TRANS POSE

Co-funded by the Health Programme of the European Union

TRANSPOSE

GRANT AGREEMENT 738145

MEETING BROCHURE

GRANT AGREEMENT 738145

TRANSPOSE TRANSfusion and transplantation PrOtection and SElection of donors

VERSION NUMBER: 1.0
This brochure is part of the project / joint action '738145 / TRANSPOSE' which has received funding from the European Union's Health Programme (2014-2020). The content of this brochure represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Consumers, Health, Agriculture and Food Executive Agency or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.

INTRODUCTION

Every year, millions of European patients depend on safe medical treatments with labile blood products, plasma-derived medicines, tissues and cells. These are often lifesaving or increase the patients' quality of life. Furthermore, people suffering from infertility or subfertility may need a gamete donor to have children, for instance if one of the partners is infertile due to chemotherapy, genetic causes, injuries or infections. All this would not be possible without the continues loyalty and contribution of millions of donors who provide their substances of human origin (SoHO).

Obviously, the availability of sufficient and safe SoHO is critical to transfuse or transplant patients. With respect to (i) the European systems in place, (ii) all institutions, organisations and professionals who for decades have contributed to donor selection policies and to transfusion and transplantation safety, and (iii) all researchers who conducted important studies in this regard, the TRANSPOSE project focused on opportunities to further improve the collection of safe and sufficient SoHO as well as to ensure donor safety.

The TRANSPOSE project started in 2017 and is completed in 2020. The project is co-funded by the Health Programme of the European Union, facilitating a successful collaboration between many European partners, stakeholders, researchers and dedicated professionals. This brochure summarizes the most important results of that European collaboration.

Among others, the current donor selection and donor protection practices in Europe are demonstrated; a novel risk assessment method for decision-making purposes is presented; donor selection criteria are proposed, reflecting both evidence from the scientific literature and the opinion of professionals working in the SoHO field; and a standardised donor health questionnaire is introduced.

WORK PACKAGES SERVING THE TRANSPOSE PROJECT

COORDINATION – WORK PACKAGE 1

Leader: Sanquin Blood Supply Foundation, The Netherlands

The main tasks were (i) to monitor the activities of all partners involved in the TRANSPOSE project, (ii) to keep regular contact with the consortium members, (iii) to establish breakpoints at which to check and to assess progress of all work packages, (iv) to ensure that the outputs were timely produced and, where needed, to assist in doing so, (v) to consult the TRANSPOSE Advisory Board about unforeseen issues to help achieving the project goals, and (vi) to verify that both financial and technical responsibilities of each partner were duly implemented, in accordance with the EU Grant Agreement.

DISSEMINATION – WORK PACKAGE 2

Leader: Italian National Blood Centre (CNS-ISS), Italy

This work package guaranteed that the TRANSPOSE project and the project outputs were made available to the consortium members, stakeholders, target groups, and the general public. The work package team was responsible for (i) creating and maintaining a dedicated website (http://www.transposeproject.eu), (ii) the production of both general and scientific communication materials, and (iii) raising awareness of the topics covered and their related importance. Also, in collaboration with work package 7, an Education and Dissemination Workshop was organized on February 24-25, 2020.

Scan the QR Code to visit our website

EVALUATION – WORK PACKAGE 3

Leader: Etablissement Français du Sang (EFS), France

This work package ensured a critical evaluation of the TRANSPOSE results in terms of high quality deliverables produced and milestones reached. A final evaluation will be completed before the project end date.

INVENTORY OF DONOR SELECTION & PROTECTION PRACTICES – WORK PACKAGE 4

Leader: University of Cambridge, United Kingdom

INTRODUCTION

The main goal of this work package was to take stock of similarities and differences pertaining to the current practices in donor selection and protection across European

countries and across substances of human origin (SoHO). In addition, the perceived usefulness of donor selection criteria by various stakeholders was studied, including donor physicians, policy makers, other dedicated professionals, and donors. An exhaustive report was produced on the basis of the information and data collected through telephone conference discussions, qualitative interviews, and a quantitative survey.

BACKGROUND

In Europe, donor selection criteria (DSC) for donors of SoHO are based on fifteen years old European directives and additional guidelines specific to the respective countries. Many of the DSC seem to be outdated and are not evidence-based, possibly leading to unnecessary deferral of donors.

DESIGN OF THE PROCESS

The work package team took an inventory of and identified similarities and differences in donor selection and protection criteria across Europe. Additionally, the perceived usefulness of these criteria was examined.

For the first task, members of the TRANSPOSE consortium were divided into subgroups in order to collect information on selection and protection of donors for the five included SoHO: whole blood and blood components, plasma for fractionation, tissues, germ cells for assisted reproductive technologies (ART), and stem cells. Teleconferences for each substance of human origin were conducted. Also, one face-to-face workshop with members of the TRANSPOSE work packages 4, 5 and 6 was organized to collect information on the current systems used in Europe.

For the second task, a mixed-methods approach was applied. Semi-structured interviews were held with various stakeholders from Germany, Belgium and the Netherlands (N=9), policy makers (N=6) and donors (N=2) to identify main concepts and areas of concern. Subsequently, based on these interviews, an all-inclusive questionnaire was developed and sent to a total of 163 professionals (40 blood; 40 plasma; 27 tissues; 9 ART; 47 stem cells) from EU Member State organisations, collecting their views on the main concepts and identifying similarities and differences in donor selection and protection criteria across Europe. A total of 39 completed questionnaires were received; blood (12), plasma (7), tissues (4), ART (5), stem cells (13). Where information on specific aspects within or across SoHO was lacking, members of the TRANSPOSE consortium were asked to recommend on these issues.

RESULTS

The interviewed and surveyed professionals agreed that the current DSC are outdated and lack evidence on many aspects, probably leading to unnecessary deferral of donors. They further suggested that DSC should not only be based on scientific evidence but also on group risk-assessment to be more detailed to fit specific groups in order to defer less donors (adaptability). Furthermore, implementing DSC was regarded as easy, usually based on the precautionary principle, while abolishing DSC, when a particular risk can be disregarded, was perceived as almost impossible (flexibility). Additionally, the employed deferral periods were observed as longer than necessary (consistency). Finally, changing legislation into guidance was an often mentioned suggestion to improve the DSC in terms of adaptability, flexibility and consistency.

CONCLUSION

The work package team gathered information on the DSC used in EU Member States, including feedback on issues that may be changed and improved. DSC are perceived redundant on many aspects by most stakeholders. Despite achieving the goal of collecting save and sufficient SoHO for the treatment of patients in Europe, many DSC need to be reassessed in view of both scientific evidence and the current thinking of dedicated professionals.

DEVELOPMENT OF DONOR SELECTION & PROTECTION GUIDELINES – WORK PACKAGE 5

Leader: Copenhagen University Hospital, Region Høvedstaden, Denmark

INTRODUCTIONSS

When contemplating the implementation of new donor selection criteria or reviewing the suitability of current ones, it is important to take into consideration all relevant information and critically evaluate the potential benefits and risks to draw valid conclusions about acceptability. WP5 assessed the current methods and tools for risk assessment via a survey amongst the TRANSPOSE members to gather information on what risk assessment tools are available. Several are summarised in the table below.

Tool name	Organisation	Comments
Risk assessment framework	SaBTO (UK)	In routine use up to 10 years ago. Quite complex.
Eustite (European System for Inspections in Tissue Establishments)	EU	Used by SoHO EU projects for tissues and cells to assess the impact of SARs and SAEs
Eufrat (European up-front risk assessment tool)	ECDC/EU	Quantification of risk of transmission of an emerging infectious agent by transfusion
Cost Utility Tool	ISBT	Performs analysis of blood screening strategies for different test combinations
GREAT (Geographical risk evaluation and assessment tool)	USFDA	Generates geographic risk ranking maps (only available for FDA use)
BRISK (blood risk tool)	USFDA	Provides template for risk assessment models (only available for FDA use)
Risk-based decision-making framework (RBDMF)	Alliance of Blood Operators (ABO)	Provides framework for assessment of any risk to transfusion. May be used as rapid or more comprehensive tool.

Some tools are designed to assess a particular transfusion risk (e.g. transfusion-transmitted infection) and others can be used to assess broader issues in transfusion or transplantation medicine. There are common themes to the tools, in that they prompt gathering of all relevant information so that important considerations are not missed, and they provide a framework to assist in systematic assessment of risk, often using a matrix.

The most well-developed and comprehensive tool widely available is the Alliance of Blood Operators (ABO) Risk-Based Decision-Making Framework (RBDMF) tool. The following steps are required.

1. Preparation: Before undertaking a risk assessment one should become familiar with the underlying principles of risk management and judge what resources will be required to complete the assessment.

2. Problem formulation: In order to achieve a successful outcome, it is very important to define the question being asked accurately and succinctly. Once this is done, one can then identify which types of assessments may be needed in order to come to a conclusion. Assessments may include: blood safety, health economics, operational risk, stakeholder input, ethics and legal issues.

3. Participation strategy: The ABO RBDMF places significant emphasis on the importance of involving stakeholders in the decision-making process. These may include those that may be affected in some way by the outcome and may be professional or patient advocacy groups.

4. Assessments: At this stage the assessments identified in step 2 are undertaken. They will involve gathering all relevant information pertaining to the decision including perceived risks and potential benefits of the change proposed. Both quantitative and qualitative methods may be required.

5. Evaluation: The different risk management options should be evaluated and compared taking into account information gathered from assessments, feedback from stakeholders and the risk the organisation is prepared to tolerate.

6. Decision: Once a decision is reached this needs to be communicated to stakeholders. An implementation plan will be required together with a plan for post-implementation evaluation.

TRANSPOSE RISK-BASED ASSESSMENT METHOD

Due to time and resource restrictions compared to the needed evaluations across different substances of human origin (SoHO), the WP5 team developed and adopted a shorter and simplified version of the ABO RBDMF tool. The TRANSPOSE risk-based assessment method (TRBAM) would allow to do a large number of risk assessments. The TRBAM was also designed to be used for initial evaluation of a risk. Based on this, the need for a more in-depth assessment may be evaluated. This could also serve as a help to health professionals, as it provides a relatively simple risk evaluation method not as time consuming as the methods currently available.

Going through the selected assessment process in a systematic way ensures the capture of all relevant information that will support the decision-making process. If quantitative data is available this will mean that a level of risk can be clearly defined and measured against the organisation's accepted risk tolerability level. Donor and recipient criteria should only be introduced after a proper risk assessment. It is important to use the risk assessment also to identify lack of knowledge and to update the risk assessment as soon as new results are available. Furthermore, biovigilance and haemovigilance data are critical to monitoring and advancing safety of the supplies and therefore should be part of the risk assessments.

Involving stakeholders in the risk assessment process means that officials and/or institutions that may be affected by the decision are able to better understand and accept the issues involved. The level of involvement may vary between just providing information to working in close collaboration with other stakeholders. Involving stakeholders in the risk assessment is important, resulting in a decision-making process that is transparent, science- or evidence-based, and supported by key stakeholders.

MAIN OUTPUT

Firstly, the WP5 team provides a novel risk assessment method, the TRANSPOSE risk-based assessment method (TRBAM), that may be useful in decision-making

processes for the protection and selection of donors. Secondly, using the TRBAM, risk assessments were performed by the WP5 team members. Thirdly, based on the risk assessments performed, the WP5 team proposes selection criteria for donors of substances of human origin, reflecting both evidence from the scientific literature and the opinion of professionals who contributed to WP5. The TRBAM as well as all risk assessments and the proposed donor selection criteria are available in the public domain for general use.

DEVELOPMENT OF A STANDARDISED DONOR HEALTH QUESTIONNAIRE **WORK PACKAGE 6**

Leader: University of Hamburg, Germany

INTRODUCTION

The main responsibility of the Work Package 6 (WP6) team was to develop a standardised donor health questionnaire (DHQ) with country and SoHO (Substance of Human Origin) specific modules. The DHQ was based on the work of Work Package 4, i.e. an inventory of current practices in Europe including the DHQs in place, and of Work Package 5, i.e. proposed criteria for the selection and protection of donors.

DESIGN OF THE PROCESS

WP6 comprised three successive phases: (i) developing a first draft of the DHQ in English, (ii) validating and adopting the standardised DHQ, and (iii) translating it into different languages. The first draft of the standardised DHQ was developed with the help of medical experts covering the different SoHO work fields: whole blood and blood components, plasma-derived medicines, tissues, stem cells, and germ cells for assisted reproductive technologies (ART). These experts were also involved in the validation process. The validation was completed by conducting an online survey targeting donors and potential donors. This approach ensures that the structure and formulation of the questions in the DHQ have the desired effect, i.e. that donors understand the questions and answer them honestly. Finally, translations of the standardised DHQ were done by qualified translators and native speakers.

VALIDATION

The questionnaire was validated in Germany and Austria by means of two online studies. The data was collected with the help of a German market research company. A total of 6,493 adults participated.

In the first study we asked the respondents if they (i) understood each DHQ question and (ii) would truthfully answer the questions. Each respondent was randomly assigned to one of five groups using a between-subject design. The groups were based on the different SoHOs. The questions about understanding ("How understandable is

the question?") and honesty ("How honestly would you answer the question?") were answered on a 7-point scale. According to the answers in terms of honesty and understanding, some questions were revised for the final DHQ. This enabled the opinions of experts as well as those of donors and potential donors to be included in the development of the standardised DHQ.

The second study focused on (i) the mode of administration of the questionnaire (print vs. online), (ii) the arrangement of the questions (subject vs. time) and (iii) the positioning of the general state of health question, i.e. "Are you feeling fit and well enough to donate?" (at the beginning vs. the end of the DHQ). Initially, the DHQ was shown to the respondents, which they had to fill out truthfully. Then general questions about the questionnaire, the emotional state of the respondent, the intention to donate, and the Balanced Inventory of Desirable Responding (BIDR) scale were asked. All questions were answered on a 7-point scale. The results of the second study showed that (i) there are no major differences in the characteristics of the DHQ and (ii) it is not indicated to focus in particular on one of the above-mentioned variants.

STRUCTURE OF THE DONOR HEALTH QUESTIONNAIRE

The standardised DHQ was developed as a construction kit, which is divided into 12 subject areas and consists of a total of 55 questions. The subject areas include (1) general questions, (2) questions about the donors' health, (3) questions about previous donations, transfusions, and transplantations, (4) questions about lifestyle and background, (5) questions about the travelling history, (6) questions about risk behaviour, (7) questions that refer only to men, (8) questions that refer only to women, (9) questions about fertility, (10) questions about offspring, (11) questions about the appearance, and (12) some final questions.

FLEXIBILITY AND APPLICABILITY

The standardised DHQ contains all questions considered relevant for donors of whole blood and blood components, plasma for fractionation, stem cells, tissues, and germ cells for ART. Since not all questions are relevant for all SoHOs, the relevant questions are marked with a cross in the standardised DHQ. It should be noted that the order of the subject areas and of the questions is flexible and thus may be adjusted.

The standardised DHQ is as short as possible, as a shorter questionnaire ensures that donors fill it in more carefully and no redundant questions must be answered by donors. The questionnaire also allows to check the consistent response behaviour of donors. For instance, if a donor answers yes to the question of whether he or she feels fit and well enough to donate but indicates in the medication question that he or she is taking painkillers, it implies inconsistent response behaviour.

In order to keep the safety for donor and recipient as high as possible, it is important to ensure that the donors show consistent response behaviour. One way to achieve this is to add explanations (written or verbal) to the DHQ to make the content and the importance of the questions clear. Donors need to understand why dishonest answers pose a risk to themselves and/or the recipients.

CONCLUSION

Generally, respondents experienced no major difficulties in filling out the proposed version of the DHQ and the overall attitude towards the DHQ is positive. The DHQ is well understood with a low tendency to noncompliance. The standardised DHQ is available in English, French, German, Italian, Spanish and Dutch, and can easily be translated into other languages.

TRAINING THE USE OF DONOR SELECTION CRITERIA & QUESTIONNAIRE – **WORK PACKAGE 7**

Leader: Sanquin Blood Supply Foundation, The Netherlands & Italian National Blood Centre (CNS-ISS), Italy

INTRODUCTION

The purpose and responsibility of the Work Package 7 (WP7) team was to develop a specific training program for healthcare professionals in order to (i) inform and teach them about donor selection criteria in relation to the standardised donor health questionnaire (DHQ), and (ii) make them aware of important do's and don'ts in selecting and protecting donors of substances of human origin (SoHO). The learning objectives should of course be closely aligned with the output of Work Package 5 (WP5) and Work Package 6 (WP6), i.e. the proposed donor selection criteria and the standardised DHQ.

DESIGN OF THE PROCESS

The process of developing a training program started with a brainstorming session in December 2018 to gather and discuss ideas of professionals from different fields, including their expert view on both the most educational content and the preferred tools of the training program. These were then discussed with the WP5 and WP6 members during a face-to-face meeting in April 2019 to validate them in terms of relevance and feasibility, followed by monthly teleconferences in which WP7 members further prepared the training program concept. Subsequently, during a face-to-face meeting in September 2019, the training program concept was adopted. Then the educational content and tools of the training program were created based on the output of WP5 and WP6, including several informative and educational webinars that were completed in February 2020.

TRAINING PROGRAM

The WP7 team focused on attractive methods of education, consisting of two structured educational blocks. In the first block, the criteria for the selection and protection of donors are clarified, also addressing the process of risk-based decision-making. In the second block, the practicability of donor selection criteria are discussed. Webinars were created to explain risk assessment methodology in general and specific donor selection issues in particular.

LAUNCH AND DISSEMINATION OF THE TRAINING PROGRAM

The official launch and dissemination of the training program takes place in a plenary session at the TRANSPOSE Education and Dissemination Workshop on February 24-25, 2020. The training materials, as developed by the WP7 team, become publicly available on the TRANSPOSE website after the workshop.

CONCLUSION

Hard work pays off. After two-and-a-half years successful European collaboration the TRANSPOSE project has been completed, providing valuable deliverables, useful insights and new perspectives to the selection and protection of donors of substances of human origin.

Without any doubt, donors are a crucial link in the transfusion and transplantation chain. They save many lives and they increase the quality of life of many patients. Donors also help people to overcome infertility or subfertility by donating germ cells.

It should however be noted that many issues in donor medicine are complicated and they remain, more or less, controversial where an evidence base is lacking. Therefore, further high-quality research is needed to optimize and improve donor selection policies, serving the interests of donors as well as recipients.

With many thanks for the commitment of all partners, stakeholders, researchers and dedicated professionals, who contributed to the TRANSPOSE project, we sincerely hope that the TRANSPOSE project outcomes pave the way in Europe for next steps both in protecting donors and in ensuring a safe and sufficient supply of whole blood and blood components, plasma for fractionation, tissues, germ cells for assisted reproductive technologies, and stem cells.

TRANSPOSE Coordinators

AUSTRIAN RED CROSS

AVIS
ASSOCIAZIONE VOLONTARI ITALIANI SANGUE

Aarhus Universitetshospital

Banc de Sang i Teixits

bioef
basque foundation for health innovation and research

NHS
Blood and Transplant

Blutspendedienst
des Bayerischen Roten Kreuzes

Centro Nazionale Sangue
Istituto Superiore di Sanità

CSL Plasma

EFS
ÉTABLISSEMENT FRANÇAIS DU SANG

IPST
Instituto Português do Sangue e da Transplantação, IP

NACIONALINIS KRAUJO CENTRAS

Malta
National Blood Transfusion Service

NHS
National Services Scotland

Punainen Risti

Region Hovedstaden

Regionaalhaigla

Sanquin
Blood Supply

Stockholms läns landsting

TRIP
Hemo-en biovigilantie

Universitätsklinikum Hamburg-Eppendorf

Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

UNIVERSITY OF CAMBRIDGE

Zavod Republike Slovenije za transfuzijsko medicino
Blood Transfusion Centre of Slovenia