I’m proud of what CW+ and the Trust have accomplished together. We have shown that digital health innovation does not need millions of pounds or huge teams. It needs dedicated resource, skill, will and devoted frontline clinician support. I look forward to much more achievement.”

Dr. Lawrence Petalidis
Head of Innovation and Impact
CW+
NHS Navigator Digital Health.London Accelerator

We are thrilled to be working with our charity to successfully implement so many new health innovations throughout our Trust which will benefit our patients. Our staff have brilliant ideas on how we can do things better and it is wonderful to see these ideas being turned into reality.”

Lesley Watts
Chief Executive
Chelsea and Westminster Hospital NHS Foundation Trust

Digital health innovations are key to the future of patient care throughout the NHS and we are delighted to be working with some fantastic companies to bring transformative innovations to our hospitals.”

Dr. Zoe Penn
Medical Director
Chelsea and Westminster Hospital
NHS Foundation Trust
We are proud to work alongside so many innovative, forward-thinking staff across Chelsea and Westminster Hospital NHS Foundation Trust – their passion to improve the care and experience of patients by discovering solutions to the challenges they face is inspiring. We are thrilled to have partnered with so many exciting new companies offering creative healthcare solutions which have the potential to make a real difference to patients in our hospitals and throughout the NHS.

Chris Chaney
CW+ Chief Executive
Grants and Innovation

CW+ is the official charity for Chelsea and Westminster Hospital NHS Foundation Trust. Our Grants and Innovation programme supports innovative projects to advance the delivery of healthcare and improve healthcare outcomes in our hospitals.

We also collaborate with health and technology companies to bring together the latest innovations from the wider health ecosystem to match healthcare needs at the Trust.

What we do is more than just fund change. We are part of it.
CW+ is a founding partner of the DigitalHealth.London Accelerator. This three year Accelerator programme aims to speed up the adoption of innovation in the NHS, ensuring that greater numbers of patients benefit from emerging new technology, more rapidly. In its first year, we have secured six digital health projects for the Trust.

We are the first UK-wide official partner of the London Microsoft Accelerator. From Artificial Intelligence to Internet of Things, working with the Microsoft Accelerator provides access to cutting edge technologies which could be adopted in the Trust. The 2017 programme includes startups with over $120 million in funding.

We have worked with Drayson Technologies to establish a strategic partnership between the company and the Trust. The partnership has already provided access to wireless environment sensing technologies and will be developing to explore technology to support gestational diabetes and sexual health.
Understanding post-natal patient experience

We have funded ethnographic interviews with mothers who have delivered their babies at Chelsea and Westminster Hospital. Through creative co-design methods, the work produced five videos describing the experience and feelings mothers have had while giving birth. This work is already informing improvement planning and staff training.

Mum and baby app

Version two of our maternity app is now available to download for Apple and Android devices. The free app contains over 70 screens providing new parents with reliable, up-to-date advice about looking after their baby and themselves. We are working on deploying the app across North West London.

Digitising education

In collaboration with the London Microsoft Accelerator and company manicu.to, we are supporting the creation of new digital educational content in English and Hindi.

Improving post-natal ward discharge efficiency

Working with the Digital Health.London Accelerator, we have funded a two-year project that will digitise the post-natal discharge process. The paperless process is expected to lower average discharge waiting times to under two hours.

Chelsea and Westminster Hospital and West Middlesex University Hospital provide the second largest maternity service in the UK, delivering 10,000 babies a year.

Working with Consultant Obstetrician and Gynaecologist Sunita Sharma, we have supported four projects to improve post-natal care, patient experience and operational efficiency at Chelsea and Westminster Hospital.
Improving Maternity Care

Monitoring Heart Failure Patients

Over 50 patients are diagnosed with heart failure in A&E at West Middlesex University Hospital every month. Sadia Khan wants to change the way care is delivered, including the extension of monitoring patients in their own homes.

We have funded a one-year pilot that will enable heart failure patients to be monitored remotely following discharge.

Collecting patient-reported and wireless device data through a mobile app at home, the clinical team is exploring how remote patient monitoring can aid patient recovery and wellbeing.

In addition to this new technology, this project aims to transform heart failure care across different healthcare settings.

CW+ has worked with the clinical team to secure £80,000 of external funding for this project.

Sadia Khan was awarded the CW+ Special Award at the Chelsea and Westminster Hospital NHS Foundation Trust Staff Awards 2017 for her digital health innovation and service transformation work.

TARGET
15% improvement in patient reported experience

TARGET
£200k saved annually*

TARGET
15% fewer heart failure non-elective bed days*

*S ADIA KH AN
Consultant Cardiologist and Project Lead

"CW+ were instrumental in setting up this project. It now encompasses almost the entire heart failure pathway within our local region."

* Targets relate to broader project impact, not only remote patient monitoring component
New Sensor and Wearable Technologies

**Sensing the Intensive Care Unit environment**
We have partnered with Drayson Technologies to pilot wireless, battery free, temperature and carbon monoxide sensors in our adult and neonatal intensive care units. A healthcare global first, the new sensors, powered by Wi-Fi, will allow real-time monitoring of temperature and air quality.

**Digital stoma care**
Nine colorectal surgeons and specialist stoma nurses across both hospital sites have worked together to evaluate a new stoma bag sensor. Imperial College and New Bucks University are part of the SBRI funded pilot that aims to examine the impact of the device on patient quality of life and clinical outcomes. In the UK alone there are over 102,000 patients living with an excretory stoma.

**Fighting sepsis**
Over 2,000 patients have been patched with a new vital observations sensor at West Middlesex University Hospital. The device wirelessly monitors and transmits patient temperature, heart rate and respiratory rate. This UK-first pilot aims to investigate whether such technology can aid towards earlier detection of patient deterioration and sepsis – a blood infection which claims 40,000 lives in the UK every year – more than lung and colon cancer combined.

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**CHRISTOS KONTOVOUNIOS**
Consultant Colorectal Surgeon and Project Lead

**JANE-MARIE HAMILL**
Lead Nurse for Burns and Intensive Care

"The stoma bag sensor could really make a difference to our patients. I look forward to seeing the conclusions of our pilot and how it can impact quality of life."

"Temperature and quality of air are crucial for our patients and staff. This new tech will give us level of control we’ve never had before."

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1. **Sensing the Intensive Care Unit environment**

2. **Digital stoma care**

3. **Fighting sepsis**
Augmented Reality in Surgery

Many operations require specialist advice. However, a specialist cannot always be available to assist.

In these instances, surgeons at West Middlesex University Hospital need to ask specialist plastic surgeons from Chelsea and Westminster to physically attend operations. Alternatively, patients needing specialist plastics consultation, for example hand trauma or wound debridement, would need to be transferred between hospitals – often several times.

Augmented Reality (AR) promises to change this. Working with specialist plastic surgery registrar Nadine Hachach-Haram, we have funded a new AR technology which allows specialist surgeons to advise colleagues remotely.

“Augmented reality in the operating theatres of our hospital brings us to the leading edge of health innovation. I expect to see significant benefits for our patients in the year ahead and thank CW+ for making this possible.”

“Working with CW+ has made using AR solutions between our two hospital sites a reality. I look forward to seeing real impact for our patients.”

NADINE HACHACH-HARAM
Plastic Surgery Registrar

PETER DAWSON
Divisional Medical Director for Planned Care

TARGET
10% decrease in inter-site patient transfers for wound debridement

TARGET
50% reduction in 4 hour A&E breaches for hand trauma

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TARGET
50% reduction in 4 hour A&E breaches for hand trauma
Digitising Quality Inspection and Auditing

“The nursing and midwifery teams have embraced a new way of monitoring the quality of care we provide by using an IT innovation. Our teams of nurses, midwives and allied health professionals are now an integral part of a quality improvement project using an app based audit tool in their clinical areas.

This tool monitors the care environment, patient care, staff experience and the quality of documentation. We are able to measure quality in a fast, open, visual and transparent manner. It is accessible to many stakeholders identifying needs for quality improvement instantly on the screen and in helpful readable reports relevant for clinical staff.

The collaboration with CW+ has provided an intuitive visual solution in real time reporting. This work could not have been achieved without the direct support and guidance from CW+. This exciting project is one we wish to embed in the organisation as a part of our ongoing quality improvement efforts.”

MELANIE VAN LIMBORGH
Assistant Director of Nursing and Project Lead

“Going paperless for our audits has been amazing and staff have loved it. It’s allowing us to be more structured, assess far more frequently and append pictures to our observations.”

VANESSA SLOANE
Director of Nursing

TARGET
6 hour reduction in average time needed for each ward audit

TARGET
40 wards and specialist departments inspected digitally

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VANESSA SLOANE
Director of Nursing
Empowering Patient Self-Management and Telehealth

Clubfoot Virtual Clinic
Chelsea and Westminster Hospital operates the largest Ponseti Clubfoot clinic in the South East. Children attend the clinic for many years, often travelling long distances. Working with Denise Watson, the leading Ponseti specialist in the UK, and the Care Information Exchange, we are developing a custom orthopaedic virtual clinic. This will allow remote follow ups and help improve patient experience, reducing the need to travel to hospital.

Physiotherapy guidance at home
We are funding twenty one licenses for the Chelsea and Westminster Hospital Musculoskeletal physiotherapy team for a digital solution which allows patients to view videos of their prescribed exercises at home. The new technology offers access to over 3,500 videos and allows physiotherapists to go paperless and monitor patient progress remotely.

TARGET
50% of follow up clinics to occur virtually

“We believe this digital solution will boost patient engagement, increase adherence and ultimately improve overall patient outcomes.”

GRACE CROOK
Physiotherapist

Health Innovation Update 2017
Improving Care for Burns Patients

VBeam Laser
The Burns Unit at Chelsea and Westminster Hospital treats over 3,000 patients every year. We have recently funded a VBeam Pulsed Dye Laser (PDL) which will improve scar colour, texture and pliability whilst decreasing itching, erythema (reddening of the skin) and need for repeated surgery and intra-lesional injections.

Face masks
We funded a training course for staff to be able to produce face masks for patients with facial burns in house rather than referring patients elsewhere. The training included 3D printing and other methods for the production of bespoke face masks and splints that are key for management of facial scar healing.

Burns app
Working with the Burns team, we are customising a telecare solution to support burns patients at home. The app will include 60 specially produced videos for patients to view dressing change and rehab exercise advice, as part of a digital care plan. The solution includes videocalling and remote patient progress monitoring through online questionnaires.

TARGET
2,000 patients to use the burns app every year

TARGET
1 week wait time for face masks rather than the current 12 weeks

MARCELA VIZCAYCHIPI
Consultant in Anaesthesia and Intensive Care Medicine

“CW+ is at the heart of our hospital and has contributed enormously over the years towards patients’ care. The CW+ team demonstrates compassion, understanding and works alongside clinicians in line with the Trust values and patient’s needs. There are not enough words to say thank you for all your ongoing enthusiasm and support.”
Small Change Big Impact

This grants programme supports small scale projects which improve patient care and experience.

In 2017 we have awarded £45,663 to 45 projects including:

- Digital ophthalmoscopes for Emergency Department
- Waiting area chairs for outpatients department
- iPads for patients awaiting procedures in the Cath Lab
- Pharmacy label printers
- Fluid warmers for Acute Assessment Unit
- Digital cameras for Burns Unit
- Ceiling artwork for Dermatology theatres
- New x-ray leg rests
- Youth Forum activities
- Handheld fans to assist with breathlessness
- Kangaroo Care information cards
- Patient paging system for orthopaedic patients
- Exercise equipment for respiratory patients
Other Projects

**Acute Oncology Clinic**
We have awarded a two-year project to extend the award winning Acute Diagnosis Oncology Clinic. Goals include improving time-to-diagnosis, patient experience, and reducing unnecessary emergency admissions. This will be the first clinic of its kind in the UK.

**Laser Clinic**
Our sexual health laser clinic is one of only two such facilities in the UK. Laser treatment takes less time, replaces conventional surgery, and costs the NHS significantly less compared to previous treatment methods.

**BeYou+**
Our HIV wellbeing app has had more than 400 downloads, has completed an evaluation by City University and was awarded £8,500 by the MAD Trust.

**Vascular Ultrasound**
We have awarded an 18-month study to evaluate if novel vascular ultrasound testing can improve detection of poor circulation and reduce diabetes-related amputations.

**Laser for bladder cancer**
New laser ablation technology will decrease the number of patients needing admission and overnight stay for non-invasive bladder cancer therapy.

**Hand Therapy App**
Our new interactive app contains over 100 rehabilitation exercise videos to help 4,800 hand injury patients every year improve their recovery.

**Stop Smoking Service**
Our innovative social impact bond smoking cessation service has resulted in over 350 patients quitting smoking at critical points in their care.
Showcasing our work nationally

Our health innovation programme has received national attention and we were delighted to be invited to present at seven leading conferences throughout 2017 to showcase and share our work.

We were also proud to be a finalist for the “Trust of the Year Award” at EHI Live in Birmingham.

Here are a selection of highlights from 2017:

NHS England award CW+ nurse and midwifery innovation grants

We were delighted to welcome Prof. Oliver Shanley OBE, Regional Chief Nurse for London and Prof. Jacqui Dunkley-Bent OBE, Head of Maternity, Children and Young People at NHS England, to Chelsea and Westminster Hospital to learn more about our nurse-led innovation projects.

Oliver Shanley and Jacqui Dunkley-Bent were given three presentations by nurses and midwives from the Trust, who were pitching for a special CW+ grant – dedicated to supporting nurse and midwives’ ideas for improving patient care.

Angela Chick, Ward Sister, was awarded the winner of this special grant for her innovative project to improve oral health for stroke patients.

DigitalHealth.London Accelerator anniversary celebration event

Together with colleagues from the Trust, we were invited to showcase The Chelsea and Westminster Hospital NHS Foundation Trust Success Story at the DigitalHealth.London Accelerator’s one-year anniversary event at the Kia Oval in September. Also speaking at this celebration event Deputy Mayor of London for Business, Rajesh Agrawal and NHS England’s Chief Clinical Information Officer, Keith McNeil.

Clinicians and innovation champions Sadia Khan, Christos Kontovounisios and Sunita Sharma showcased their digital health projects from the first year of the programme, with an additional presentation by Roger Chinn, Deputy Medical Director.
NHS Innovation Expo 2017 and Healthcare Efficiency through Technology show

We took part in five different presentations at NHS Innovation Expo 2017 in Manchester.

We were invited to showcase our digital health innovations on the Digital NHS stage at the Healthcare Efficiency through Technology show at Olympia London.

Digital Health World Congress 2017

Dr Lawrence Petalidis, CW+ Head of Innovation and Impact, was invited to present our work at Europe’s leading technology digital healthcare conference.

Visit from NHS England Chief Digital Officer and Chief Information Officer

We were delighted to welcome Juliet Bauer, Chief Digital Officer and Will Smart, Chief Information Officer, NHS England, to Chelsea and Westminster Hospital to showcase digital health innovations we are implementing throughout our hospitals.
Working in Partnership