

Holy Cross Hospital

**Clinical Outcomes Report 2015**

*Understanding and responding  
to complexity in long-term  
neurological conditions*





## Foreword

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This has been a busy year for Holy Cross Hospital. A great deal of effort has been made to keep us up-to-date with the most modern practice in our specialist field of neuro-disability management. This has been achieved through the annual learning and development programme and by the staff attending various courses and conferences externally.

Advances in the use of technology in medical equipment have been fully embraced by Holy Cross Hospital. This helps with the care and treatment of patients and to improve their quality of life.

We have developed our use of a blood gas analyser, which helps to monitor respiratory function and has been particularly useful for patients who require ventilator support. An ultrasound machine has also been brought into service and has proved to be extremely helpful in monitoring bladder function and preventing bladder related complications.

The state-of-the-art sensory room is widely used by patients. The technology is used to assess cognition and awareness in patients who are in an altered state of consciousness right through to those who are undergoing rehabilitation to improve quality/strength of movement.

Eye gaze technology is used by patients whose ability to communicate is limited to eye movement. Staff are also using iPads to investigate if clinical applications can be encompassed as part of clinical assessments and treatments as well as looking at how other applications can be used by patients for leisure and entertainment.

Holy Cross Hospital is committed to improving the management of patients with a disorder of consciousness. This is yet again evident by the confirmation of their second national conference, which is to be held in September 2016.

The Hospital has also maintained strong links with expert clinicians from other centres of excellence in the UK and with academics from leading universities. This is with a view to learning from them and sharing our good practice and experiences. Keele University is one of our partners and they regularly send student physiotherapists to take part in placements with us.

All members of staff should feel proud of the way they have carried Holy Cross Hospital on through 2015 and into 2016 by providing the best possible care for our patients.

**Dr Philip McCluskie**  
Consultant in Rehabilitation Medicine





## Introduction

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### **Purpose of this Review**

The Clinical Governance Committee has prepared this Annual Summary of Clinical Outcomes to provide information to the regulator (the CQC), NHS purchasers (Clinical Commissioning Groups) and referring institutions such as acute hospitals and also the general public, especially those in the local area who generously support our work.

The document presents some key themes from the Hospital's work and illustrates them with case histories or factual narratives. It concludes with graphical representations of data that aim to measure outcomes.

### **Management and Funding**

The Congregation of the Daughters of the Cross is the charitable company that owns and manages Holy Cross Hospital. They seek to give expression through their work in healthcare to the love of God for all who suffer, whether this be directly or indirectly through a close family member or friend. In pursuit of this, at Holy Cross Hospital, the Congregation has fostered the development of expertise in the care and treatment of people with very severe and complex neurological conditions caused by traumatic injury or degenerative disease.

The Congregation has committed large sums of charitable money to the buildings and equipment at Holy Cross and continues to do so. Two major projects are being planned for 2016. The first is the installation of piped oxygen and suction which will enable the replacement of bulky cylinders and individual suction machines. The second is the construction of a new, purpose built two-storey building that will provide a dedicated training space and improved facilities.

The Hospital derives most of its income from collaborating with NHS purchasing organisations (Clinical Commissioning Groups) to provide services for patients under NHS contract terms. We acknowledge the support and encouragement of many CCGs in this regard.

### **Further Information**

There is much information about Holy Cross Hospital and its facilities on the Hospital's websites. Please visit [www.holycross.org.uk](http://www.holycross.org.uk) or [www.thephysiotherapycentre.org.uk](http://www.thephysiotherapycentre.org.uk) for more information.

## Achievements in 2015

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### **A Patient With Very Complex Needs is Discharged Into the Community**

Discharging anyone back into the community after any period in hospital always brings challenges. This year we discharged two patients with complex needs, one following a period of rehabilitation at Holy Cross and the other patient who was dependent on 24-hour ventilation and had spent several years in treatment. A successful discharge can only be achieved where the patient is central in the process and there is collaborative working across all departments.

The Clinical Commissioning Group and Holy Cross teams agreed that the second patient's aim to return home with support appeared achievable. From this starting point, the Holy Cross Team took on the role of the facilitator. It was a long and complex process and it took almost a year to achieve the goal. It required the commitment of the patient's family, the agreement of the CCG and the collaboration of NHS services in the community. An agency was engaged to provide the package of 24-hour home care.



We did encounter difficulties but with the professional support of all concerned the discharge was achieved and the patient was able to spend Christmas and New Year with her family and to look forward to enjoying her garden. The full case study can be read at [www.holycross.org.uk](http://www.holycross.org.uk)

## ***Deployment of Technology to Detect Early Signs of Secondary Conditions***

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### ***Bladder scanner***

In 2015, we spent a donation on the purchase of a bladder scanner. The scanner helps us to keep patients free from catheter-related secondary complications such as urinary tract infection and to detect early signs of urine retention. This is an example of how we are using technology to provide patients with effective and responsive care.

One female patient was admitted with a urethral catheter in situ. Soon after her admission, with the help of the bladder scanner, the catheter was successfully removed without any complications. This significantly released her from catheter-related pain, discomfort and infection risks.

A male patient was found to have significantly lowered urine output. With a long-term suprapubic catheter in situ, the first suspicion was catheter blockage. A bladder scan ruled this out and the medical team carried out other investigations and discovered the main cause of the problem.

In both instances the bladder scanner made significant contributions in reducing catheter-related secondary complications and avoided risks of unnecessary re-catheterisation.

### ***Blood gas analyser***

The nurses use small portable blood gas analysers to provide fast accurate results for blood gases, acid-base balance and electrolytes. These results help the nurses and doctors plan appropriate treatment for clinical issues related to low oxygen saturation in the blood or low sodium levels.

Since the blood gas analyser was introduced, patients have significantly benefited in terms of decannulation and weaning from tracheostomy or the ventilator and from effective respiratory support when they are unwell.

In 2015 the blood gas analyser facilitated weaning of two ventilated patients. Both patients came to us requiring invasive mechanical ventilation support 24-hours a day and seven days a week.

One patient has been completely freed from tracheostomy and only requires non-invasive ventilation at night. Another patient's tracheostomy remains in situ, but he is able to self-ventilate during the day.

A third patient who was admitted to us in July 2015 required continuous invasive ventilator support. She commenced a weaning programme in November 2015 and is now more than half way towards achieving her goal of safely resuming independent breathing.



## ***Patients are Empowered to Live More Independently Through the Use of Technology***

2015 saw significant advances in the accessibility of various technologies for patients.

We have been able to extend the application of the equipment to meet individual requirements and preferences. This can specifically be attributed to the introduction of hospital-wide Wi Fi coverage, tablets (MS Surface and iPads) and new eye gaze access technology for communication. It has allowed the systems to be used both in St. Anne's Sensory Technology Room as well as the patients' own rooms.



We continue to be well supported in the implementation of various technologies by charitable donations as well as support from the NHS Technology Services.

### ***Examples of how technology has enhanced patients' lives:***

#### ***Patient A***

One of the patients was unable to go on her annual holiday to Madeira with her sister and was feeling low. She was sad that she was not able to see their holiday flat and enjoy time with her sister.

By accessing You Tube in the Hospital's sensory room, she was able to see her holiday flat in real time. She has made great strides in the use of a new environmental control system that allows her independently to control her immediate environment. She has also progressed to using a tablet to play games and do crosswords which maximises and encourages upper limb movement.



#### ***Patient B***

One patient is unable to speak, but within only a few weeks of admission to Holy Cross he mastered the use of a switch to control a tablet with specialised software. He can now express himself verbally via the tablet. He is developing his skills with 'eye gaze' technology using our new communicator programme. This will enable him to communicate and control his environment independently if he becomes unable to use a switch in the future.

We are constantly looking at ways to enable our patients to retain independence in their lives. An example of this is the recent introduction of a bed-turning aid which has helped to manage a patient's neuropathic pain.

The bed turner provides an ongoing cycle of minimal movement from left to right, enabling the patient to be moved very slightly at set intervals. As a result, the patient has improved positioning and has lowered her dependency on pain medication. Sleep has also improved leading to her feeling significantly brighter and more motivated to enjoy participating in art and other activities.

For patients that have potential for wheelchair independence, we have identified suitable equipment including complex driving mechanisms e.g. chin control, mini joystick and one hand drive manual chairs.

As technology continues to develop in this field, our therapists remain inquisitive and receptive towards new developments, enabling us to be innovative and creative in addressing the challenges presented by our patients' needs.



## Working With Other Providers

We are very fortunate to have the Lane Fox Unit outreach team to support us in designing programmes to wean patients from ventilators or tracheostomies, providing clinical advice and reliable technical support.

The Royal Surrey County Hospital ICU team accepts patients when, as happens sometimes, they deteriorate suddenly. They send them back well enough to continue with their rehabilitation and social activities programmes at Holy Cross.

The medical team at Holy Cross Hospital aims to stabilise patients' medical conditions, detect early signs of illness and provide effective treatment at the earliest stage so as to prevent secondary complications.

The therapy team work closely with the local wheelchair services and special seating services teams to provide appropriate wheelchairs and seating systems. The local wheelchair services team has been very helpful in arranging for prescriptions to be delivered in time and for essential repairs to be completed promptly.

The assistive technology services team at St. George's University Hospitals NHS Foundation Trust has been of great assistance in providing equipment to patients in need of environmental control systems. The hi-tech gadgets provided are used by patients to improve speed and quality of communication and to control their environment (e.g. nurse call, switch TV on/off etc).

During 2015, we successfully worked together with the Royal Surrey County Hospital on two unusually complex cases. Several case conferences were held at Royal Surrey County Hospital ICU and professionals from both sides shared expertise.

## Working With Families and Volunteers

We strive to meet the aspirations of patients to engage fully in life interests and to challenge the limits to what is possible. In this, we are supported by the generosity of volunteers in many different ways.

In 2015, we were delighted to learn that the volunteers collectively had been awarded the Queen's Award for Voluntary Service. The Award was officially presented on behalf of Her Majesty The Queen by Mrs Caroline Breckell, a deputy lieutenant for Surrey.

### The Activities Programme

The programme aims to find a balance between activities for groups of patients such as quizzes, live music, film screening, word games, sharing stories from the news with some that are tailored for individuals' interests such as art, outings and gardening.

The use of iPads and other devices has greatly extended the range of music, games, puzzles etc that can be used to stimulate and entertain. The programme could not offer such variety and support for individual patients without the assistance of volunteers and the family members who regularly contribute to group activities.

### Selsey, tea parties and a new minibus

Monthly visits during the warmer months continue to the seaside house that has been adapted for disabled access. In the course of 2015, 21 visits took place with 11 patients benefiting on at least one occasion. Patients also go on other outings including a regular tea party in the local home of a volunteer.





We endeavour to make all aspects, including the journey, to be part of a pleasurable experience. We were therefore very pleased to make use of funds raised by the Friends of Holy Cross Hospital to buy a new minibus to replace the older of the two vehicles that are currently used for these journeys. The new vehicle will be brought into use for the first visits in April 2016.

### **Family feedback**

We work closely with families to help them achieve the best for their loved ones. The following comment was made by a relative: "Holy Cross is a wonderful place, a place of hope that offers a refreshing positive approach to caring for people with profound disabilities. I can still recall the emotion of that day when, after what seemed like an eternity of hopelessness, I witnessed Freya's (not real name) face light up as she entered the colourful world of the centre adorned with lights and decorations for Christmas... I spent many hours with Freya and never was I made to feel that I was in the way or interfering; in fact, I was positively encouraged to participate in Freya's care..."

### **Local Community Benefits from Growth in Out-Patient Physiotherapy Services**

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The Physiotherapy team's hard work and commitment to evidence-based treatment has resulted in a steady increase of business in the gym and the hydrotherapy pool. Patients have the option of being treated on a one-to-one basis or to attend group classes or to continue with their rehabilitation on a self-directed/minimally supervised basis in the gym or pool. A gym-based 'falls prevention' class was introduced during 2015 to focus on stroke patients and older people with the option for sessions in the pool to help regain strength and independence.

We continue to encourage participation in a wide range of classes as they give patients the opportunity to meet others with similar health issues, make friends and support each other.

### **Supporting Overseas Trained Nurses to Become UK Registered**

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Faced with the national shortage of registered nurses, we have developed a comprehensive Associate Nurse Programme (ANP) which creates a safe context for overseas trained nurses to practise while working towards their UK registration.

On completion of a two-week standard induction programme, they commence work on the ANP framework and competency checklists, which include the Nursing and Midwifery Council (NMC) code of conduct, professional accountability, medicine management, emergency procedures, admission/discharge process and more.

By the time they obtain UK registration, most Associate Nurses have already successfully completed the ANP and achieved necessary competencies. The final assessment is carried out by at least three different mentors to validate their readiness to practise as registered nurses at Holy Cross Hospital.

We greatly value the work of the mentors who demonstrate such commitment in facilitating this programme. Throughout the whole process, mentors must not only maintain their own professional accountabilities, they also need to invest time in providing a safe learning environment for these associate nurses to practise. In the course of the year, five Associate Nurses achieved NMC registration.



## ***Developing Skills and Knowledge of all Clinical Staff***

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In 2014 we held a conference titled 'Recent advances in the assessment, diagnosis and multidisciplinary management of people with a disorder of consciousness' in Liphook. The conference was well attended with over 120 delegates. Many expert clinicians and academics spoke. A large number of Holy Cross staff also had the opportunity to attend the conference and benefit from a wide range of topics presented.

Our therapy services manager won an overseas travel scholarship award sponsored by the Chartered Society of Physiotherapy. The scholarship aims to improve clinical practice and create international networks between centres of excellence.

He spent two weeks at Spaulding Rehabilitation Hospital in Boston learning and sharing latest developments in management of people with a disorder of consciousness. Other collaborations with UK centres of excellence were also initiated or strengthened after the Boston visit. A further conference on this topic is planned for September 2016.

The Physiotherapy team is in the final stages of completing a study entitled 'A prospective case series to investigate current practice in the physical management of people with Disorders of Consciousness (DOC) and its impact on the pattern of limb and spinal deformities'. This has been sponsored by the Posture and Mobility Group. The results will be presented at the conference.

## ***Educational Events at Holy Cross Hospital in 2015***

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The clinical team strive to keep up to date in their respective fields of interest by attending courses and conferences. We invite experts to conduct workshops, lectures and courses to help our team and fellow professionals acquire valuable continuing professional development (CPD) and to create strong networks.

In 2015 we held three foundation hydrotherapy courses, a two-day running repairs course for physiotherapists and sports therapists, a one-day advanced spasticity management workshop and an evening lecture on shoulder surgery and rehabilitation. The courses were very popular and were attended by professionals from far afield.

## ***Clinical Activity and Outcomes Data Charts***

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### ***Number of in-patients and admissions and discharges***

In-patient occupancy remained high during 2015 with monthly variance in the range of 97% to 100%. We admitted eight new patients and discharged two; one to a specialist care home and one to her own home. Six patients died, five following transfer to an acute hospital. In total, 47 patients were treated during the course of the year excluding one regular respite patient who was admitted for two short periods when a bed was available.

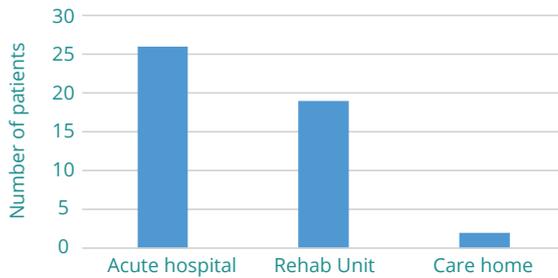
We have collaborated with Clinical Commissioning Groups, patients and families on 46 patient reviews, each requiring detailed reports from all members of the multi-disciplinary team.

We carried out 16 assessments of patients referred from other hospitals. This resulted in eight people being admitted in 2015, one in 2016 and one is awaiting admission. Each assessment occupies two members of the clinical team for at least half a day in addition to travelling time.



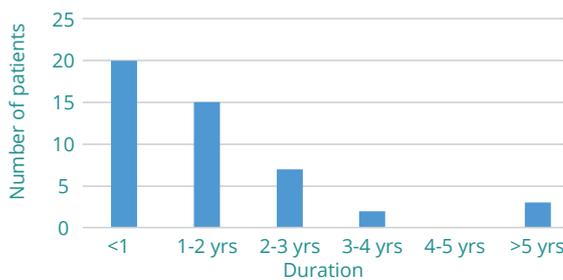
The majority of patients were admitted directly from an acute hospital or acute rehabilitation unit. One patient was admitted from a care home for a short spell of rehabilitation.

**Where patients were admitted from**



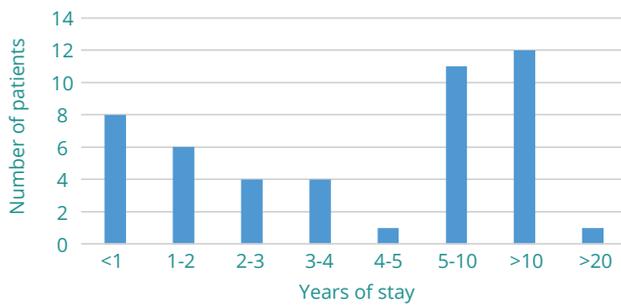
The time between injury or onset of illness and admission to Holy Cross ranged from three months to several years with most patients being admitted within one year.

**Onset to admission duration**



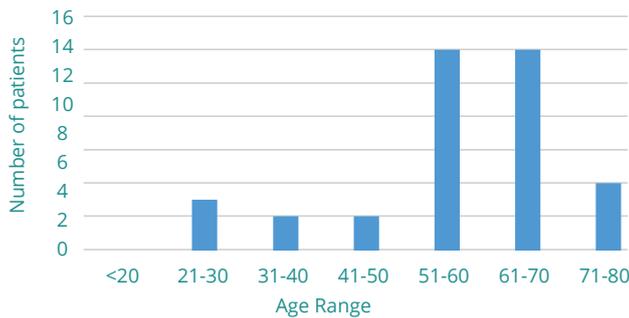
Just over half of all patients have been resident for less than five years.

**Length of stay**



The percentage ratio of males to females in 2015 was 62/38. Our youngest patient was 22 years and the oldest 81 years.

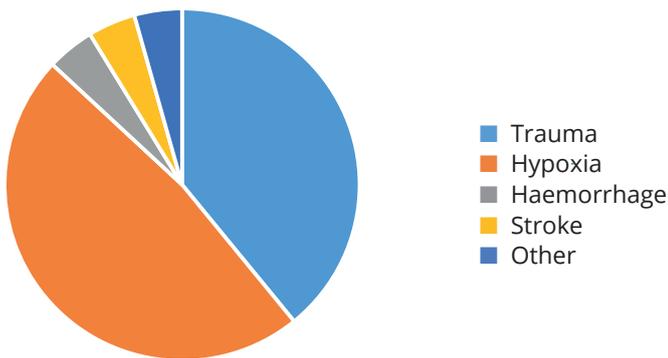
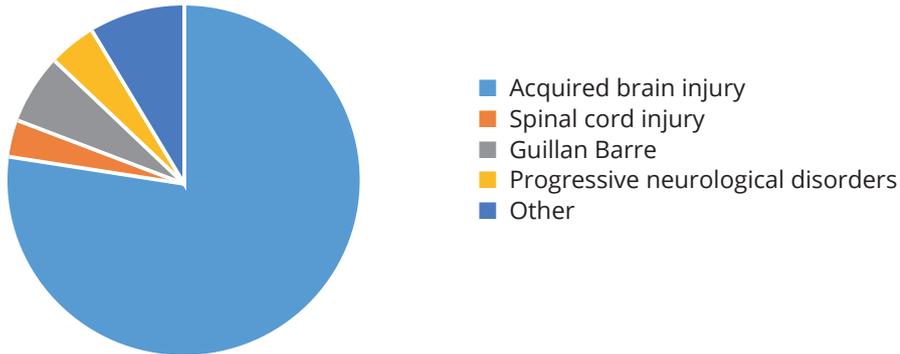
**Age range of patients**



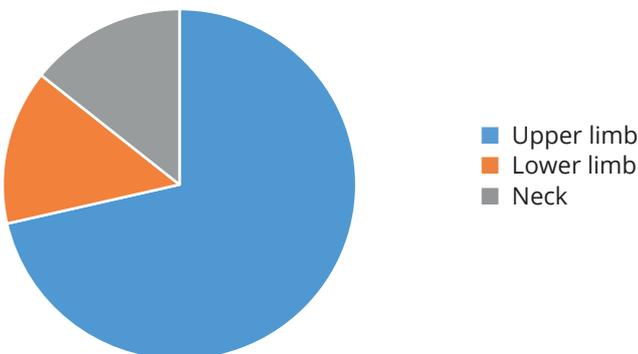


The largest diagnostic group continues to be acquired brain injury. Progressive neurological disorders included Motor Neurone Disease and Parkinson’s Disease. Spinal cord injuries were all at a high level in the spine and required mechanical ventilation. The ‘Other’ category included Idiopathic Myopathy and Chronic Pain. The charts show the diagnostic groups and causes of acquired brain injury in patients treated during 2015.

**Diagnostic groups**



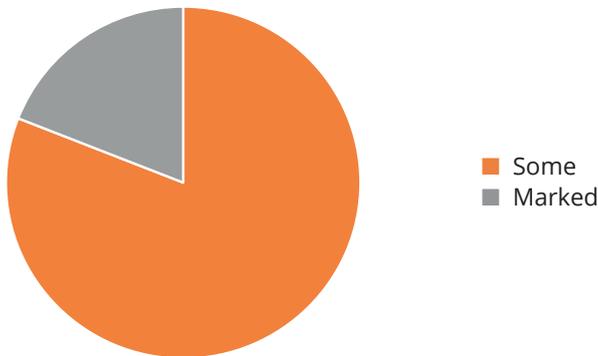
**Number of injections per site, 2015**



Many patients at Holy Cross need treatment to manage spasticity. A variety of treatment options are available including anti-spasticity medication, focal treatments (Botulinum toxin injection), and physical management (Physiotherapy, Hydrotherapy, splinting etc). During 2015 we treated ten patients with Botulinum Toxin injections to manage spasticity; some patients had more than one cycle of injections. Nine patients had some benefit from the injections and one patient had marked benefit.

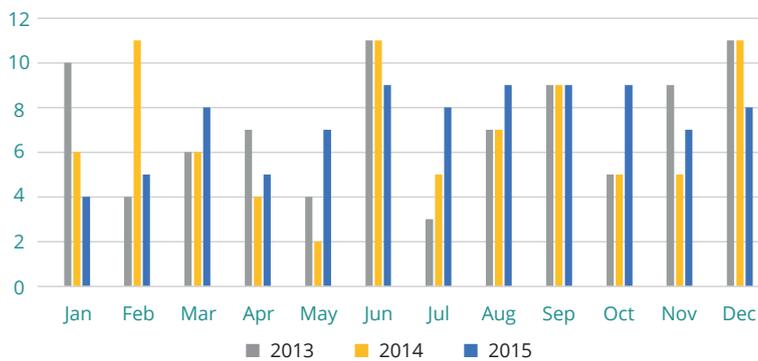


### Effect of botulinum toxin injections, 2015



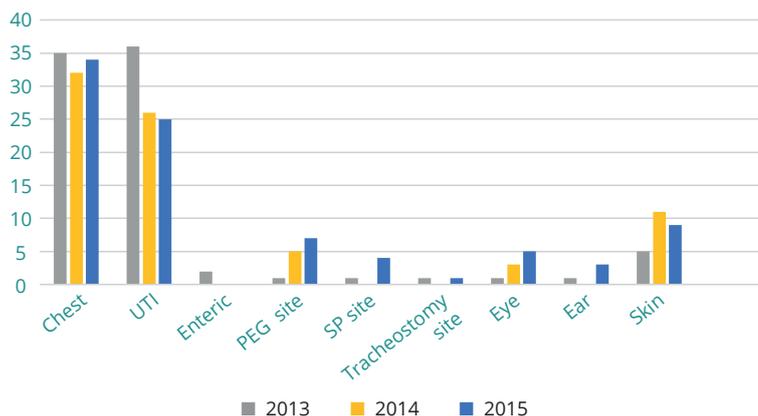
The outcome data collected were Modified Ashworth Scores (MAS), which measures the tightness in the muscles and the Range of Movement (ROM) of the joints. All patients received post injection treatment including splinting, stretching and hydrotherapy as indicated, in line with the Royal College of Physicians Guidelines (2009). Seventeen injections resulted in some positive effect and four resulted in marked positive effect for the patients.

### Infection rates



The total number of infections has increased from 83 in 2014 to 88 in 2015. This reflects the increased complexity of the patients we admitted in 2015.

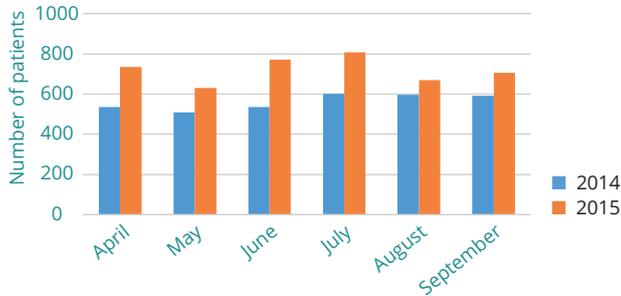
### Sites of infection





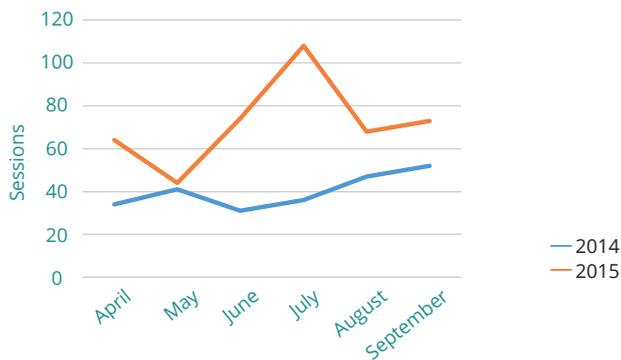
The number of outpatients attending The Physiotherapy Centre between April and September 2015 increased by 28% when compared to 2014.

### Number of outpatient visits

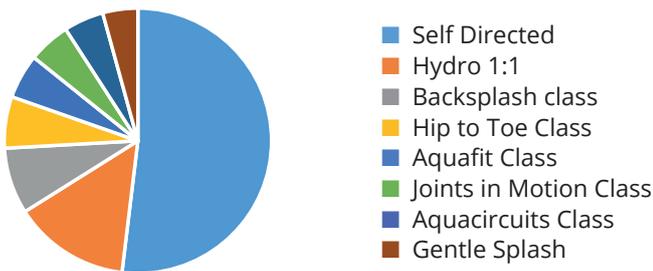


Gym based sessions saw the biggest increase i.e. from a total of 241 in 2014 (Apr - Sept) to 431 in 2015 (Apr - Sept).

### Outpatient gym sessions

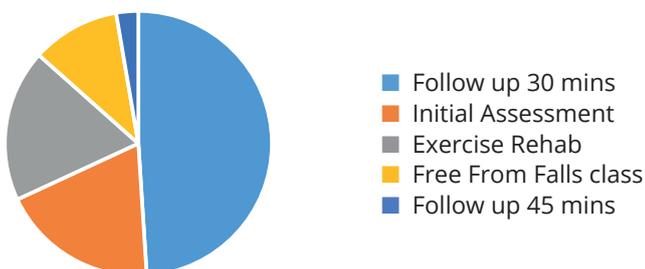


### Hydrotherapy: What patients are doing



Outpatients have the option of being treated on a one-to-one basis or to attend classes or to continue with their rehabilitation on a self-directed/minimally supervised basis in the gym or pool.

### Outpatients: What patients are doing





## Plans for 2016

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### **Keeping up-to-date in the field**

We will continue to improve our skills and knowledge in the areas of complex neuro disability, disorders of consciousness and complex respiratory management. We aim to achieve this by:

- Supporting continuing professional development of our staff (through clinical supervision and attendance at external courses).
- Collaborate with experts in the field (links with centres of excellence and universities) and keeping up-to-date in the field.
- The nursing services manager is starting training to become a nurse prescriber. This qualification will equip her with the principles of prescribing, to enable her to prescribe safely, appropriately and cost effectively as an independent prescriber.

### **Educational and research activities**

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- We plan to host the second conference on 'Recent advances in the assessment, diagnosis and multidisciplinary management of people with a disorder of consciousness' in September 2016 with internationally renowned expert speakers.
- We have confirmed a one-day seminar on 15 September 2016 about the Coma Recovery Scale by Dr. Joseph Giacino, Director of Rehabilitation Neuropsychology, Spaulding Rehabilitation Hospital, & Associate Professor, Department of PM&R, Harvard University, USA.
- We are working on a project that will improve our training facilities and elements of our infrastructure. The project will see some of our facilities being updated so we can attract and retain the best clinical staff and continue to deliver the standard of care for which we have become nationally recognised.
- As in past years, we plan to host many specialist courses at Holy Cross Hospital to benefit professionals from across the UK.
- We will share our specialist knowledge with external professionals by disseminating good practice at appropriate conferences and publications.
- We will participate in research and service evaluation activities to understand clinical trends and effects of our treatment and use the results to improve patient care.

### **Digital patient information systems**

- We are carrying out research into gathering and using clinical data to better predict the onset of acute conditions and to understand the long-term trajectory of disability using Electronic Patient Records (EPR) and Clinical Information Systems.
- We will continue to expand the use of diagnostic tools including vital signs monitors, the bladder scanner and blood gas analyser to improve patient care.





## Acknowledgements and thanks

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We acknowledge and are most appreciative of the support of colleagues in local hospitals including the Royal Surrey County Hospital ICU, Lane Fox Unit at St Thomas' Hospital and nurse assessors from many CCGs.

We have again been consistently well-supported with medical services provided by partners of Grayshott Surgery on their weekday visits and 24-hour on-call cover.

We greatly appreciate the support, encouragement, constructive feedback and practical help of patients' families.

We appreciate Guildford and Waverley wheelchair services and Roehampton special seating services for their expert advice on wheelchairs and seating systems. We would also like to thank assistive technology services, St George's University Hospitals NHS Foundation Trust for their advice and provision of hi-tech environmental control systems.

The contribution of volunteers whether working with patients, fundraising or serving on a committee, surpasses all expectations and brings a whole added dimension to patients' lives.

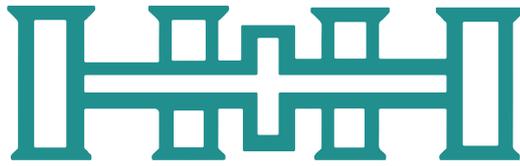
The clinical teams would not be able to achieve the results reported here without the services of the support staff in administration, accounts, human resources, housekeeping, laundry, caretaking and catering. All our staff and professional colleagues at Holy Cross Hospital have earned thanks for ensuring that excellent clinical and support services standards were maintained every day, throughout the 24-hour period, despite some tough challenges in regard to nurse recruitment and the effects of another year of financial austerity being imposed on all healthcare providers.

We are ever mindful of the support of the Sisters of the Congregation who have endowed us with buildings, equipment and timeless values and hold us all in their prayers on a daily basis.

Rasheed Meeran  
Therapy Services Manager

Gina Guo  
Nursing Services Manager

Judi O'Neill  
Specialist OT



Holy Cross Hospital

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**Clinical Outcomes Report 2015**

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