

**Findings** Findings are drawn from the NIHR funded national study: Eye Donation from Palliative and Hospice care contexts: investigating Potential, Practice, Preference and Perceptions (EDiPPPP) in partnership with three palliative care and three hospice care settings in England. Findings indicate high potential for eye donation but very low levels of identification of potential donors; low levels of approach to patients and family members about the option of eye donation; lack of inclusion of eye donation in end-of-life care planning and/or clinical meeting discussions (i.e. Multi-Disciplinary Team (MDT) meetings) and very limited awareness raising initiatives or activity to inform patients and carers of the option of eye donation.

**Conclusion** It is imperative that patients who would want to be a donor are identified and assessed for eligibility for donation as part of high-quality end of life care. It is clear from studies reported over the past 10 years that not a lot has changed regarding the identification, approach, and referral of potential donors from palliative and hospice care settings, and this is due in part to perceptions held by HCPs that patients would be unwilling to engage in discussions regarding the option of eye donation in advance of their death. This perception that is not substantiated by empirical research.

#### 11 GROWING TOGETHER IN DIVERSITY – INDO-GERMAN COOPERATION ENHANCING EYE DONATION IN NORTH INDIA

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In India, the most densely populated state is Uttar Pradesh in the Northern region. This state has a huge base of corneal blind population due to cornea infections, ocular trauma, and (chemical) burns.

Successful cornea transplantation using human post-mortem donated cornea is a treatment modality. In India lack of availability of donated cornea is a public health challenge. Thus, there is great need to reduce the huge demand and supply gap by increasing the donations for supply of cornea to patients.

The Eye Bank at the Dr. Shroff's Charity Eye Hospital (SCEH) and the German Society for Tissue Transplantation (DGFG) collaborate in a project to enhance cornea donation and eye bank's infrastructure in Delhi. The project is supported by the Hospital Partnerships funding programme which is a joint initiative of Germany's Federal Ministry for Economic Cooperation and Development (BMZ) and the Else Kröner-Fresenius Foundation (EKFS) and carried out by the German Society for International Collaboration (GIZ GmbH).

The project aims to increase the number of cornea donations by the SCEH eye bank through establishing two new eye collection centers where donation is coordinated and that are integrated into the existing and well-established eye bank and donation infrastructure of SCEH. Further, data management of the eye bank will be improved by developing a concept for an electronic database system that allows faster monitoring and evaluation of the processes. All activities are carried out according to a defined project plan. The

basis of the project is an open-minded analysis and understanding of processes of both partners in relation to the respective legislations plus the environment and conditions in both countries.

Aside from intercultural exchange and personal contacts both partners benefit from mutual on-site visits and exchanging best practices in eye donation and banking as well as sharing expertise in research topics.

This project is a great example on how strong and sustainable relationships can be build across the globe improving the infrastructure for cornea donations to help corneal blind patients.

#### 12 THE POTENTIAL FOR EYE DONATION FROM HOSPICE AND PALLIATIVE CARE CLINICAL SETTINGS IN ENGLAND – A RETROSPECTIVE CASE NOTES REVIEW OF DECEASED PATIENT RECORDS

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**Background** There is a need to identify additional routes of supply for ophthalmic tissue in the UK due to deficits between supply and demand. In response to this need the NIHR funded study, Eye Donation from Palliative and Hospice Care: Investigating Potential, Practice, Preference, and Perceptions) (EDiPPPP) project was developed in partnership with NHSBT Tissue Services ( now Organ Tissue Donation and Transplantation).

**Aim** This presentation will report findings from work package one of EDiPPPP which aimed to: scope the size and clinical characteristics of the potential eye donation (ED) population via a large-scale, multi-site retrospective case notes review across England establishing: the size of the potential ED population; describe the clinical characteristics of the potential ED population and identify challenges for clinicians in applying the standard ED criteria for assessing patient eligibility.

**Results** Retrospective review of 1200 deceased patient case notes (600 HPC; 600 HPCS) by reviewers (healthcare professionals) at research sites against current ED criteria were then evaluated by specialists based at the National Health Service Blood and Transplant Tissue services (NHSBT-TS). Note review established that 46% (n=553) of 1200 deceased patients notes were agreed as eligible for eye donation (total cases Hospice care settings = 56% (n=337); Palliative care settings = 36% (n=216) with only 1.2% of potential donors referred to NHSBT-TS for eye donation (Hospice care settings = 1.2% (n=4); Palliative care settings = 1.3% (n=3).

Application of the eye donation criteria resulted in an 81% agreement rate outcome for all sites (HPC = 79.2%; HPCS = 82.8%). If cases where there was a difference of assessment but where NHSBT evaluation indicated eligibility are included (n=113) the potential donor pool rises from 553 (46.1% total cases) to 666 (56%) eligible cases.

**Conclusions** Significant potential exists for eye donation from the clinical sites in this study. This potential is not currently being realised. In view of the predicted increase in need for ophthalmic tissue it is essential that the potential route to increase the supply of ophthalmic tissue

demonstrated in this retrospective note review is accessed. The presentation will conclude with recommendations for service development.

### 13 NHSBT TISSUE AND EYE SERVICES: THE ROLE OF THE HOSPITAL DEVELOPMENT NURSE PRACTITIONER

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NHS Blood and Transplant (NHSBT) Tissue and Eye Services (TES) save and improve the lives of thousands of patients every year.

The roles and responsibilities of the nurses working in TES are diverse. Across the TES supply chain nursing roles are pivotal.

They range from raising awareness of tissue donation and creating robust referral systems through to skilled communication with recently bereaved families over the telephone, as well as advanced nursing practice in clinical decision-making regarding suitability for transplantation and research.

In the UK, around 25 million people have registered to donate organs and tissues. However, there is poor understanding around the tissue-donation process.

Hospital development nurse practitioners (HDNPs) provide a professional link between service Providers/users and TES so that effective working partnerships can be developed. HDNPs ensure that there is a professional link from TES to support, educate and advise a wide range of health professionals about tissue donation. They are a visible and respected presence in the areas within which they work and continuously build on these successful working partnerships and contractual agreements to increase donor referrals.

Consistent findings from a global body of research for organs and tissues over the past 15 years shows that there are key factors that influence family decision making (Sque et al, 2008; Siminoff et al, 2010; Long-Sutehall et al, 2012; Sque et al, 2018).

Evidence suggests that key factors include:

- Failure by health professionals to recognise potential donors
- Reluctance of health professionals to talk about tissue donation
- Family/next of kin not agreeing to donation due to concerns about the donation process (for example, the post donation appearance of the donor) or personally held views.

The role of the HDNP aims to overcome some of these barriers and work towards increasing the number of referrals of potential tissue donors. This includes creating robust referral systems, raising awareness, educating, and sharing information about tissue donation so that patients and their families can make an informed choice about donating tissue for transplant and/or research. HDNPs work closely with selected NHS trusts at strategic levels to implement referral systems. This includes working alongside senior colleagues such as chief executives, directors of nursing, end-of-life-care specialists and coroners.

HDNPs work closely with selected trusts in developing automatic referral systems whereby 100% of adult deaths are referred so nurses are able to reach many more families to discuss the option of donating tissue.

### 14 VALIDATION OF TRANSPORT SYSTEMS TO ENSURE QUALITY OF TISSUE DELIVERED TO EYE BANKS

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**Introduction** NHS Blood and Transplant Tissue and Eye Services (TES) retrieve eyes for corneal and scleral transplant purposes from hospitals, hospices, and funeral homes throughout the UK. The eyes are sent to TES eye banks either in Liverpool or Bristol. A major objective of TES is to ensure that the eyes arrive at their destinations in good condition and remain fit for purpose. With that in mind TES Research and Development have conducted a series of validation studies to ensure that eyes are packaged appropriately, and that the material is not damaged and maintains the required temperature during transport. Whole eyes are shipped on wet ice.

**Materials and Methods** Whole eyes – a corrugated plastic carton with an expanded polystyrene insert (Ocular Correx) had been used by Manchester and Bristol eye banks for at least 15 years before the eye banks joined TES. This original transport carton was compared with a re-useable Blood Porter 4 transport carton consisting of a single expanded polystyrene base and lid with a fabric outer packing. Porcine eyes were used secured in eye stands. T-class thermocouple probes were inserted through the lids of 60 ml eye pots via pre-drilled holes, with the probe touching the outer surface of the eye, with probes routed under the boxes lid. For the original carton, three different weights of wet ice (1, 1.5, and 2 kg) were used inside the box, with the box placed in an incubator (Sanyo MCO-17AIC) at 37°C. Thermocouples were also placed in the wet ice and the incubator itself before they were connected to a calibrated datalogger (Comark N2014) which recorded the temperature every 5 minutes. For the Blood Porter carton a single 1.3 kg weight of ice was used

**Results** Whole eyes - tissue temperature was maintained between 2-8°C for 17.8 hours with 1 kg wet ice, 22.4 hours with 1.5 kg wet ice and 24+ hours with 2 kg wet ice. With the Blood Porter 4 box tissue temperature was maintained between 2-8°C for more than 25 hours with 1.3 kg wet ice.

**Discussion** Data reported in this study showed that both types of box are able to maintain tissue temperature between 2-8°C for at least 24 hours, provided the correct amount of wet ice is used. The data also showed that tissue temperature did not drop below 2°C, meaning there was no danger of the cornea potentially freezing.

### 15 INCREASE EYES PROCURED AND TRANSPLANTED VIA A COMPREHENSIVE, INTEROPERABLE, AND SECURE DIGITAL DONOR AND TRANSPLANT MANAGEMENT PLATFORM

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**Background** One of the barriers to increasing the number of eye donors and transplants is the lack of an integrated, real-time clinical workflow platform with capabilities to secure interface with external systems. It is well understood that