



# University teaching of transfusion

**Joint UK NEQAS BTLP/BBTS Blood Bank Technology SIG Annual meeting  
November 2025**

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Education development lead - NHSBT



Why are we looking into university teaching of transfusion?



What are the concerns?



Where is the evidence?



Who are we working with?



How can we improve the transfusion content at universities?

# Timeline

2019



Stronger Patient Blood Management  
Collaboration



Increased Transfusion Laboratory Safety



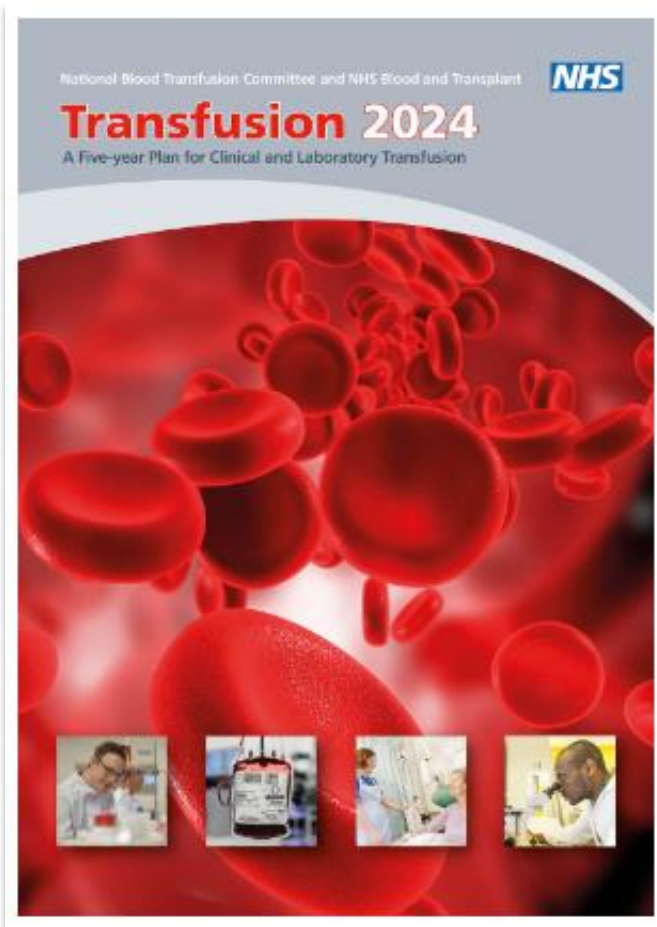
Enhanced Information Technology



Further Research and Innovation

# Timeline

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# Timeline

2020



Blood Management

Transfusion Laboratory Safety

Information Technology

Research and Innovation

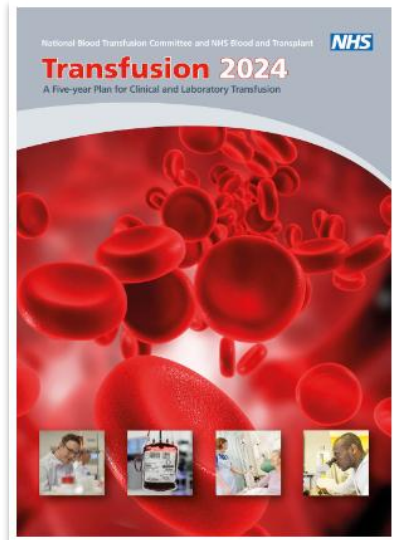
NHS

Blood and Transplant



# 3 T2024 Scientific projects

2023



1

Training and knowledge needs / gap analysis  
Hospital Transfusion Laboratory's

2

Develop a one stop shop for already existing  
transfusion resources



3

Review transfusion content in undergraduate  
Biomedical Science degree courses



2022

## UKTLC Survey



45 questions

### Key themes

1. Staffing
2. Qualifications, knowledge and skills
3. Information Technology
4. Just Culture

2022

# UKTLC Survey



## 2. Qualifications, knowledge and skills

What is your grade of satisfaction with the level of education (knowledge and understanding) of newly HCPC registered BMS of blood transfusion?

Majority of respondents not satisfied with the level of education

Respondents felt that the level of education relating to transfusion in newly qualified HCPC registered BMS was poor





2022

# UKTLC Survey



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TRAINING

2022

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## TRAINING

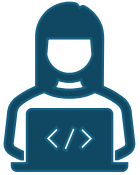
71.6% also stated that the ability to train/mentor inexperienced staff has become more difficult



# Has it changed in 2025?

2023/24

## T2024 Project - Review transfusion content in undergraduate Biomedical Science degree courses – Survey (MS Forms)



### Undergraduate Biomedical Science degree - Transfusion content - short survey

January 2024

This short survey is designed to help NHSBT gain a better understanding of the Transfusion Science content provided by Universities for all IBMS accredited undergraduate Biomedical Science degree courses in the UK. All results will be kept anonymous. Thank you for your participation.





What do we want to know about the transfusion content delivered in our Biomedical Science degree courses?



Is transfusion taught as part of every IBMS accredited Biomedical Science degree?



Is the content standardised?  
How much time is dedicated to transfusion?



Who delivers the content? Are any experts involved?



Can we improve it? Who will help?  
How can we measure success?





# Undergraduate provision survey summary

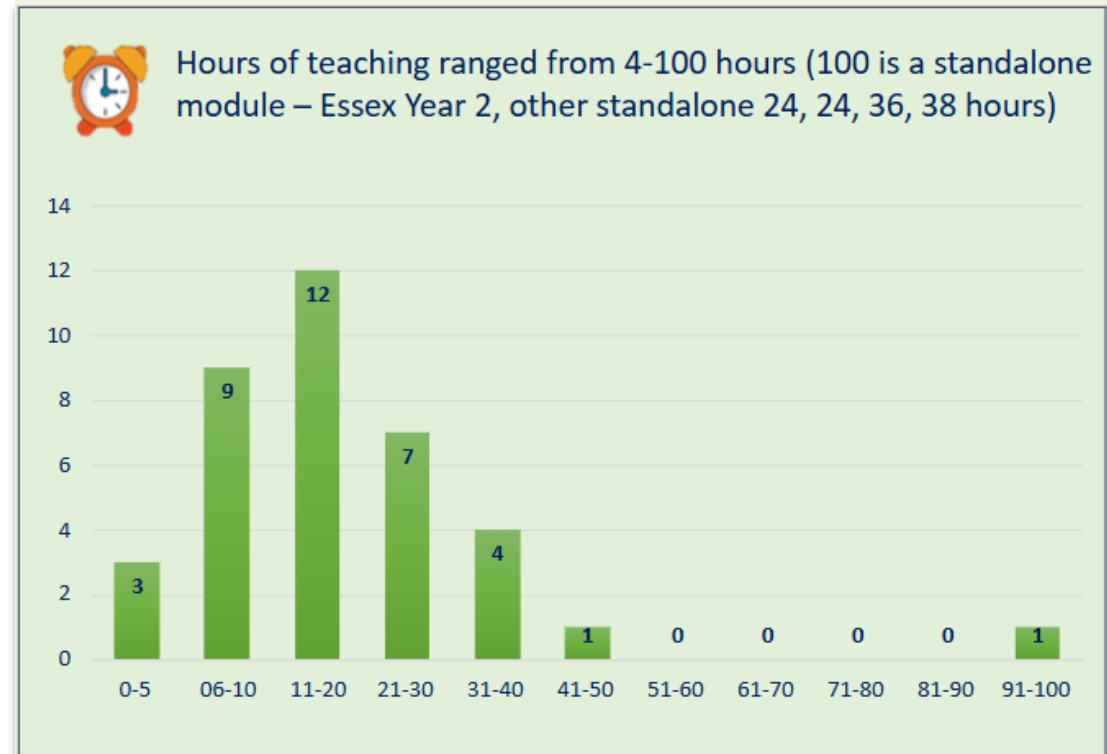
## Survey sent to all IBMS accredited Biomedical Science degree courses via IBMS

- 53 universities contacted
- 37 responded – 70% response rate
- 31 England, 4 Scotland, 1 Northern Ireland, 1 Wales
- Average time to complete = 12 minutes

**81%** (30/37) teach transfusion as part of another mandatory module (Haematology)

**13%** (5/37) have a standalone mandatory module.

**89%** (33/37) included a practical session. Where no practical was offered there was no facility or no lecturer available.

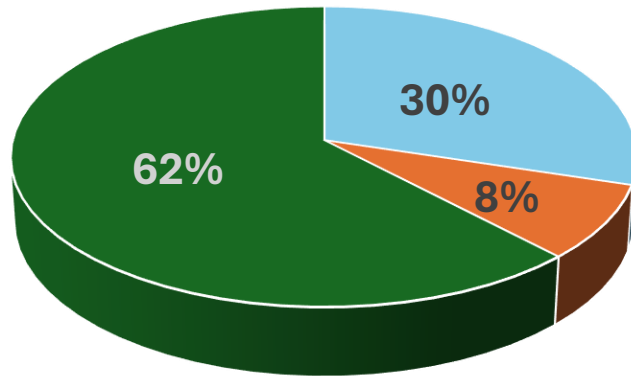




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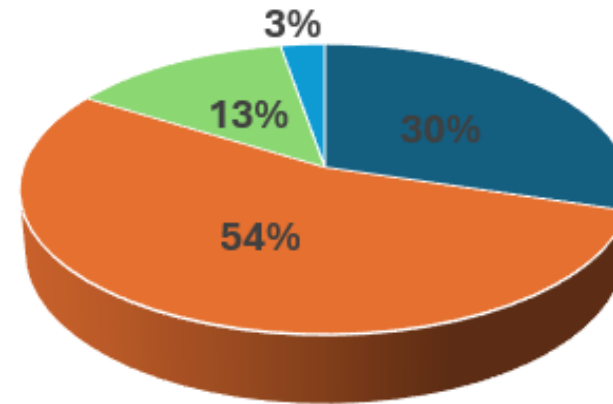
## Who delivers the content?

- University lecturer only
- External Specialist
- Combination lecturer/specialist



**62%** of transfusion content is delivered as a combination of lecturer and specialist. **30%** with no external teaching/input. **8%** external specialist.

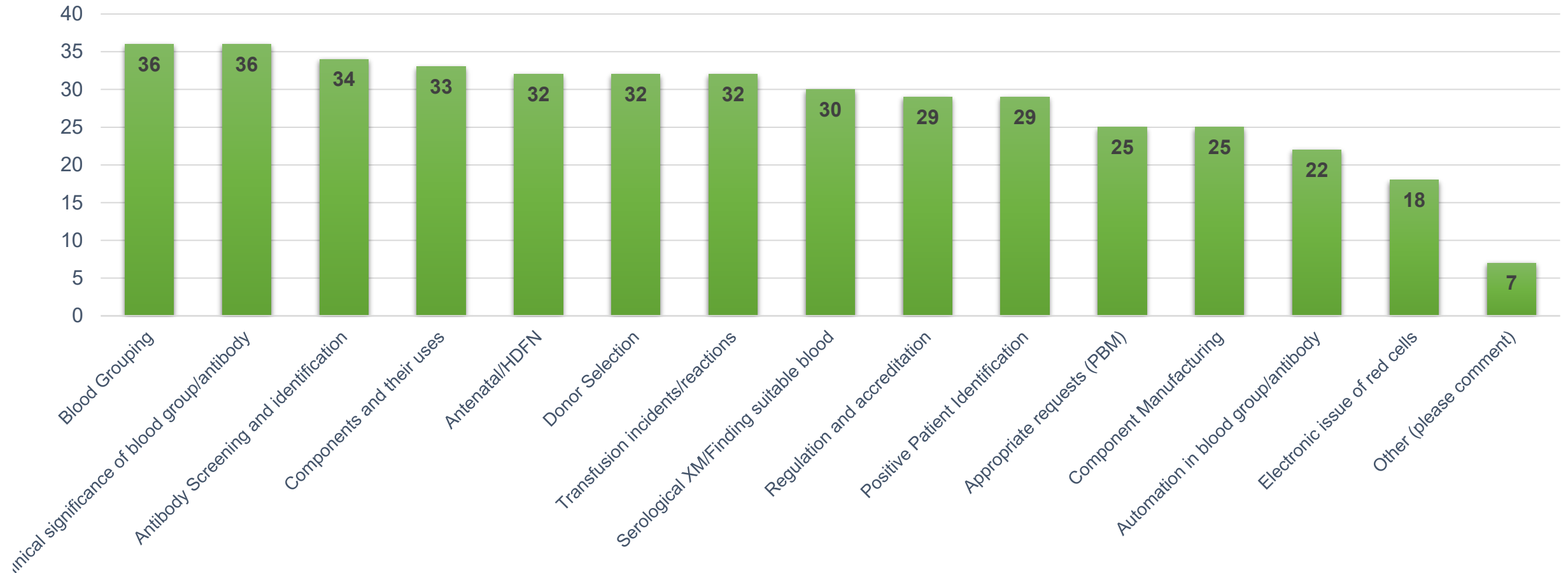
## If an external specialist delivers content on the course, where is their main/ alternate place of employment?



- 54%** of the external specialists work within an NHS laboratory
- 13%** work within NHSBT
- 3%** are retired NHS staff
- 30%** No external teaching

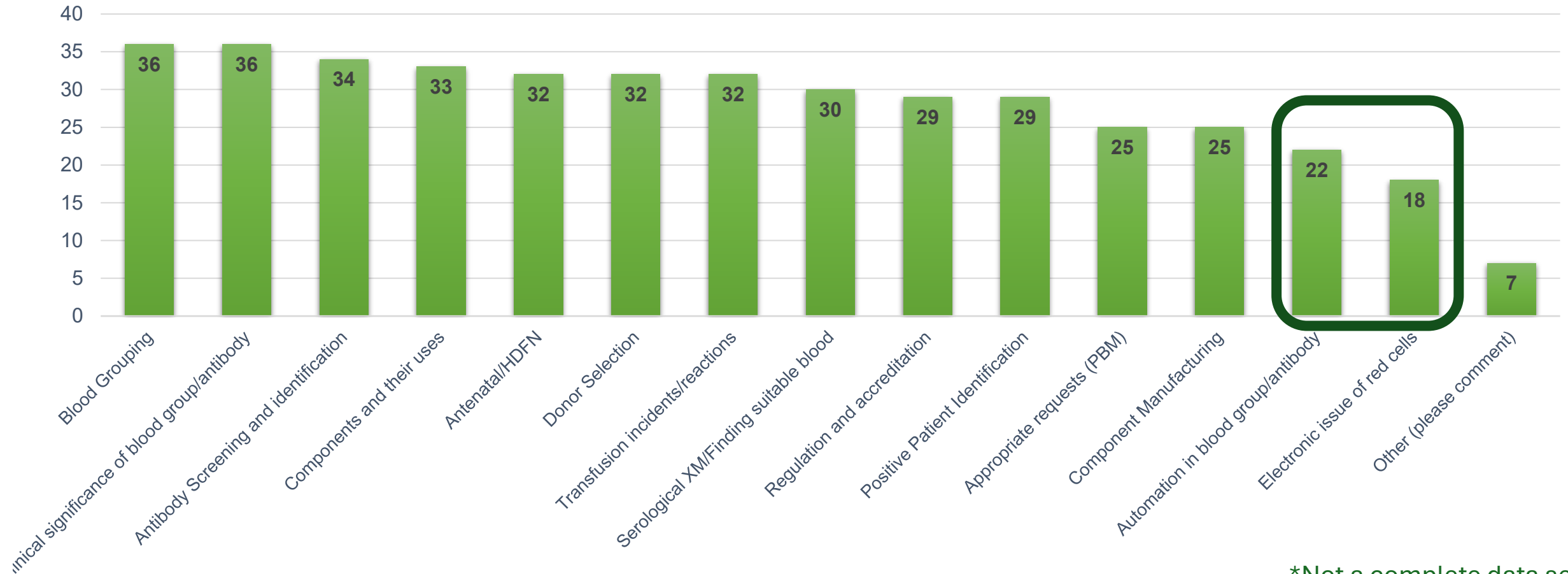


# Undergraduate provision survey summary





# Undergraduate provision survey summary



\*Not a complete data set



# Undergraduate provision survey summary

## QAA Standards



### Subject Benchmark Statement

Biomedical Science  
and Biomedical Sciences

March 2023



*Transfusion science is the identification of blood group antigens and antibodies which ensures a safe supply of blood and blood components.*

*A Biomedical Science graduate will have knowledge of:*

- *interpretation of blood groups*
- *causes of blood group anomalies*
- *antibody screening*
- *the genetics, inheritance, structure and role of red cell antigens*
- *immune-mediated destruction of blood cells*
- *the preparation, storage and use of blood components*
- *patient blood management*
- *the selection of appropriate blood components for transfusion and possible adverse effects.*

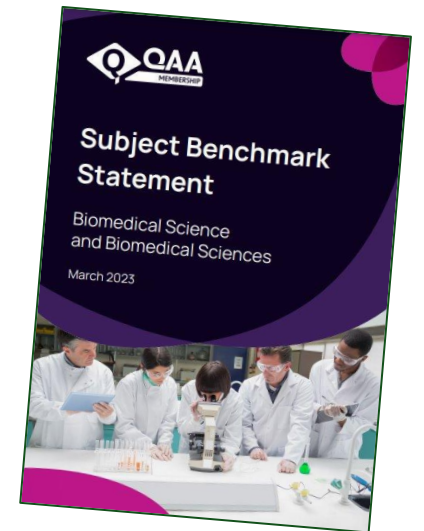


# Undergraduate provision survey summary

## Are the QAA standards being met?

*A Biomedical Science graduate will have knowledge of:*

- *interpretation of blood groups (36/37 = **97%**)*
- *causes of blood group anomalies (36/37 = **97%**)*
- *antibody screening (34/37 = **92%**)*
- *the genetics, inheritance, structure and role of red cell antigens (Did not ask)*
- *immune-mediated destruction of blood cells (Did not ask)*
- *the preparation, storage and use of blood components (33/37 = **89%**)*
- *patient blood management (25/37 = **68%**)*
- *selection of appropriate blood components for transfusion (30/37 = **81%**)*
- *possible adverse effects (32/37 = **86%**)*







# Undergraduate provision survey summary

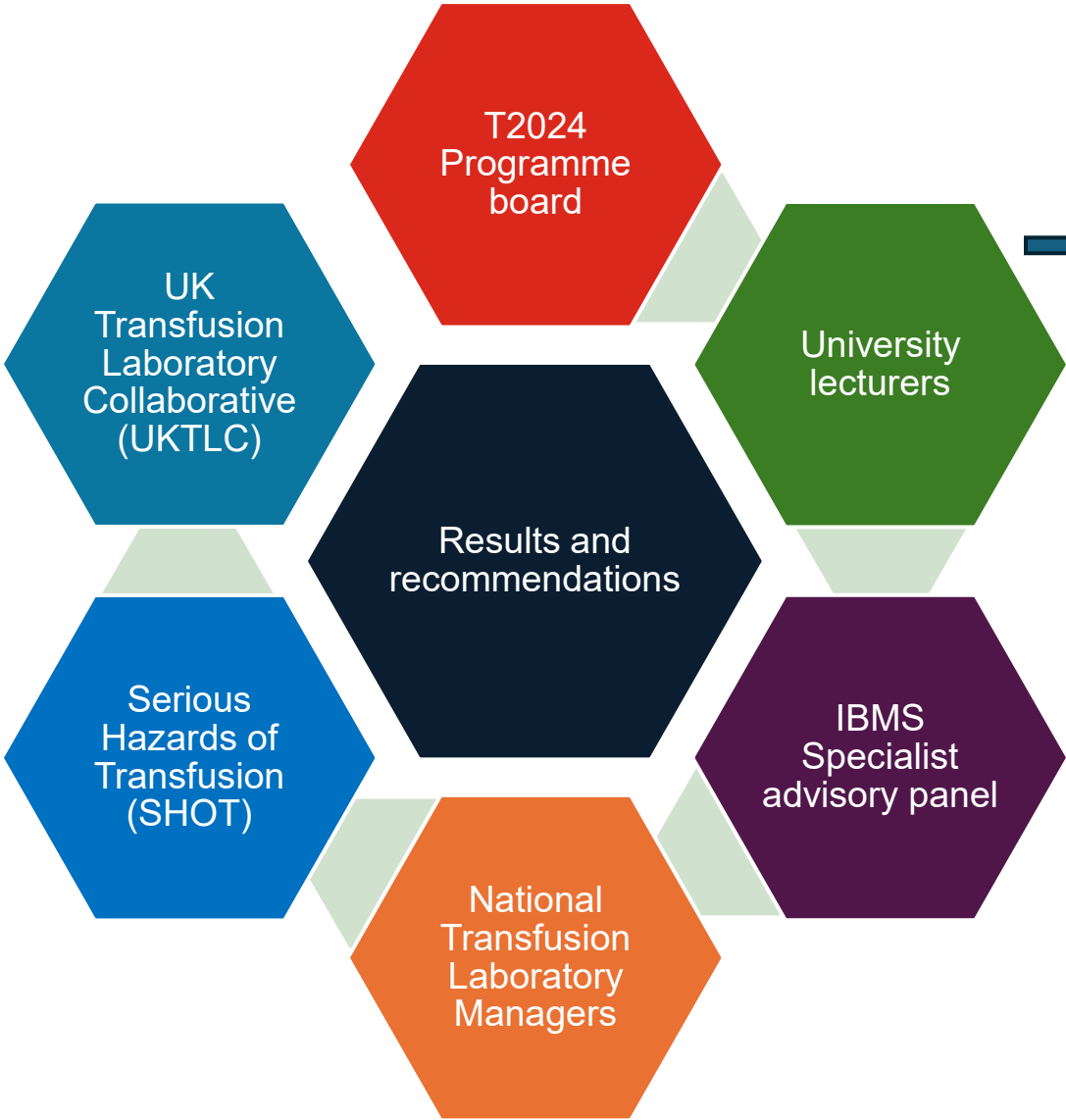
If NHSBT were to provide a slide deck on transfusion topics relevant to working as a Biomedical Scientist, would you find this a useful teaching aid?

100% - Yes



# Provided feedback from survey

2024



May 2024

2024

# Infected blood inquiry



2024

## Infected blood inquiry – recommendation 7d



- All staff likely to be involved in blood transfusions need to have basic knowledge of..
  - Blood components
  - Indications for use
  - Alternative options where available
  - Risks and benefits
  - Possible reactions and management
- *That those bodies concerned with undergraduate and postgraduate training across the UK of those people who are, or intend to be, working in the NHS ensure that they are adequately trained in transfusion.*

# What next?





NHSBT to develop a  
**support package**  
for university  
lecturers – not to  
replace lectures



**Collaboration**  
with key  
stakeholders



University  
input vital for  
**knowledge**  
and rollout



Satisfy **QAA and IBI**  
7d recommendation



IBMS  
**approval**  
vital



Develop a working group to discuss next steps for undergraduate provision





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- **University lecturers** – who provided their email and taught >20 hours of transfusion?





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- **University lecturers** – who provided their email and taught >20 hours of transfusion?
- **Transfusion lab managers** who deliver content to ensure expertise
- **NHSBT subject matter experts** for expertise and to take into BAU
- **IBMS** – to be onboard with our review





# University engagement – 17 universities (UK)

- Sunderland University
- University of Kent
- University of Staffordshire
- Leeds Beckett University
- Essex University
- Middlesex University
- University of Lincoln
- Manchester Metropolitan University
- University of Bedfordshire
- Keele University
- Salford University
- Abertay University
- Ulster University
- Bangor University
- Cwm Taf Morgannwg UHB
- Cardiff and Vale UHB
- Cardiff Metropolitan University



# The story so far.....

4 Meetings  
so far  
(quarterly)  
ToR agreed  
- 17 uni's  
- 5 NHSBT  
- IBMS



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Agreed on  
Transfusion  
topics to  
cover (10) –  
QAA/IBI



1. Blood group systems
2. Red cell antibodies
3. Blood services and donation
4. Blood components and products
5. Compatibility testing and automation
6. Patient blood management
7. Antenatal testing and HDFN
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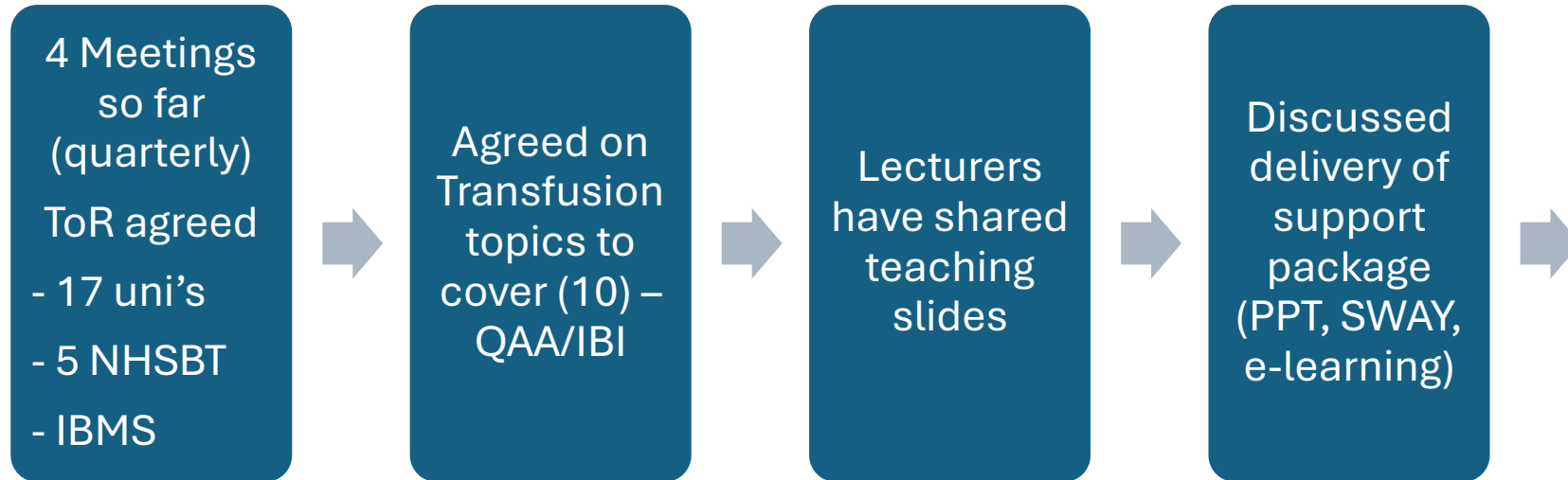
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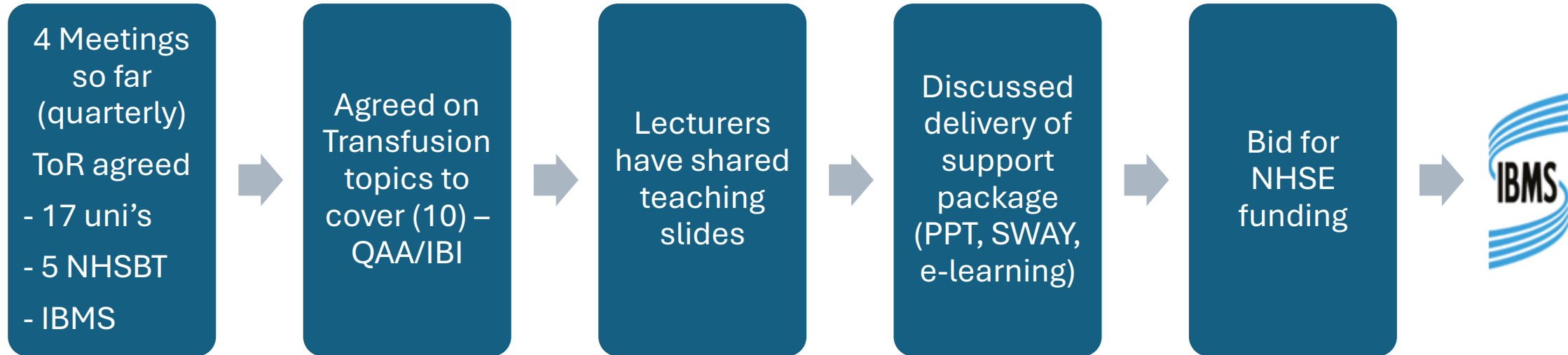
Lecturers  
have shared  
teaching  
slides



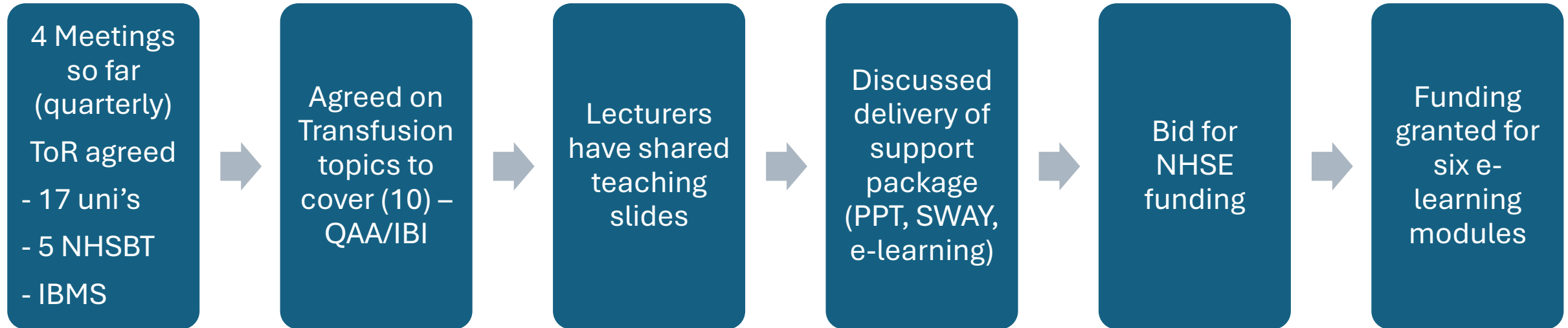
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# Why six?



10 topics to be covered in  
degree course

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## Already available on eLfH platform / NHSBT / SHOT

1. Blood group systems
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## 6 Modules submitted and agreed

1. Blood group systems
2. Red cell antibodies
3. Compatibility testing and automation
4. Antenatal and neonatal testing in transfusion
5. Blood services and the supply chain
6. Regulation and governance in transfusion



# *The approach*



Fun, interactive modules to help solidify knowledge – relate it to **BMS work** (real life scenarios) – promote the profession and **include patients/scenarios**

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**Feedback from lecturers and students** prior to release. Rollout by Undergraduate provision working group / help to embed into practice.

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**Communication plan for wider audience** – HTL's to gain access for new BMS, AP, apprentice, trainees

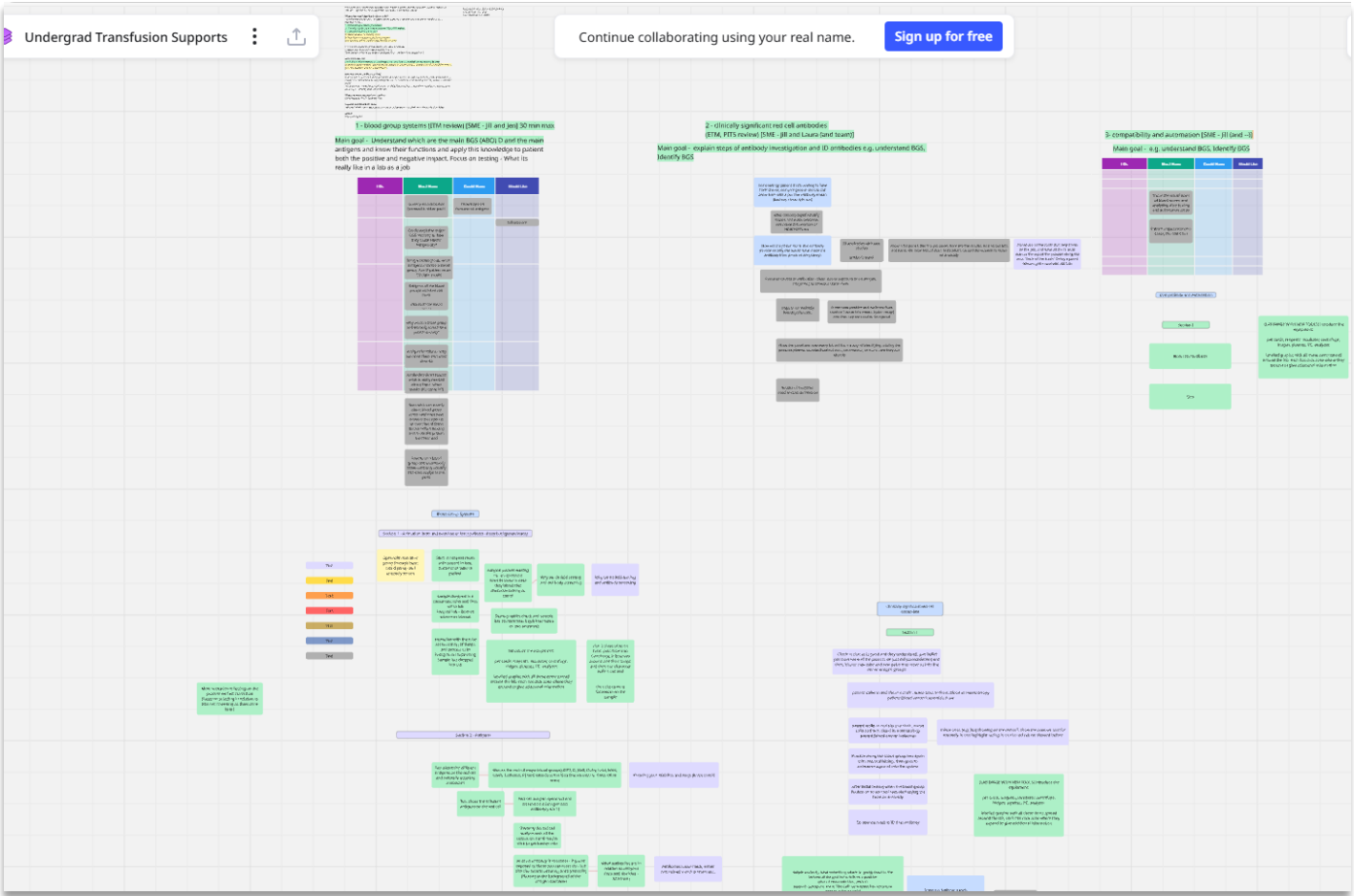


# Where are we at?

2025

## Working with digital team and SME's - Building story boards for first 3 modules

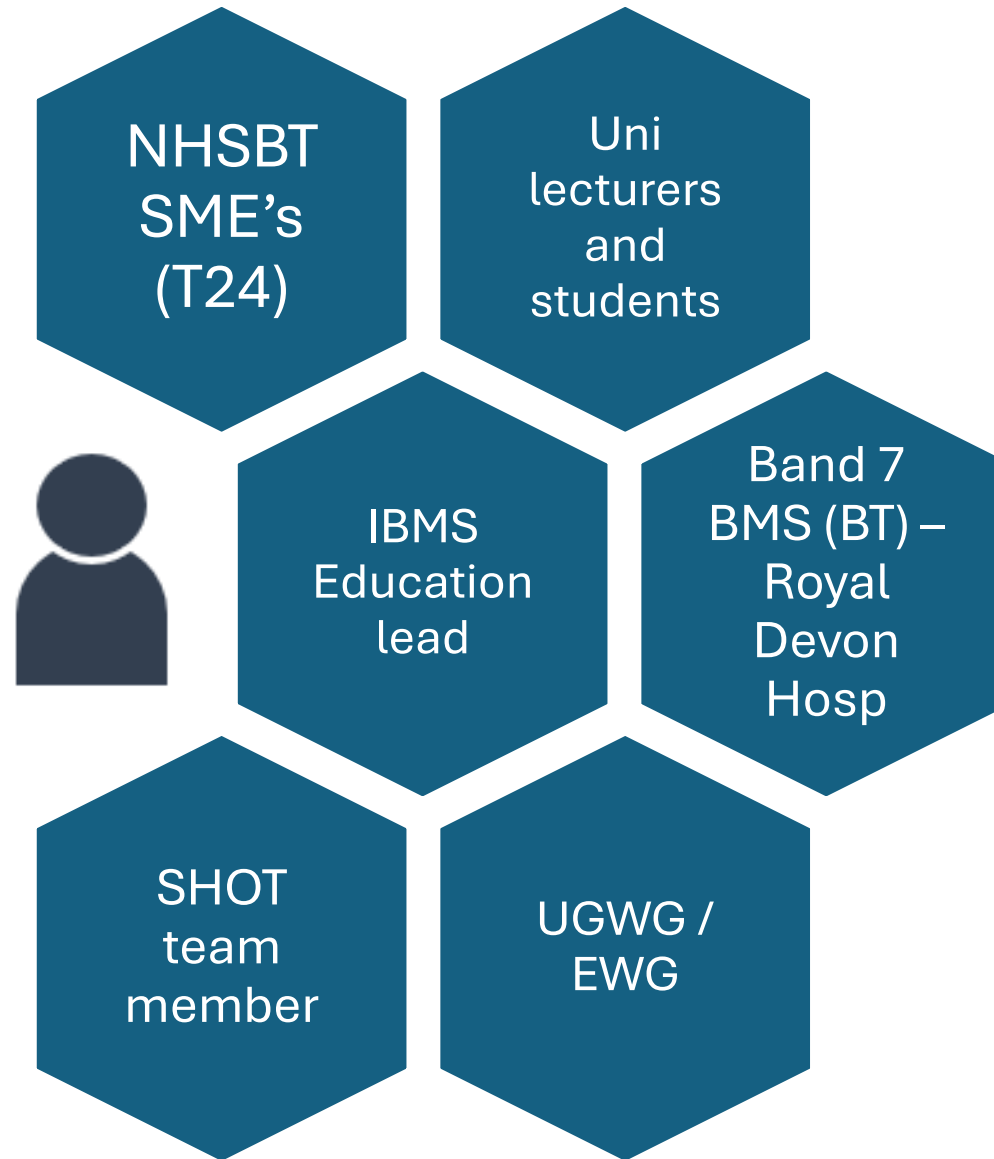
- Introduction to blood group systems
- Introduction to red cells antibodies
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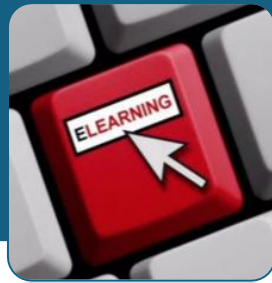
Steering group and stakeholders have been agreed



# Where are we at?

2026

First 3 modules  
complete by end  
March 2026



Begin work on  
next 3 modules  
for 2026/27



Communication  
plan and roll out  
for Uni's and  
hospitals (2027)



# Where are we at?

2027



R  
C  
M

munication  
and roll out  
and  
als (2027)

# And finally

2027

## ....evaluation and measurement of success

### University – Increase understanding

- Lecturer feedback
- Student feedback

### Hospitals – Application of knowledge

- Lab manager feedback
- Staff feedback

### National – Improved level of satisfaction

- Surveys ? UKTLC, NHSBT





Thank you – any questions?