Dear colleagues,

Welcome back to another exciting year for cancer services in London. We continue to shape negotiations for the London Cancer Alliance, which we believe will drive forward quality in care and benefit patients across London. More about the latest developments on page 3. We have many examples of our researchers leading the way and applying multi-disciplinary approaches. One such example led to a major breakthrough in understanding our body’s natural defence system, read more about this on page 2. In the last couple of weeks, we established closer links with international centres that will strengthen our clinical and research capabilities, read about our visits to Mumbai, Paris and Singapore in this issue.

Many thanks to those who joined us for the ICC event last November. We enjoyed the lively debate and stimulating thoughts. We are busy in planning our next event to take place on Wednesday 25th April 2012. We hope to see many of you there.

And finally, a big thank you to all, without you we could not drive improvements so successfully.

Professor Arnie Purushotham, Director, Integrated Cancer Centre

Cancer Day Unit wins healthcare design awards

Guy’s Hospital won the ‘Best Use of Visual Art in Healthcare’ at the recent Building Better Healthcare Awards, recognising the ‘exceptional’ and ‘stunning’ scheme at the Cancer Day Unit.

The artwork on the Cancer Day Unit was funded as part of a £3.9million grant from Guy’s and St Thomas’ Charity to transform the department which was completed in February last year. In the unit, patients and staff benefit from the co-location of the pharmacy, acute oncology and complementary therapies into one space, creating a bright and uplifting chemotherapy treatment environment.

Resident artist Heather Barnett and writer Will Holloway worked directly with staff and patients to create designs based on the concept of ‘flow’ and the location of the unit within the bustling London skyline.

Category head judge, Sarah Waller, described the project as ‘innovative and beautiful’ adding, ‘what they have managed to produce is something exceptional and that does not happen often, even where there is a lot of funding behind a project. It’s about the facility and the patients and it has been delivered within a design that is respectful.’

One of the flow design panels on the Cancer Day Unit, dividing treatment areas with a personal touch.
Scientists discover important cancer defence switch

A multi-disciplinary team of researchers at King’s College London have captured the first live images of a key molecular switch in the body’s natural defence system against tumour cells.

Published recently in the journal Science Signaling, the study looked at a type of white blood cell, called a Natural Killer (NK) cell that protect the body by identifying and killing infected and diseased cells.

Recently, there has been a new emphasis on treatments that can improve a patient’s own anti-tumour immunity by interfering with the signals within anti-tumour immune cells. But the precise nature of signalling between cells at the exact point when immune cells engage the cancer cells is difficult to demonstrate without imaging.

Experts from different disciplines across King’s College London, including: the Randall Division of Cell & Molecular Biophysics; Division of Cancer Studies; Departments of Mathematics and Physics; as well as from the Gray Institute for Radiation Oncology and Biology (University of Oxford), came together to study these interactions, and to image the regulation of a key molecular switch (Cdc42) in NK cells for the first time. This molecular switch, Cdc42, is important for activating the cell’s surveillance system that searches for and destroys cancer cells.

The researchers discovered that an important group of enzymes (PI-3 kinases) play a key regulatory role on Cdc42 in NK cells.

PI-3 kinases are currently being explored in trials as a potential target for cancer treatment. Therefore the researchers warn that if PI-3 kinases are inhibited to treat a tumour, the immune system’s natural killer mechanisms may also be inhibited. This means that although there is good scientific evidence for targeting PI-3 kinases in cancers, trials exploring these potential treatments should take the findings of this study into account.

Dr Leo Carlin who was part of Professor Ng’s team during the study, said: ‘We have been able to directly visualise not only the location of important molecules in NK cell function, but also whether they are switched on or not. A cross-disciplinary approach also allowed us to intelligently screen for key regulators of these molecular switches.’

Professor Tony Ng, Richard Dimbleby Chair of Cancer Research, Head of Cell Biology and Imaging in the Division of Cancer Studies at King’s, said: ‘This is an exciting finding, which helps us better understand the body’s own natural defenses against cancer.’

Building International R&D Relations: Example Singapore

A research delegation led by Professor Arnie Purushotham recently visited the National Cancer Centre Singapore (NCCS) and its associated University, Duke NUS, the Graduate Medical School Singapore. In parallel, a bioimaging group led by Prof Tony Ng held joint R&D discussions with their counterparts at the NCCS.

The ICC delegation also visited the Institute of Molecular & Cellular Biology under the new directorship of Prof Hong Wanjin where a new translational-focused cancer strategy is being created. Overall, there was agreement to develop bioimaging joint protocols and training exchanges, to explore further potential public policy projects (health economics and systems research with Duke NUS) and to build on the existing clinical R&D links established around liver cancer and bioimaging. Other opportunities to be explored in the future are in head & neck and breast cancer.

Research prize for cancer researcher

Dr Mieke Van Hemelrijck, a Research Associate in the Division of Cancer Studies, has been awarded a prestigious prize for the best paper published in 2011 in the field of urology.

Dr Van Hemelrijck was presented with the award, along with a cheque for €5000, at the Annual Congress of the European Association of Urology (EAU) in Paris on 24 February.

The study looked at the frequency of subsequent fractures and cardiovascular problems in prostate cancer patients following treatment, and was published in European Urology.
Working together to make London cancer services stronger

The London Cancer Alliance of which Arnie Purushotham is the Interim Clinical Board Co-Chair and Medical Director has produced the first draft of a service plan for delivering the model of care recommendations. The plan includes a range of work spanning all cancer services. Some pieces of work need to be completed in the next few months, others are scheduled to be delivered over the next 1-3 years. In response to this, we conducted a gap analysis for King’s Health Partners ICC and are now drawing up plans to ensure that our services meet the required standards and that KHP ICC is at the forefront of developments.

The Alliance has agreed five priority pathways and working groups have begun meeting to take forward plans in these areas. The priority pathways are:

- breast
- lung
- oesophago-gastric
- acute oncology Service
- survivorship (initially focusing on head & neck)

Some of you will have already been involved in this work. Ultimately all KHP ICC cancer services will be involved in some way, either through the priority pathway groups, KHP-specific service plans or LCA organ specific pathway groups.

Guy’s and St Thomas’ hosted a successful ‘Town Hall’ meeting at the end of November. The room was at capacity with over 120 clinicians and managers attending from across the Alliance.

Professor Purushotham hosted the event and provided an update on overall progress. Tim Smart provided insights on emerging governance structures. Dr Kate Haire talked about the role of Public Health in the Alliance as the glue which binds the clinical systems together.

Professor Sir Mike Richards discussed the ways in which England can save 10,000 lives annually from cancer by ensuring earlier presentation and easier access to diagnostics at the point of symptom presentation. There was an inspiring presentation from Dr Gina Brown and Dr David Burling on the research contribution of imaging and the MDT process in ensuring correct and timely treatment for colorectal cancer. The meeting ended with table discussions on how Tumour Working Groups should evolve to organ specific pathways to take on functions across the Alliance.

If you would like to obtain copies of any of the presentation slides from this event, or be notified about future events, please contact Victoria.Harrison@rmh.nhs.uk.

You can also read and subscribe to bulletins from London Health Programmes at www.londonhp.nhs.uk/publications/cancer/implementation/london-cancer-update-bulletin/.

If you would like to know more about the KHP-specific plans and work underway contact nick.gitsham@gstt.nhs.uk.

KHP ICC working with Europe on a new system of Comprehensive Cancer Centres

The European Organisation of Cancer Institutes (OECI) has begun a new process to accredit cancer centres across Europe. As one of the UK’s founding members of the OECI, KHP ICC is taking a major strategic lead in developing this new system by becoming one of the first UK centres to study and develop trans-European benchmarking systems.

The first meeting for the OECI led program took place recently in Paris with Prof Richard Sullivan and Mr Andrew Schuster representing the ICC. With over 17 major cancer centres in attendance the proposed programme was well reviewed. In particular the need to ensure that the benchmarking and review process takes into account the highly heterogeneous healthcare system landscape of Europe was considered paramount. The meeting ended with the delivery of a 2-3 year policy research programme into benchmarking and development of comprehensive cancer centres to be led by KHP ICC, NKI Netherlands and Institute Gustave Roussy, Paris as a strategic priority for OECI.

Further information can be obtained from Richard.sullivan@kcl.ac.uk

Biobanking expansion continues

Two new biobanks are to be launched for upper gastrointestinal and prostate cancers. Since the beginning of the year King’s Health Partners biobanking services have started to use banking material from patients diagnosed with UGI cancer.

In time, these two new banks will enable researchers to identify biomarkers that help to predict the likelihood of responding to current treatments and to develop drugs that lead to more effective forms of treatment. The two tumour groups were chosen because of the high volumes of these cases and the great research opportunities they could offer.

By March 2012, King’s Health Partners will have six biobanks in total; these are (in order of establishment): Breast, Haematology, Lung, Head & Neck, UGI and Prostate. Of these, the breast biobank is the most established and internationally renowned.

For further information, please email Cheryl.Gillett@kcl.ac.uk
**60 Seconds with… Tony Ng**

What is your current role within the King’s Health Partners Integrated Cancer Centre?

I am the Education and Training Lead as well as the Deputy Chair for the R&D Development Group within the ICC.

What research are you leading at the moment?

I am the overall coordinator for the KCL-UCL Comprehensive Cancer Imaging Centre. Within the centre, my group drives the agenda of network (gene and protein) based translational cancer imaging, which is a revolutionary idea of trying to dissect the basis of heterogeneous cell behaviour, both in preclinical experimental setting and among our cancer patient groups. The underlying approach is to integrate imaging (from protein interaction to whole body scale) and genomics for personalising cancer treatment and improving clinical outcomes.

Tell me more about the team you work with. Are you working across disciplines?

Over the years, I have myself acquired a unique mix of training/expertise in Medicine, Immunology, Cancer Cell Biology (particular focus on the mechanisms of cancer cell migration), Biochemistry (study of signal transduction in cancer cells) and Cell Biophysics/Imaging; and have therefore adopted a multidisciplinary approach to understanding cancer metastasis. In alignment with this multidisciplinary approach, the Richard Dimbleby Laboratory, that I chair, is one of the few research departments in the UK which can bridge the gap between Physics, Biology and Medicine, particularly in the field of translational cancer research.

What are the current biggest obstacles within your research?

Traditionally, there is a significant gap between the diverse disciplines that I mentioned and are needed for this network based imaging-genomics approach; also between basic and clinical research communities. We will need to collaborate globally as we recently did with the Canadian Institute of Health Research and with the National Singapore Cancer Centre. Finally, we will also need to share our experience between tumour types. For more information go to www.cancerimagingcentre.org.uk

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**King’s College Hospital part of new ‘glow in the dark’ brain surgery trial**

King’s College Hospital is set to be part of a new pioneering brain surgery trial which makes tumours glow in the dark, helping surgeons to differentiate between cancerous and healthy tissue.

The trial is designed to help patients who have been diagnosed with glioblastoma, the most common and most primary malignant brain tumour in adults.

The trial, which has been jointly funded by the Samantha Dickson Brain Tumour Trust and Cancer Research UK, involves a two pronged approach.

The first part of the treatment involves making the tumour ‘glow in the dark’ under ultraviolet light during surgery. This is done by patients drinking a chemical called 5-ALA (5-Amino-Levulinic Acid) prior to surgery, which is converted in the body to a fluorescent chemical. Surgeons are able to see the edges of the tumor more clearly, allowing more accurate and complete tumour removal.

The second part of the treatment occurs after the tumour has been removed, and involves inserting wafers that contain a chemotherapy drug into the cavity. The drug is then released locally to help kill the remaining tumour cells. This is the first time that these two techniques have been used together.

Mr Keyoumars Ashkan, Consultant Neurosurgeon at King’s, is one of the surgeons who is trialling this technique. He said: “This is an exciting development for King’s, and the patients we treat. The fact that patients help their surgeon by simply taking a drug – with no major side-effects – was a big step forward. We can be more confident when differentiating between cancerous and normal brain tissue. Now that we are adding a second part to this equation, which involves killing any remaining cancerous cells, it could reduce the chance of these cells reappearing, giving patients an even better post-surgery outcome.”

King’s is a major centre for neurosurgery, treating patients across London, the south east and further afield.

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**Acute Oncology at King’s College Hospital**

Fiona Castell was appointed in December to lead the acute oncology team at King’s College Hospital.

Her team provides support and advice to the clinicians dealing with oncology patients who have been admitted as an emergency. Currently it is estimated that there are four to five patients with a diagnosis of cancer admitted per day to King’s and acute oncology receives about one to two referrals a day. The primary aim of the acute oncology team is to reduce the length of inpatient stay and improve the quality of patient care. An electronic referral system has been set up so that patients who are brought in through emergency services can be easily referred to acute oncology and are then seen within 24 hours.

The newly formed acute oncology team at King’s College Hospital from left to right: Fiona Castell, Oluwagbemiya Idowu, Olga Oikonomidou, Jenny Wright and Nick Greenwood.

There are also plans in place to set up a 24 hour Cancer Nurse Specialist manned telephone helpline to give oncology outpatient advice.
**A day at the Tata Memorial Centre in Mumbai**

by Deborah Enting

The Tata Memorial Centre (TMC) in Mumbai, India is one of the leading cancer centres in South-East Asia and encounters nearly 43,000 new patients visits per year. Private philanthropy and Government support ensures that nearly 70% of patients are treated almost free of charge with patients attending from all over the Indian subcontinent and neighbouring countries.

On average 1000 outpatients visit daily, Monday to Saturday. While the majority of patients come from Mumbai and its state Maharashtra, a significant number travel from other parts of the country and even abroad. Having left their native towns and villages, some patients and their families have no other place to stay except for the pavements around the hospital. Based on financial assessment by social workers, the majority of patients receive significant financial support towards their treatment costs. In addition to this, drugs purchased in the hospital’s pharmacy are discounted up to 40% compared to other local pharmacies.

With large numbers of patients attending daily clinics and traveling from far, patients are seen on a ‘first come first serve’ basis. The tumour working group approach to the treatment of cancers is similar to how we work in the UK. During weekly joint clinics attended by surgeons, oncologists, pathologists and radiologists, trainees present newly diagnosed patients who are subsequently seen by the consultants. Through demonstration of many evident clinical signs, direct trainee-trainer observation and discussions regarding the multi-disciplinary management plan, this provides an excellent clinical learning opportunity for all.

Despite a heavy clinical workload with busy outpatient clinics and twice daily ward rounds, trainees also participate in teaching sessions at least twice a week. Journal club, case presentation and more formal lectures are prepared by trainees. In addition, weekly grand round presentations are attended by all specialties and often lead to many lively discussions.

During my attachment I worked on two clinical projects including retrospective and prospective data collection. Some tumour working groups keep extensive electronic patient databases and combined with large patient numbers even for rare cancers, the opportunities for such projects in a limited amount of time are plentiful. Retrieval of medical files for data collection was a challenge however, with multiple storage locations and lack of an electronic tracking system. However, with some dedication, friendly help on hand and lots of tea, things seem to work out in the end.

If you want to find out more about my experience, please get in touch at Deborah.Enting@kcl.ac.uk.

A collaborative relationship between King’s Health Partners Integrated Cancer Centre and TMC resulted in a fantastic opportunity for clinical trainees to gain first-hand oncology experience in an emerging economy. As a Medical Oncology trainee at Guy’s and St Thomas’ Hospitals I spent three months at TMC with financial support from King’s Health Partners and the Peter Harper Charity Fund. From March till May this year I was attached to the Bone and Soft Tissue working group and Department of Medical Oncology as clinical observer.

The hospital, located on a busy street corner in the heart of Mumbai, attracts

We want to hear from you!

This newsletter is designed to bring you news about the Integrated Cancer Centre from updates looking at ‘the bigger picture’ to celebrating successes in our day-to-day services.

Do you have a story that you would like to see featured in the next issue?

Please email any thoughts or suggestions to Martina Bohn, communications manager at Martina.bohn@gstt.nhs.uk