients (63% male) were included. Patients ranged in age from 1 month to 101 years; the median age was 58 years. Patients were referred to HITH from emergency departments (40%), general and acute care medical units (28%), orthopaedic units (19%), and infectious diseases departments (13%).

The most common antimicrobials prescribed were; cefazolin (22%), flucloxacillin (12%), piperacillin-tazobactam (10%), ceftriaxone (10%), benzylpenicillin (6%), and vancomycin (5%). The most common indications for antimicrobials were; cellulitis (30%), osteomyelitis (8%), pneumonia (7%), abscess (6%), Cystic Fibrosis exacerbation (5%), endocarditis (4%), septic arthritis (4%), prosthetic joint infection (4%), exacerbation of bronchiectasis (2%).

Prescriptions were compliant with guidelines in 43% of cases, and appropriateness of antimicrobial prescribing was assessed as optimal in 75%, adequate in 12%, suboptimal in 8.5% and inadequate in 3% of prescriptions. Antimicrobial therapy duration was incorrect in 9% of cases, and antibiotic spectrum was considered too broad in 8.5% of prescriptions.

Conclusions

The HITH NAPS pilot has revealed areas for improvement around prescribing appropriateness, specifically through optimising therapy duration and antibiotic spectrum of activity, and compliance with prescribing guidelines. This tool shows promise for ongoing auditing of antimicrobial use.

PO11

HOW WELL DO HITH PATIENTS COMPREHEND AND RETAIN THE EMERGENCY PLAN INFORMATION PROVIDED THROUGH PATIENT EDUCATION BY HITH NURSES?

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Aim

Ensuring that patients who deteriorate receive appropriate and timely care is a key safety and quality challenge. Patients should receive comprehensive care regardless of their location Clinical governance and risk management are two elements of quality improvement are of paramount importance in the home setting. A presentation on coroner's findings at last year's conference prompted a review of our safety systems around the adequacy of our safety instructions, both written and oral (delivered by nurses during admission to unit) for patients in emergency and non-emergency situations whilst in our Hospital in the Home Program. A questionnaire was deployed to patients to confirm they were able to understand and retain information they were provided on the HITH emergency processes and thus confirm the safety and functionality of our escalation system within our service.

Methods

A questionnaire designed to collect quantitative data on the patient's retention of knowledge for contacting HITH, or emergency services in emergency and non-emergency situations. The project was approved by the services HERC. An eleven question instrument was provided to those patients who met the selection criteria those being, over 18 and without cognitive impairment, and were admitted into the HITH service and educated regarding Emergency plans by HITH nursing staff between 1st of April 2017 and 1st October 2017.

Results

All surveys results are yet to be returned**.** Total of patients surveyed= up to 40. Interim review of results suggest that the majority of patients receiving education by HHU nursing staff regarding emergency processes have a good understanding.

Conclusion

Potential areas for improving & standardising education have been identified to improve system safety and functionality.

References

Australian Commission on Safety and Quality in Health Care. 2017 "*National consensus statement: essential elements for recognising and responding to acute physiological deterioration"* 2nd edition. Sydney, ACSQHC.

HITH Conference 2016 "*Lessons from recent coroners cases*" Linda Starr

PO12

MANAGING SEVERE CONSTIPATION IN CHILDREN WITH NASOGASTRIC BOWEL WASHOUTS IN HOSPITAL IN THE HOME: A NOVEL INITIATIVE

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Problem

Children with severe constipation requiring a bowel washout are usually admitted to the Royal Children's Hospital (RCH). Large volumes of bowel prep are needed therefore a nasogastric tube (NGT) is usually inserted. 161 children were admitted to RCH for constipation over 12 months (July 2016 - June 2017) with the average length of stay 2.5 days (range 1-14). Due to their medical stability, we proposed these children could be managed within Hospital-in-the-Home (HITH).

Design/Methods

We reviewed local medical and nursing guidelines relating to constipation and NGT insertion. A HITH guideline was then developed for NGT bowel washouts at home. Key stakeholders were identified and reviewed the guideline to ensure feasibility. One family with two children with developmental disabilities was identified to pilot this initiative.

Practice Change

Six bowel washouts have been successfully performed at home under HITH on two patients utilising this guideline. This equated to 42 in-hospital bed-days saved by this initiative.

Evaluation

Direct feedback was sought from the family involved in the pilot as well as medical and nursing personnel. The family had very positive feedback about utilising HITH, especially given the children's developmental disability. One adverse event occurred with incorrect placement of the NGT prior to transfer to HITH, requiring the child readmitted for observation. This event was not related to our guideline but triggered a hospital review and amendment of the NGT insertion protocol. These revisions have subsequently been incorporated into this guideline. This initiative also led to HITH representation in a hospital wide project reviewing management of children with bladder and bowel dysfunction.

Conclusions

We successfully developed piloted a guideline for NGT bowel washouts in HITH. We aim to recruit more children to this program and continue to evaluate its acceptability with families and staff.

PO13

FACTORS AFFECTING ANTIBIOTIC DELIVERY FROM A PORTABLE CONTINUOUS INFUSION DEVICE IN HOSPITAL OUTPATIENTS

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Aims

Factors such as temperature of the patient and/or the environment, storage of the infusion device whilst in use, the type of antibiotic, and the type of device may influence the delivery rate from infusion devices which may lead to sub-therapeutic treatment. The aim of the research is to investigate factors which may influence the delivery rate of antibiotics from a portable continuous infusion device to outpatients in their home setting.

Methods

Patients receiving a continuous infusion of an antibiotic in their home setting were eligible for inclusion. A centralised database recorded: patient age, gender, prescribed treatment and treatment length, time of the start and completion of the infusion or amount remaining, problems occurring during infusion, type of intravenous lines and cannula, storage of portable infusion device whilst in use, and the ambient daily temperature. These factors were analysed to identify any association with the delivery rate of antibiotic from the device.

Results

Preliminary data analysis has revealed that the Baxter ® infusor emptied 37.7% of the time between nursing visits. The Baxter ® infusors were connected for greater than 24 hours in 43.6% of cases.

In comparison, 65.5% of the MobiFusor devices were empty when the nurse changed the infuser, and the infuser was connected for greater than or equal to 24 hours for 51.3% of the time.

Further data analysis should confirm whether storage of the infusor, individual patient factors, infusor device, patient/ambient temperature, type of antibiotic solution, and infusion lines had a significant impact on the rate of emptying of the infusion.

Conclusion

Further study is necessary to investigate the effect on patients clinically, however clinicians should be aware of the possibility that antibiotic infusors may empty in varying rates.

PO14

AMINOGLYCOSIDE THERAPEUTIC DRUG MONITORING: INVESTIGATING BEST PRACTICE FOR BLOOD SAMPLING METHODS IN A PAEDIATRIC HITH POPULATION

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Aims

The purpose of this project is to determine best practice methods in obtaining blood samples in relation to therapeutic drug sampling (TDM). In order to optimise patient safety, TDM is undertaken to monitor serum levels of aminoglycosides. The literature to date has reported inconclusive evidence about best practice for blood sampling methods which reflect accurate serum blood levels, and is even more limited in the paediatric population.

Methods for acquiring TDM blood samples at the Royal Children's Hospital (RCH) include via a central venous access device (CVAD) for a venous sample**,** or via finger prick for a capillary sample. Anecdotally, it was noted that samples taken via CVADs reflect a higher number of probable false high results in comparison with capillary samples. We hypothesise that this could be attributed to the aminoglycoside adhering to the inside lumens or other parts of the CVAD device.

Methods

A retrospective review of TDM levels from all RCH patients, including HITH patients, was undertaken for the period May 2016 to June 2017

Results

Preliminary analysis showed that 7% of all Amikacin, Tobramycin and Gentamycin blood samples taken at the RCH reflected readings above therapeutic levels. However, as this data does not completely reflect whether the samples are venous or capillary, best practice for sampling methods cannot be determined. Patients who have high aminoglycoside levels have their treatment delayed by at least one day and also require additional blood sampling.

Conclusions

This low risk ethics observational study intends to systematically compare capillary versus venous blood sampling and aminoglycoside serum results in a paediatric HITH population. The intention is to determine best practice in order to minimise the risk of delayed treatment and unnecessary blood sampling over a six month period. Further to this the results will inform future clinical guidelines in terms of aminoglycoside TDM.

PO15

PROBENECID AND CEFAZOLIN USE IN TREATMENT OF CELLULITIS IN HOSPITAL IN THE HOME

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Background

Cefazolin in combination with probenecid is used in the treatment of soft tissue infections like cellulitis[1], especially in hospital in the home(HITH) setting. Safe prescribing of this combination must consider glomerular filtration rate (eGFR) and potential drug interactions.

Aims/Objectives

1. To identify the risk factors for cellulitis in our cohort.
2. Ascertain whether glomerular filtration rate (eGFR) is considered when prescribing probenecid and cefazolin in HITH patients.
3. Determine if potential drug interactions are considered when prescribing probenecid.

Methods

A retrospective analysis of 71 patients who attended a peripheral hospital in the period of 1 year and who satisfied the following inclusion criteria: (a) age >18 years, (b) presented with acute cellulitis, and (c) were suitable for home intravenous antibiotic therapy according to Metro-north hospital and health service (Queensland) guidelines.

Results

The study population comprised 71 patients (58% males) who ranged in age from 21 to 93 years (mean 60, SD: 18 years). The mean weight was 107 (SD 36) kg in the 52 patients with recorded values. Risk factors for cellulitis, such as diabetes, ulcers and skin lacerations[2] were seen in 21(30%) ,5(7%) and 19 patients (27%) respectively. Only 23 patients (33%) received oral antibiotics prior to hospital presentation. Cefazolin was prescribed in 70(99%) patients but only 62 (87%) had probenecid in addition. Patients with eGFRs above 60 were more likely to receive probenecid, and the mean eGFR was 80. Treatment duration was longer if patients weighed more than 100kg (p=0.029), had bilateral cellulitis (p=0.001), or were discharged from hospital, compared to Emergency discharges, prior to HITH admission (p=0.020). Of the 71 patients in the study, 55(77%) were on medications with the potential for drug interactions with probenecid, 30(42%) being potentially very severe reactions. Of the 55 patients, 1 patient (1.8%) developed severe neutropaenia and was re-hospitalized.

Conclusion

Risk factors for cellulitis in our cohort did not differ from already published data. Prescribing Cephazolin and probenecid in HITH patients showed strong consideration for renal function but less so for potential drug interactions, highlighting the need for a local policy guiding prescription. The longer duration of treatment in patients weighing over 100kg may suggest that the usual dose of cefazolin may be inadequate in overweight and obese patients. A prospect study is needed to further elucidate this relationship.

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PO16

TOO HOT TO HANDLE?

IS THERE A POPULATION OF CHILDREN WITH BRONCHIOLITIS WHO WOULD BE SUITABLE FOR HOME OXYGEN THERAPY WITH HOSPITAL-IN THE-HOME (HOT-HITH)?

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Background

Bronchiolitis is a significant cause of hospital admissions. At the Royal Children's Hospital Melbourne (RCH), there were 865 admissions to inpatient wards of children with bronchiolitis over the last year.

For mild-moderate bronchiolitis, home oxygen is a safe alternative to hospital admission however is relatively uncommon in Australia.[1,2]

Aim

We sought to define a population of children eligible for home oxygen therapy with Hospital in the Home (HOT-HITH), to assess the feasibility of a pilot study in 2018.

Method

We performed a retrospective audit of the last 100 admissions for children (aged 2-12 months) with bronchiolitis at RCH, based upon established protocols in other centres Demographic, clinical and outcome data including clinical course, adverse events and readmissions were collected.

Results

For 100 admissions audited, 23% met exclusion criteria. We found high rates of high flow use and nasogastic or intravenous fluid replacement, precluding many patients from eligibility for HOT-HITH. 18% of children were admitted for monitoring only.

5% of patients were eligible for HOT-HITH. Once the patients' oxygen requirement was ≤1L/min, the median duration of low flow oxygen was 6 hours and the median time to discharge was 26 hours. If this data was extrapolated, we estimate that 47 in-hospital bed days per year could be saved using HOT-HITH.

Conclusion

There are a number of children with bronchiolitis who would be eligible for HOT-HITH, with associated financial savings. We also identified a new cohort of children (those requiring only respiratory and hydration assessments) which should be a target for future analysis.

Halstead J et al. "Discharged on Supplemental Oxygen from an Emergency Department in Patients with Bronchiolitis." Pediatrics, no 129 (2012):e605-e610

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PO17

HOSPITAL IN THE HOME FOR CARDIOVASCULAR SHUNT DEPENDENT PATIENTS

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Problem

Infants with congenital cardiac disease who were dependent on a shunt to the pulmonary artery to maintain pulmonary blood flow, historically remained in hospital for a minimum of 3 months under close observation. If able to be discharged, they would be at risk of multiple unexpected presentations or readmissions to the hospital.

We proposed the creation of a guideline to expedite infant transfer home under Hospital-in the-Home (HITH), to provide daily cardiovascular assessment in order to identify early deterioration whilst promoting care of the family unit.

Design/Method

This guideline was designed in consultation with the cardiology team. Key details included:

- Expected communication requirements between teams
- Physiological parameters to be monitored daily
- Procedure for escalation of concerns in event of clinical deterioration
- Discharge process

Practice Change

Since January 2017, twelve infants with shunt dependent cardiac lesions have been transferred to HITH under this guideline. There was one unexpected readmission due to subacute clinical deterioration that resulted in amendment of the escalation process for clinical concerns.

Evaluation

We estimated that we have reduced the in-hospital length of stay for these infants by an average five days per patient. Extrapolating this, approximately 60 in-hospital bed days have been saved over the last 8 months. Minimum length of stay per patient on HITH was 14 days. Medical and nursing personnel have reported a significant reduction in unexpected representations and satisfaction with the guideline. Parents/guardians stated they were able to feel a sense of normality again by being at home and appreciated the service provided.

Conclusion

This guideline is believed to be the first of its kind in Australasia to facilitate earlier transfer home of infants with cardiac shunt dependent lesions. Initial evaluations has been positive and we will continue to review and assess our practice as more shunt dependent infants utilise our service.

PO18

APPROPRIATE INTRAVENOUS ANTIBIOTICS FOR HOSPITAL IN THE HOME (HITH) USE - A GAP ANALYSIS AGAINST *THERAPEUTIC GUIDELINES: ANTIBIOTIC*™

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Background

A new section 'Outpatient parenteral antimicrobial therapy' (OPAT) was introduced in the updated *Therapeutic Guidelines: Antibiotic*™ in November 2014. This includes a reference table which provides information about the stability and modes of administration of antimicrobials commonly used for OPAT, and a table of agents which are not recommended for OPAT due to inadequate stability.

Our health service provides an OPAT service – Hospital in the Home unit (HITH) – which was established in 2005. Our pharmacy department provides the majority of antibiotics for this service, with limited agents being outsourced. Stability of antimicrobials in the HITH setting is a controversial issue.

Aims

To review the intravenous antibiotics used by our HITH service and to assess compliance with OPAT guidelines in *Therapeutic Guidelines: Antibiotic*™. This includes appropriateness of administration in particular related to stability data and the recommended modes of administration and to identify any potential concerns.

Methods

This review was a collaboration with the pharmacy department, HITH unit and the antimicrobial stewardship team. For all the antimicrobials prescribed in our HITH unit, the storage, compounding, stability and administration were reviewed. A gap analysis was conducted to identify compliance, appropriateness and any safety concerns.

Results

Our HITH unit utilisation was concordant with the *Therapeutic Guidelines*™ OPAT guidelines. Some utilisation was more conservative than recommended as we provided twice daily visits.

Conclusions

This review has provided us with assurance that we are optimising patient safety and health outcomes by considering antimicrobial stability requirements.

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