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FOR IMMEDIATE RELEASE

THE FIONA ELIZABETH AGNEW TRUST

WORLD SEPSIS DAY and F.E.A.T.U.R.E.S. AWARDS 2017 Press Pack

INTRODUCTION

Tomorrow, Wednesday 13th September, is World Sepsis Day. To mark the event, the Fiona Elizabeth Agnew Trust (FEAT) will announce the recipients of its 2017 FEATURES funding awards for health professionals working in the field.

FEAT's work remembers Dr Fiona Agnew, a young Edinburgh GP who died suddenly from sepsis. For this reason, the FEATURES Awards are designed to help researchers who are early in their careers.

Dr Colin Begg, Medical Lead at FEAT said, "For the 2017 Awards we looked for projects that built on previous years' key themes. This has been a difficult 12 months for charity fundraising due to the economic and regulatory uncertainty over Brexit, but thanks to fantastic donations from FEAT supporters we are able to support two wonderful projects this year."

2017 FEATURES AWARDEES' STORIES:

FEATURES AWARD 1)

The first of this year's awards goes to Dr Brad Spiller, Prof Tim Walsh and their PhD student Uzma Basit Khan at Cardiff University School of Medicine. This group will use the money to look at Group B Streptococcus (aka "GBS"; scientific name *Streptococcus agalactiae*). GBS is a bacterium that is one of the more common causes of sepsis. It causes a particular problem of sepsis in newborn babies in the UK, because unlike many European countries, the UK does not screen and treat pregnant women. GBS is also a rare, but increasing, cause of sepsis in adults.

Dr Spiller said, "Carrying GBS as a gut infection or surface infection of the vagina is perfectly normal and natural, occurring in 20-30% of people. Our group want to find out what separates these GBS bacterial strains that normally colonise people without causing disease, from the strains invade the blood stream and cause life-threatening sepsis."

A previous study by Public Health England found that between 1991-2010 hospitals reported a worrying increase in antibiotic resistance of GBS to one of the main antibiotics used to treat it. Mrs Basit Khan's work will also test all 197 GBS strains for susceptibility to all the major antibiotics now used to treat suspected sepsis patients. This will determine if we need to create new UK-wide guidelines for choosing antibiotics to treat adult sepsis patients with GBS infections and distribute these guidelines to doctors and hospitals to avoid increasing treatment failure.

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FEAURES AWARD 2)

The second FEATURES award goes to Dr William Alazawi and his PhD student Kathryn Waller at Queen Mary, University of London. They will look at whether there is a way to predict which patients might be more at risk from sepsis after major surgery.

Around one third of patients undergoing major abdominal surgery are at a high risk of sepsis. Sepsis increases their risk of organ failure, death and increases length of stay in hospital by around ten days. Such patients take longer to return to their normal life, to work or to their caring responsibilities. They may suffer long-term health effects and end up needing chronic support from health and social services. Predicting who is at most risk would bring great benefits to individuals, their families and wider society.

Until recently it has been not been possible to predict accurately who will develop sepsis. Dr Alazawi's group have developed a simple blood test (TLR5) that is done the morning after surgery.

Dr Alazawi said, "The test can predict sepsis with 90-100% accuracy, 5 days before clinical signs, offering a unique opportunity to tailor preventative therapy to those at risk. We propose that this test works because it predicts those patients whose immune system becomes suppressed after an operation, making them more susceptible to infection and sepsis."

The researchers will test this theory comparing 25 different elements of the immune system that are likely to be involved in this process. To do this, they will analyse a set of blood samples that have already been taken and stored from 50 patients before and over the first few days after surgery.

In the blood, they will compare the immune elements in patients with high levels of TLR5 with the immune elements in patients with low levels. This will tell them exactly what the high levels of TLR5 indicate.

This work has not been possible until the recent development of cutting edge technology called mass cytometry that Dr Alawi's group have established and tailored to this work in their laboratory.

Ultimately, they hope to explain why the TLR5 test predicts sepsis and help persuade funders to support bringing our test into routine patient care.

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BACKGROUND & HISTORY OF THE AWARDS

In 2015, the Fiona Elizabeth Agnew Trust (FEAT) launched its FEATURES (FEAT: Understanding, Research, & Education about Sepsis) Awards for health professionals working in the field. These are the first awards of their type in the UK and they support projects that advance 3 things: public awareness of sepsis, clinical & laboratory research into sepsis, and education of healthcare staff about sepsis.

The current 'hot topics' in sepsis research are 1) early detection of sepsis & people at risk; 2) how sepsis progresses, 3) how you define sepsis as a clinical picture so that staff can recognise it in their patients (early sepsis is notoriously hard to spot), 4) Understanding how certain bacteria are able to evade the immune system and enter the body to trigger sepsis, 5) understanding how bugs become resistant to antibiotics and using that knowledge to develop new antibiotics.

The inaugural Awards in 2015 went to two researchers, one in Scotland and one in England: Dr Carrie Duckworth at the University of Liverpool, who is researching how changes in the lining of the gut in early sepsis may cause more bugs and toxins to move into a patient's bloodstream and worsen the illness. Identifying how this process works may help identify who is at risk in the early stages, when simple treatments like antibiotics and fluids may interrupt the 'domino effect' of sepsis. The other award went to Megan Bateman, who is a researcher at the University of the West of Scotland – she measured how accurately the NHS in Scotland defines patients as having had sepsis and whether barriers to recording a correct diagnosis mean that we are actually underestimating the number of people who get sepsis each year.

In 2016 FEAT awarded funding to 3 new projects in Scotland, England, Wales looking at the prevalence of Sepsis and which clinical scoring systems are best at detecting it. They also provided continuing support to the Bateman NHS Scotland project., as well as supporting a project by Dr Sadia Shakoor and her team at the Aga Khan University in Karachi, Pakistan, which is looking at the DNA of Group A *Streptococcus* infections to see if they can find out which genetic strain of the bug is most responsible for killing pregnant women and babies in Pakistan & Northern India.

About Sock it to Sepsis

Sock it to Sepsis is our awareness campaign for Sepsis Awareness Month this September. We encourage people to wear red and white striped socks and tights throughout the month to raise awareness of the condition, particularly at sepsis-related events in Scotland and beyond.

Our aim is to make the red and white striped socks and tights become a high-visibility and widely recognised symbol for sepsis and through raising awareness



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more widely, we will reduce the death toll from the condition For more information search #sockittosepsis or visit www.featurk.org.uk/sockittosepsis

About FEAT

FEAT (Registered Charity: SC044017) is Scotland's sepsis charity and was founded in memory of the late Dr Fiona Agnew to fight sepsis and to carry on her medical work. We raise money through outdoor activity "Feats for FEAT" and donations from the public.

FEAT's main objectives are to raise awareness of the condition amongst medical professionals and the public and to aid the fight against sepsis through funding research into the early detection of the condition and its treatment.

All donations go directly to sepsis research and awareness. For more information search #sockittosepsis or visit www.featurk.org.uk