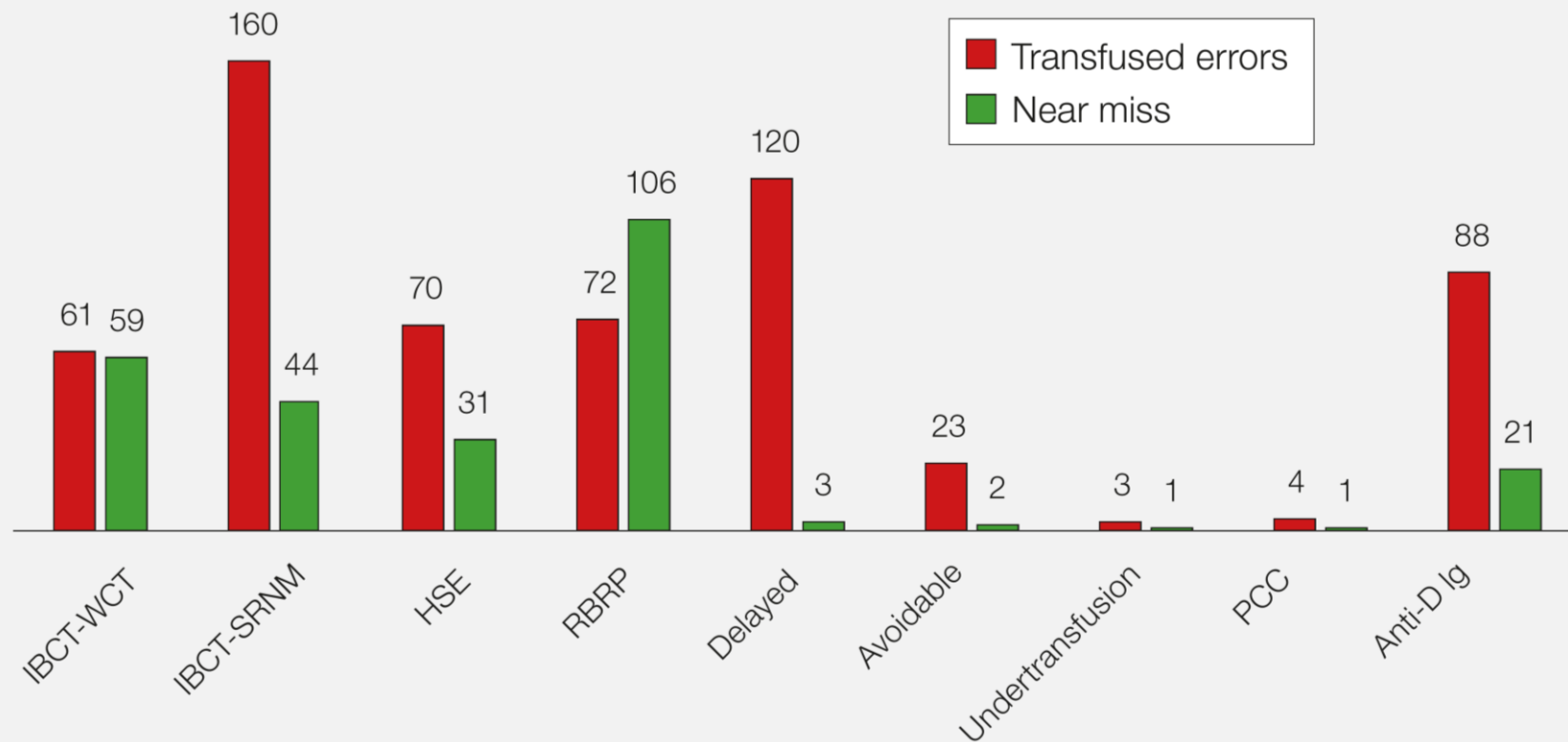


Laboratory Errors

FIGURES FROM THE ANNUAL SHOT REPORTS 2019-2024

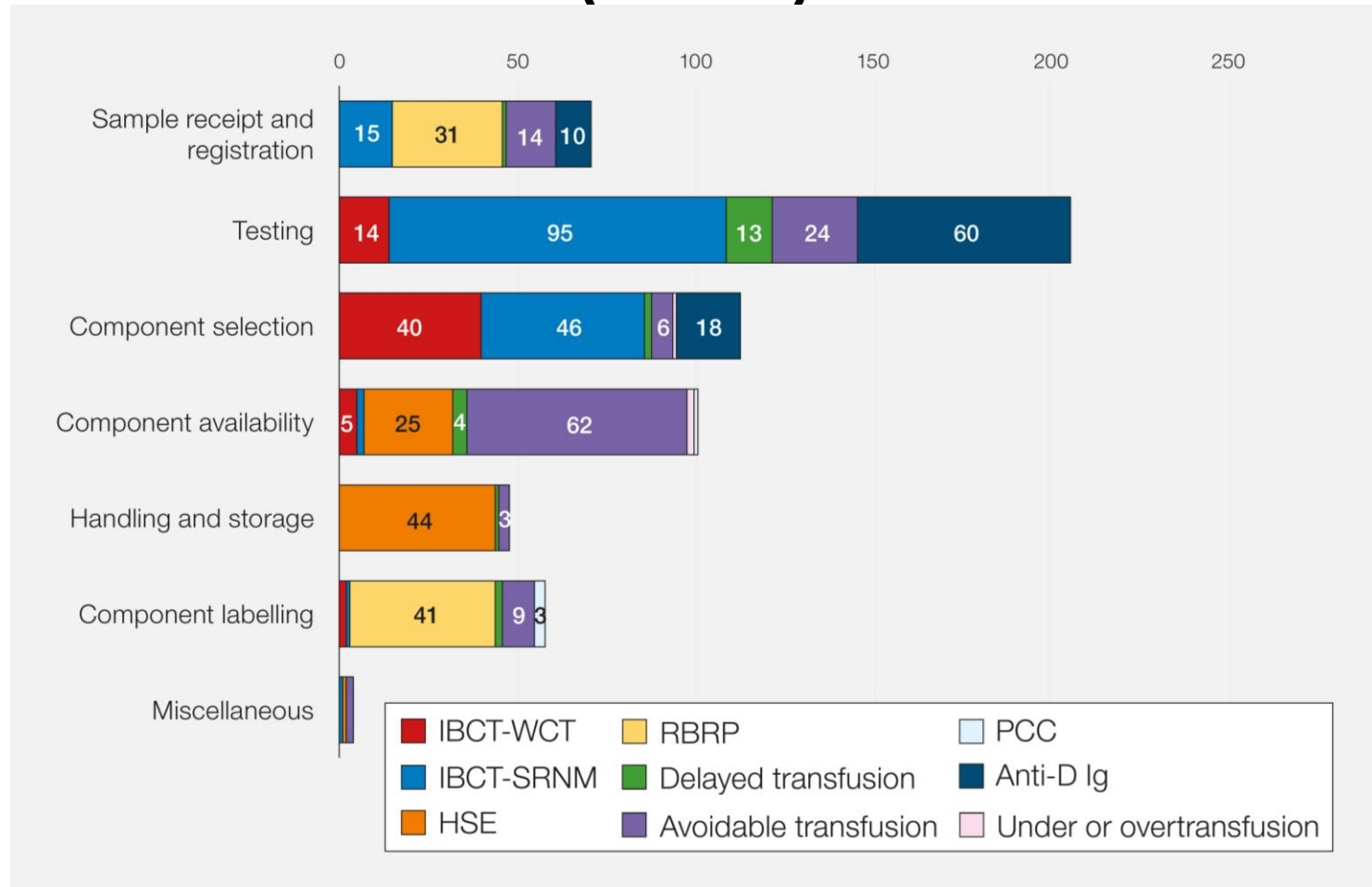
You are free to use these slides in your teaching material or other presentations, but please do not alter the details as the copyright to this material belongs to SHOT

Laboratory errors and near misses in 2024 (n=869)



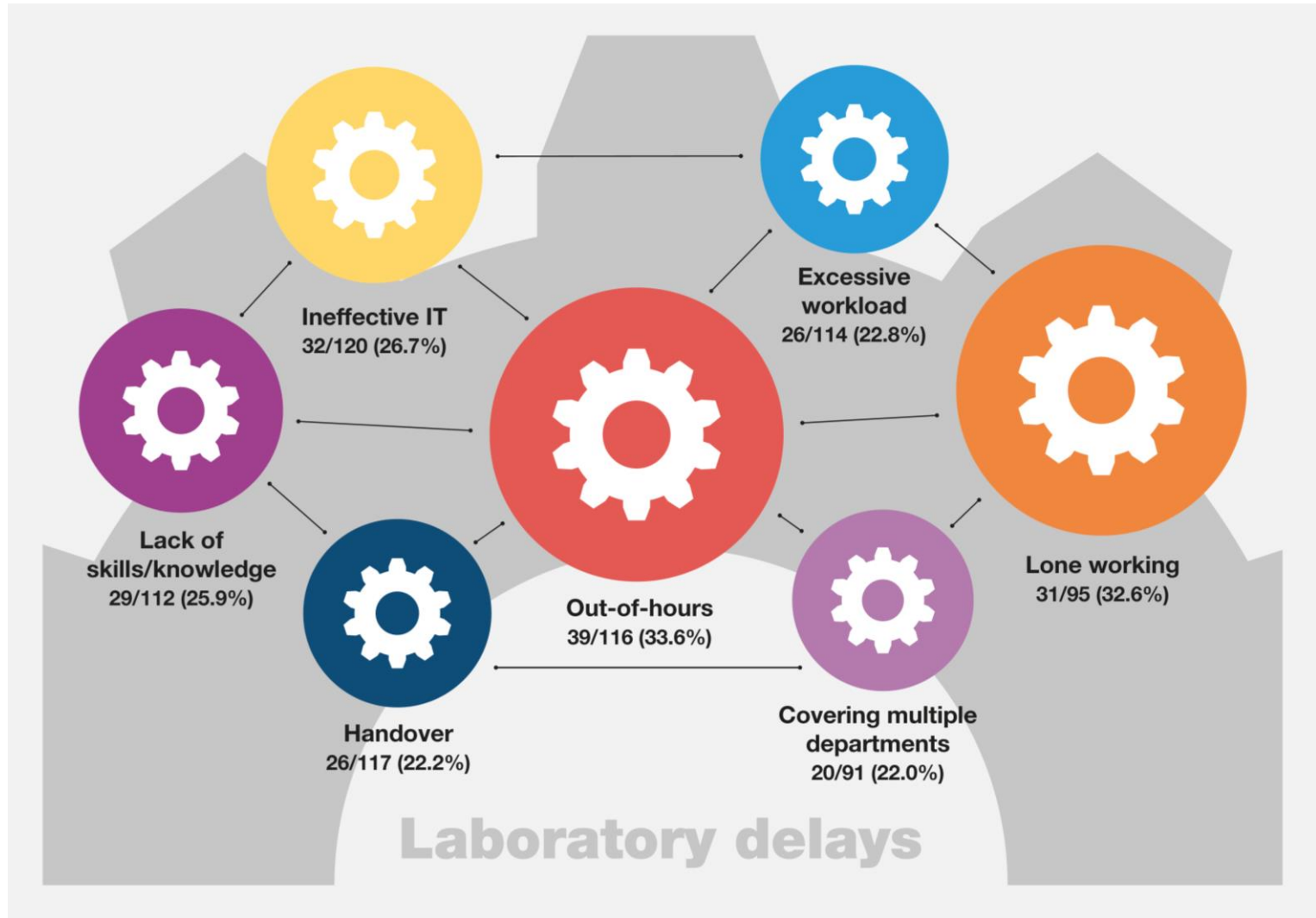
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

Laboratory errors in 2024, classified by the transfusion step where the primary error occurred (n=601)



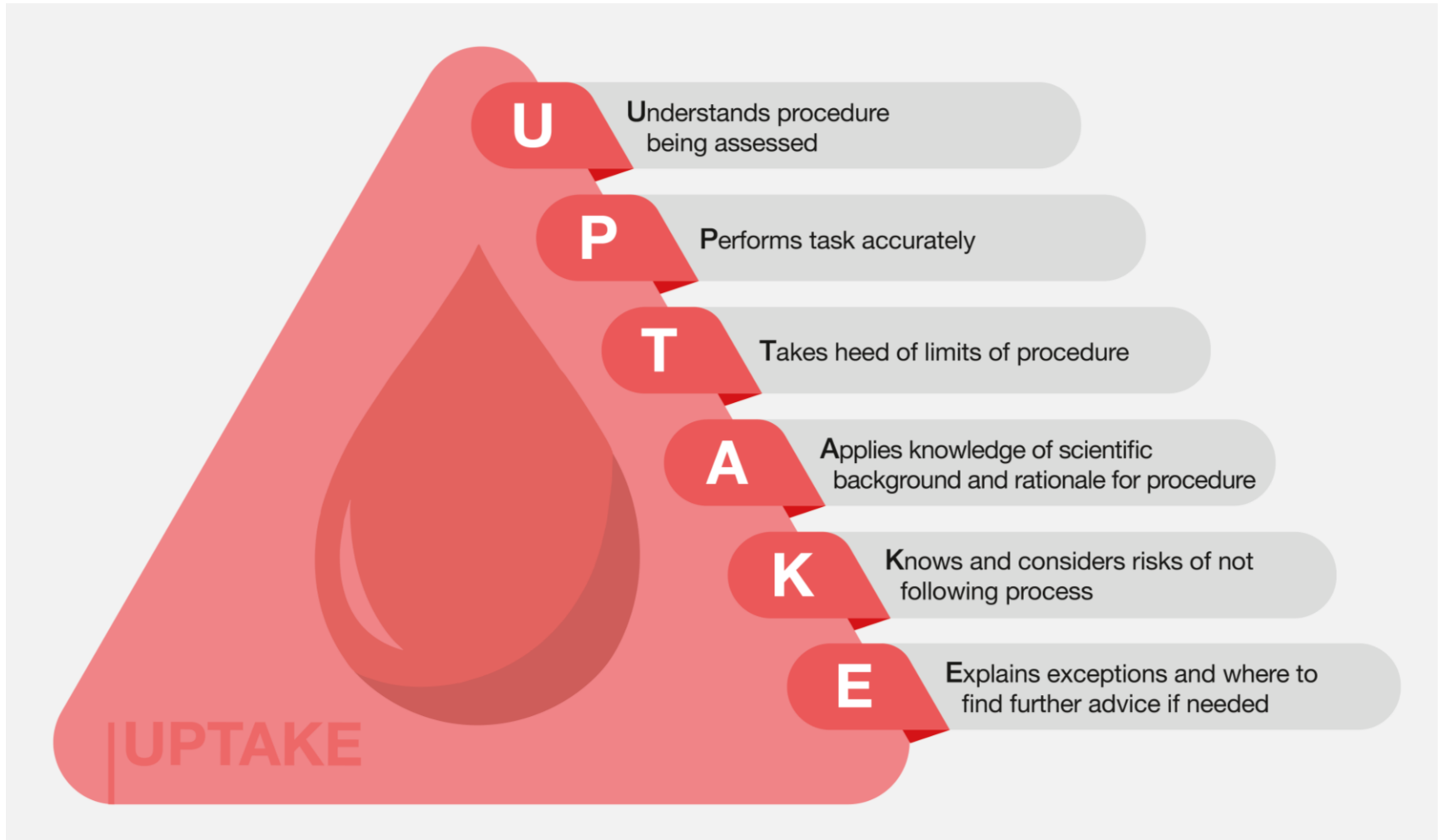
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin Note: numbers <3 are too small to be annotated on the figure

Factors interacting to contribute to laboratory delays in 2024



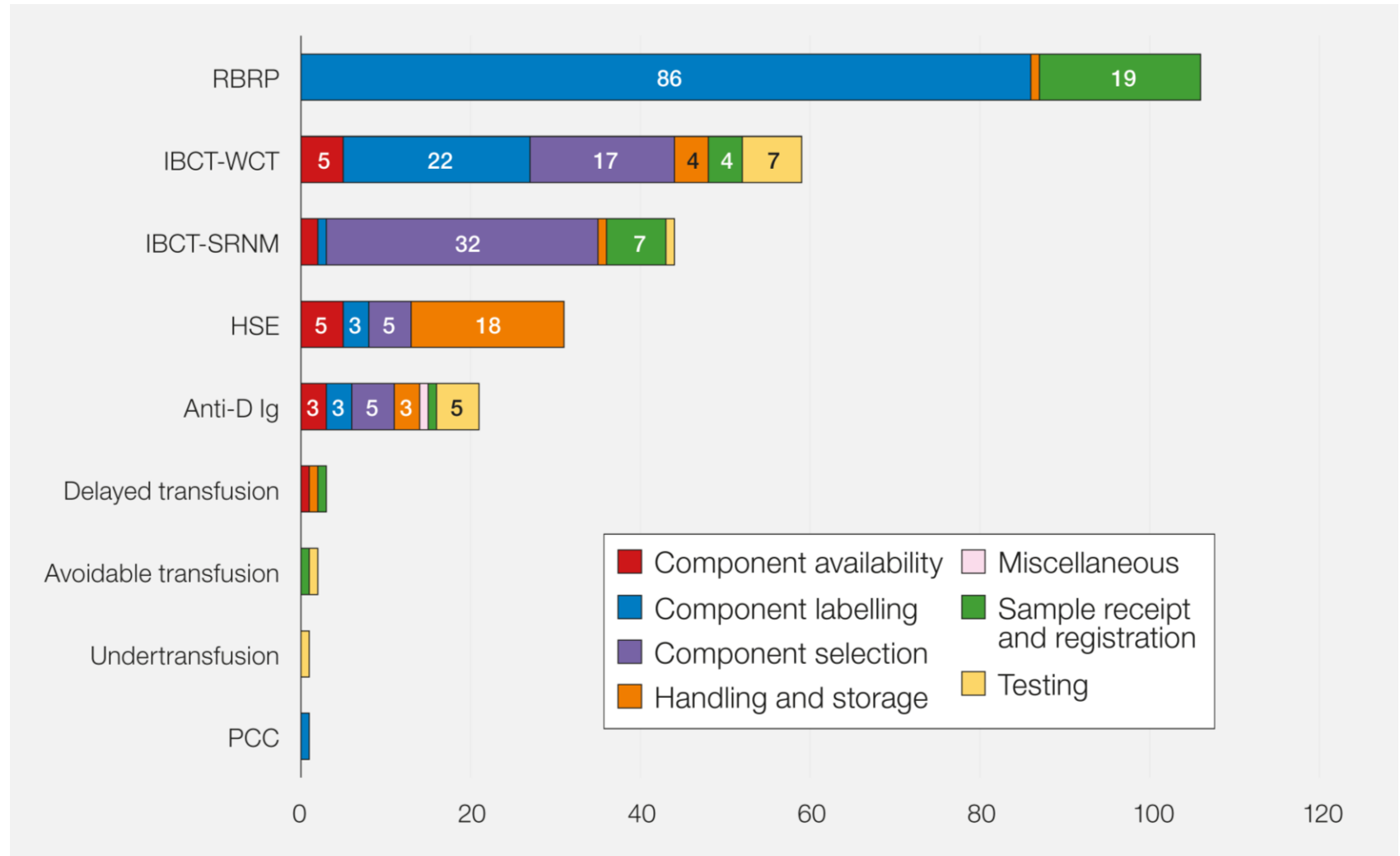
IT=information technology

UPTAKE competency assessment model 2024



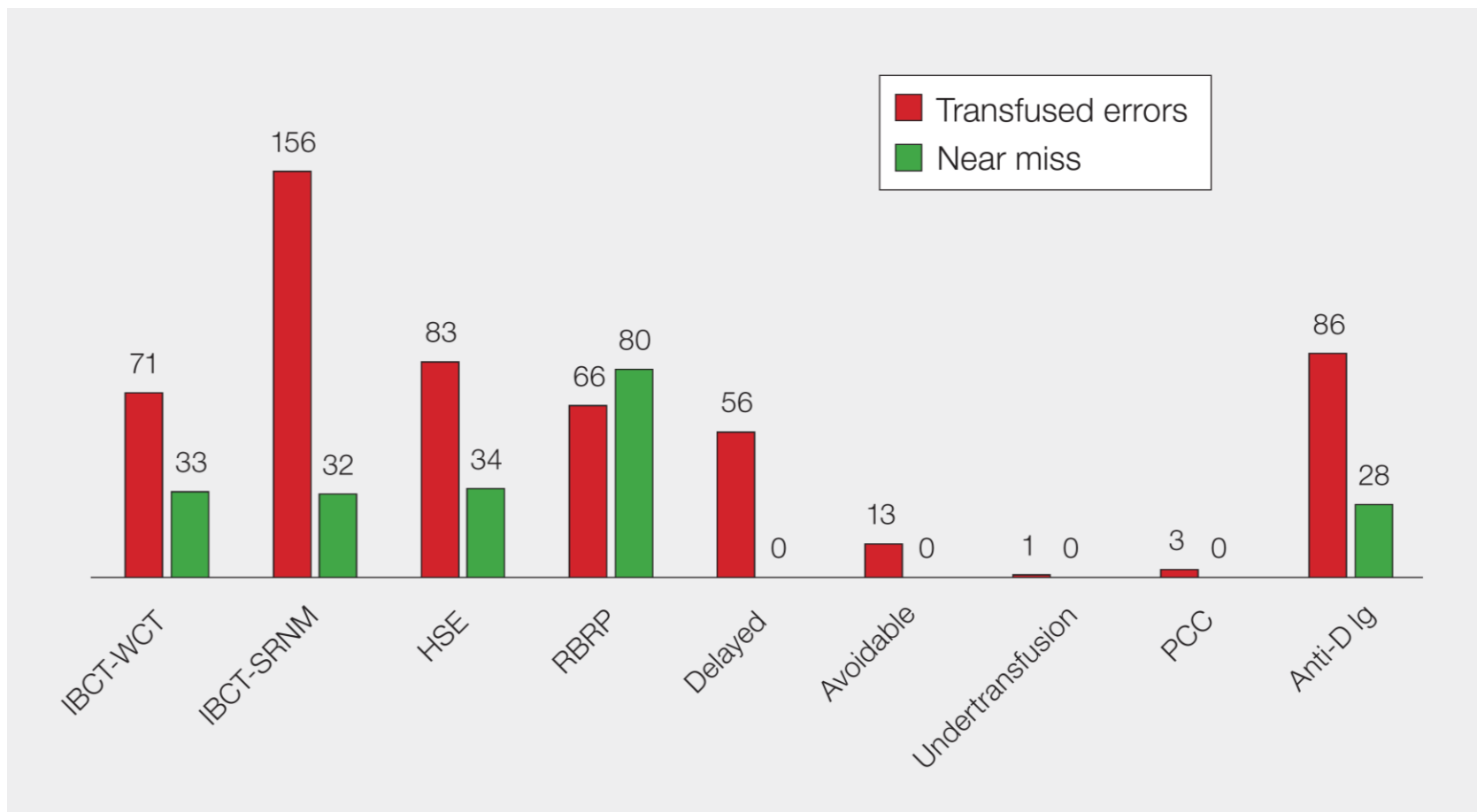
<https://www.shotuk.org/resources/uptake-competency-assessment/>

Laboratory NM classified by the transfusion step where the primary error occurred in 2024 (n=268)



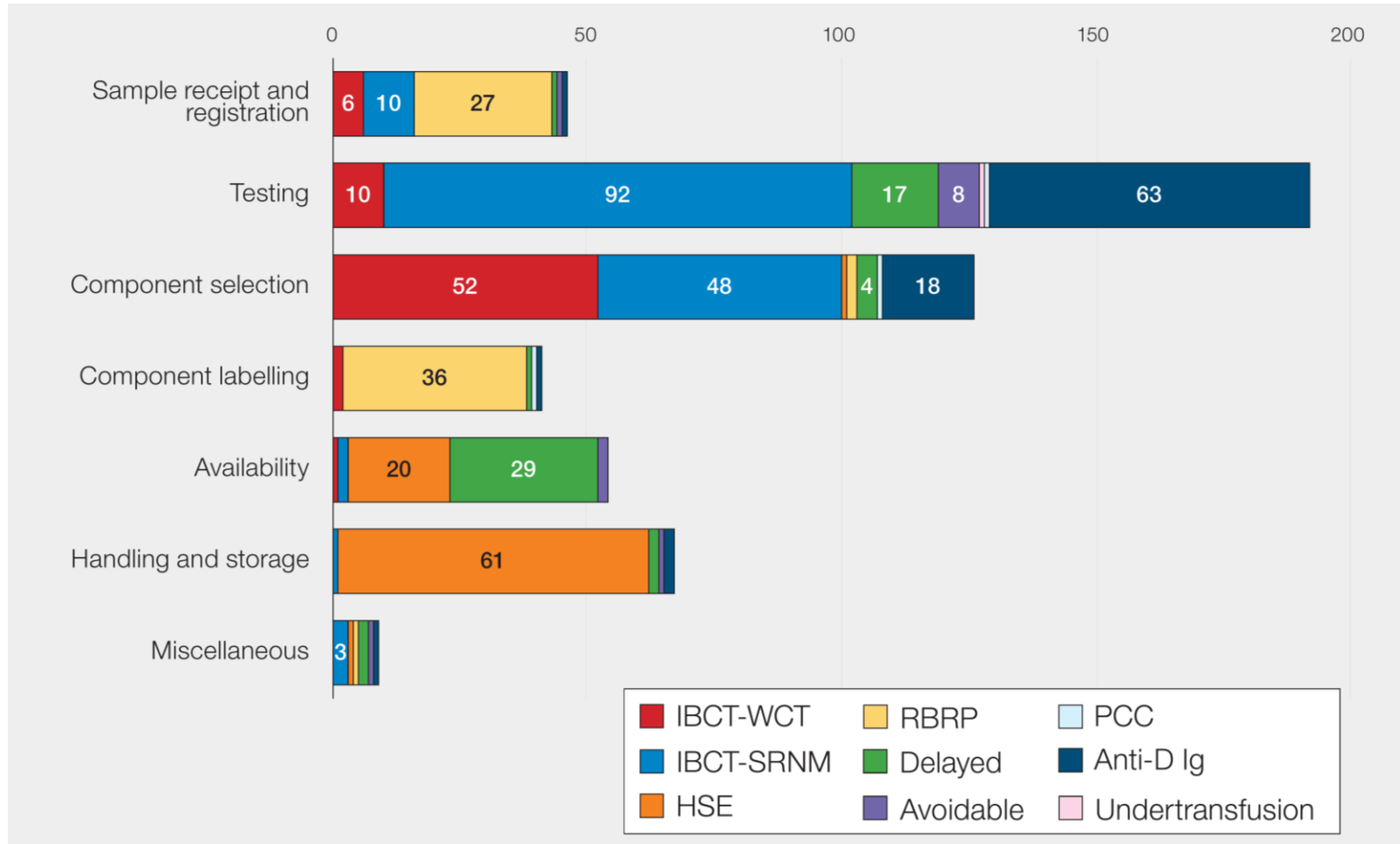
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin Note: numbers <3 are too small to be annotated on the figure

Laboratory errors and near misses by reporting category in 2023 (n=742)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

SHOT laboratory data across all categories showing the stage in the transfusion process where the primary error occurred in 2023 (n=535)

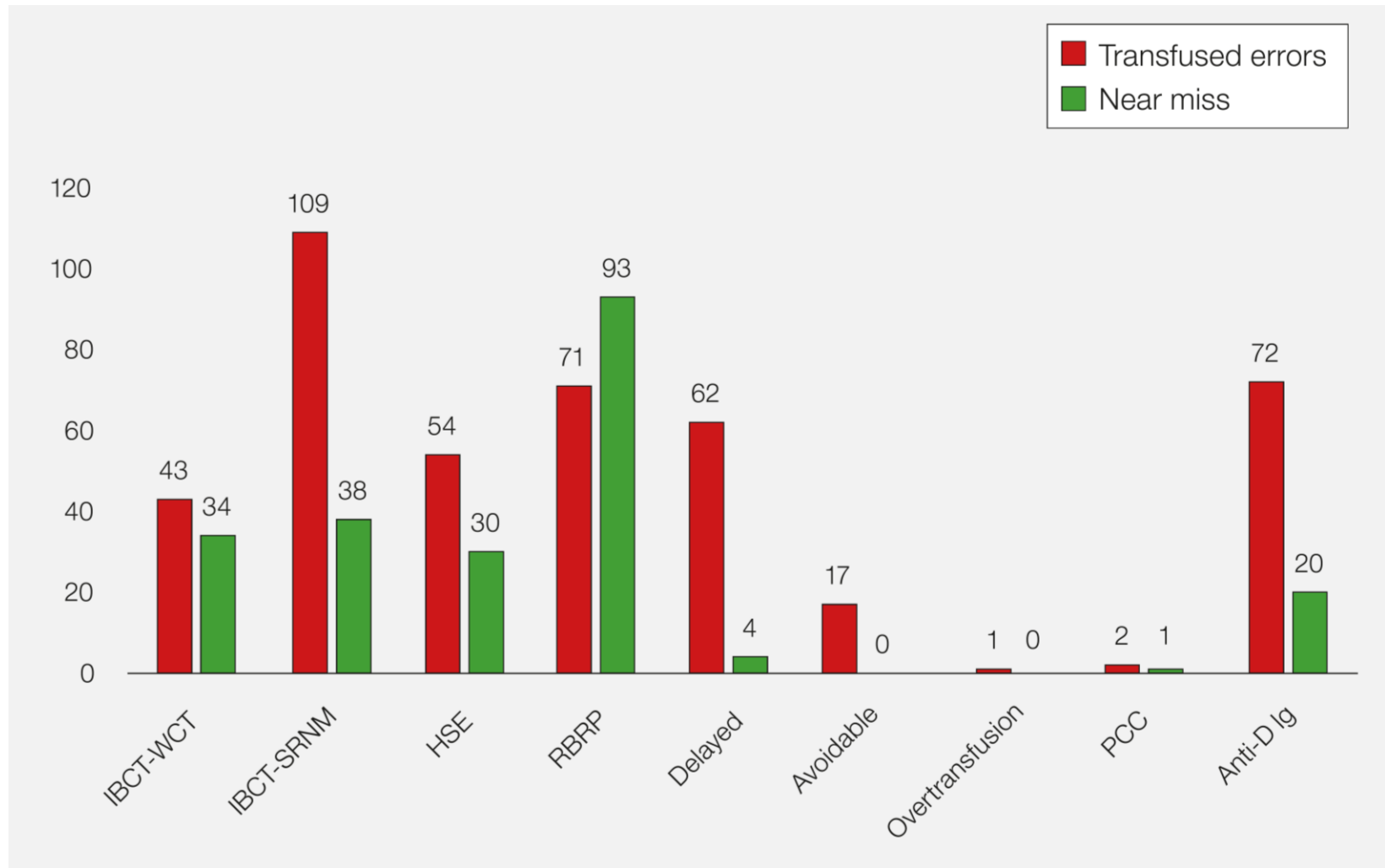


IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin Note: numbers <3 are too small to be annotated on the figure

Additional pressures on transfusion laboratories evident in 2023 SHOT data

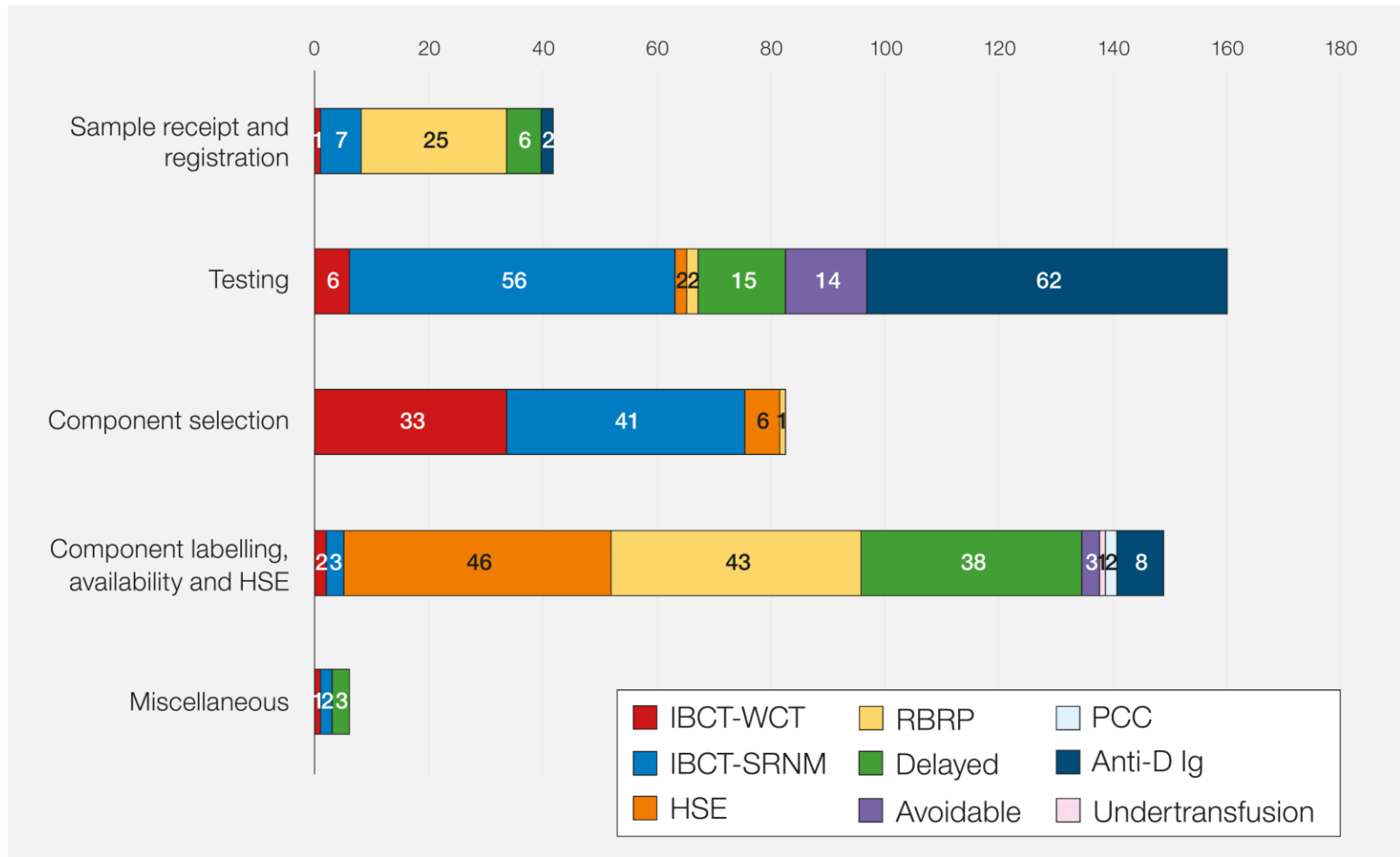


Laboratory incidents and near misses by category of outcome in 2022 (n=651)



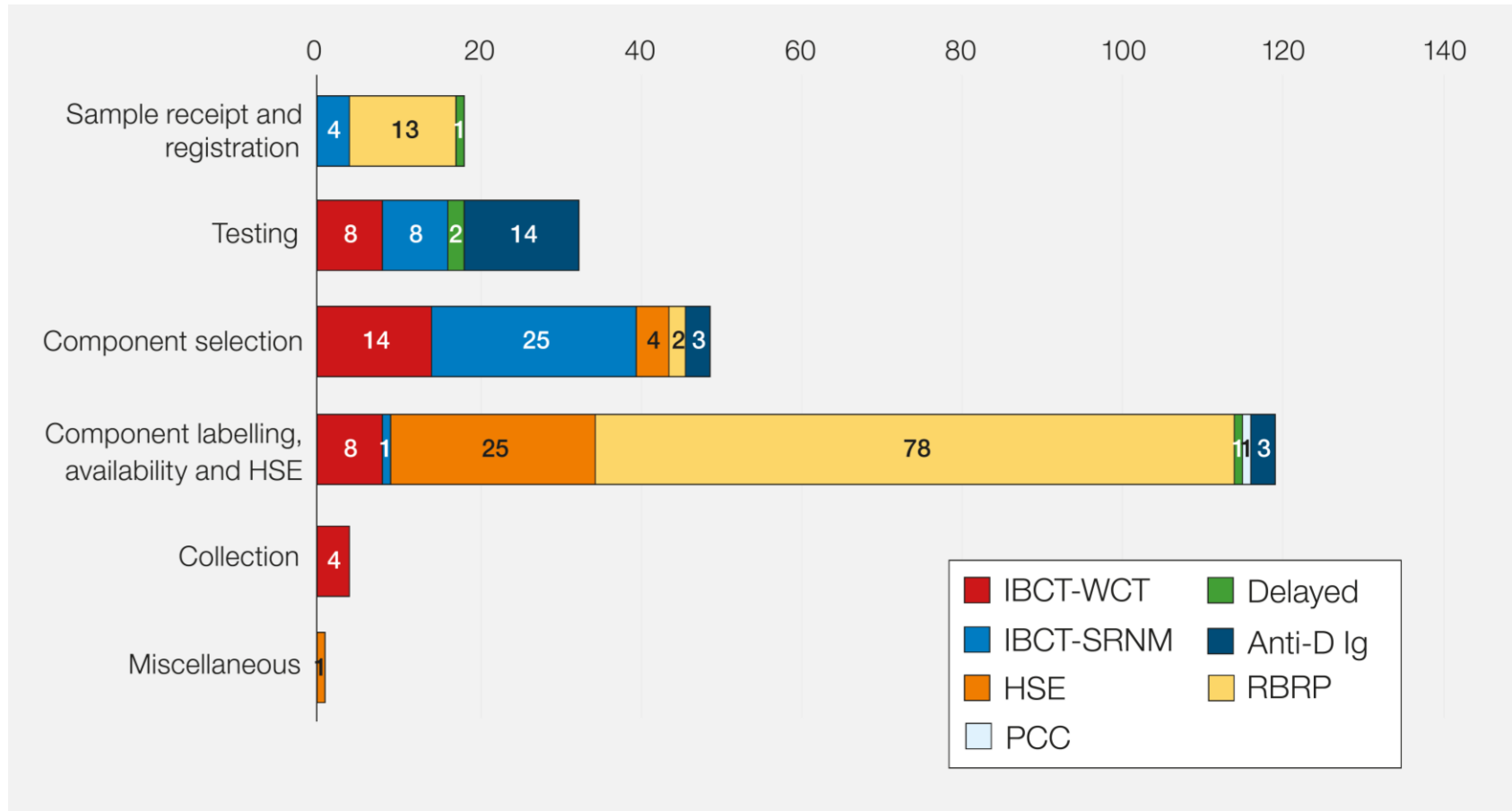
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

SHOT laboratory data across all categories in 2022 showing the stage in the transfusion process where the primary error occurred (n=431)



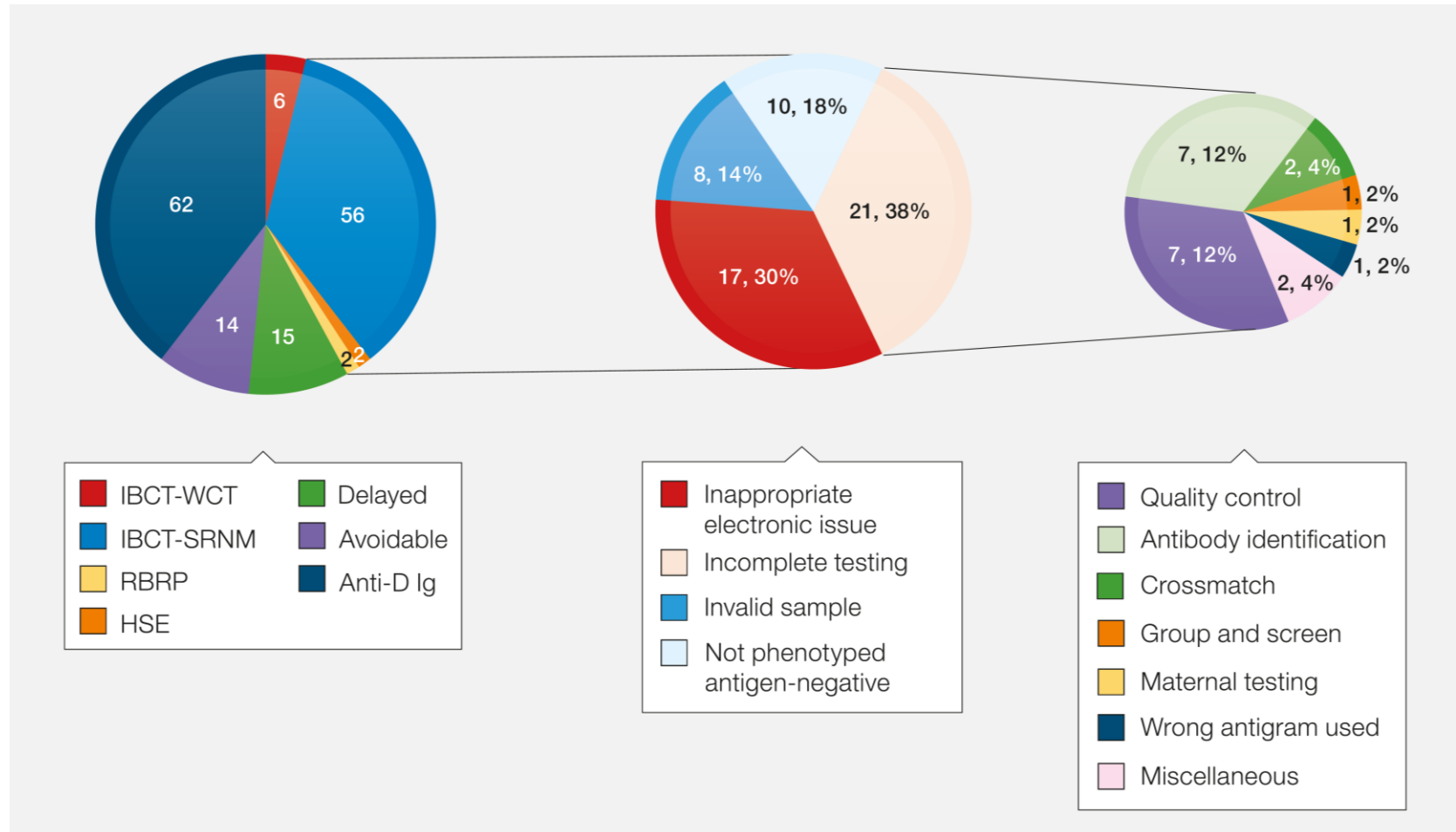
Of the 7 incidents classed as 'miscellaneous', 3 resulted in IBCT-SRNM errors, 3 delayed transfusions and 1 IBCT-WCT

SHOT near miss laboratory errors in 2022 showing at which stage in the transfusion process the primary error occurred with outcome (n=220)



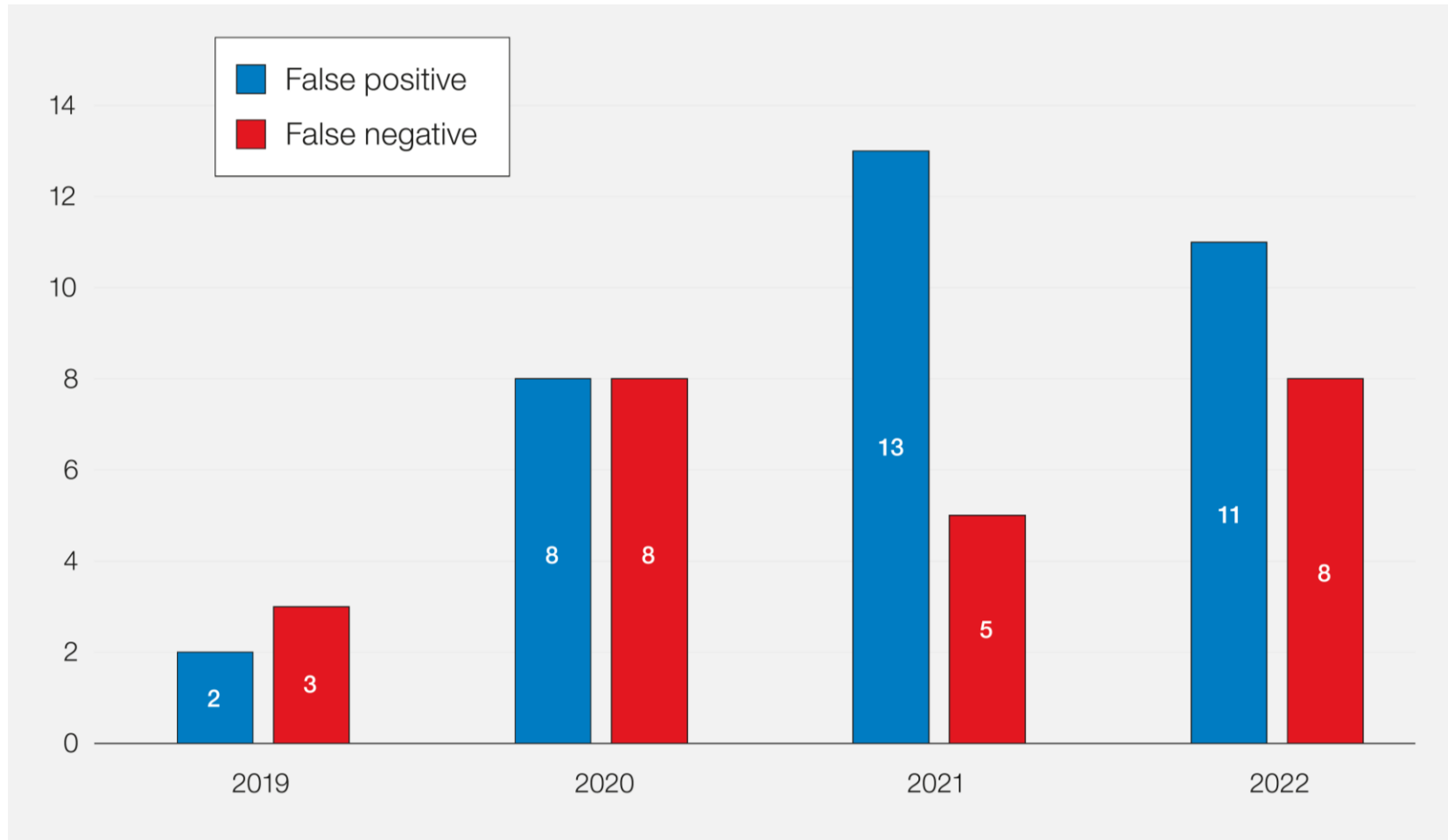
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

Laboratory testing errors by reporting category (n=157) and SRNM testing errors by subcategory in 2022 (n=56)

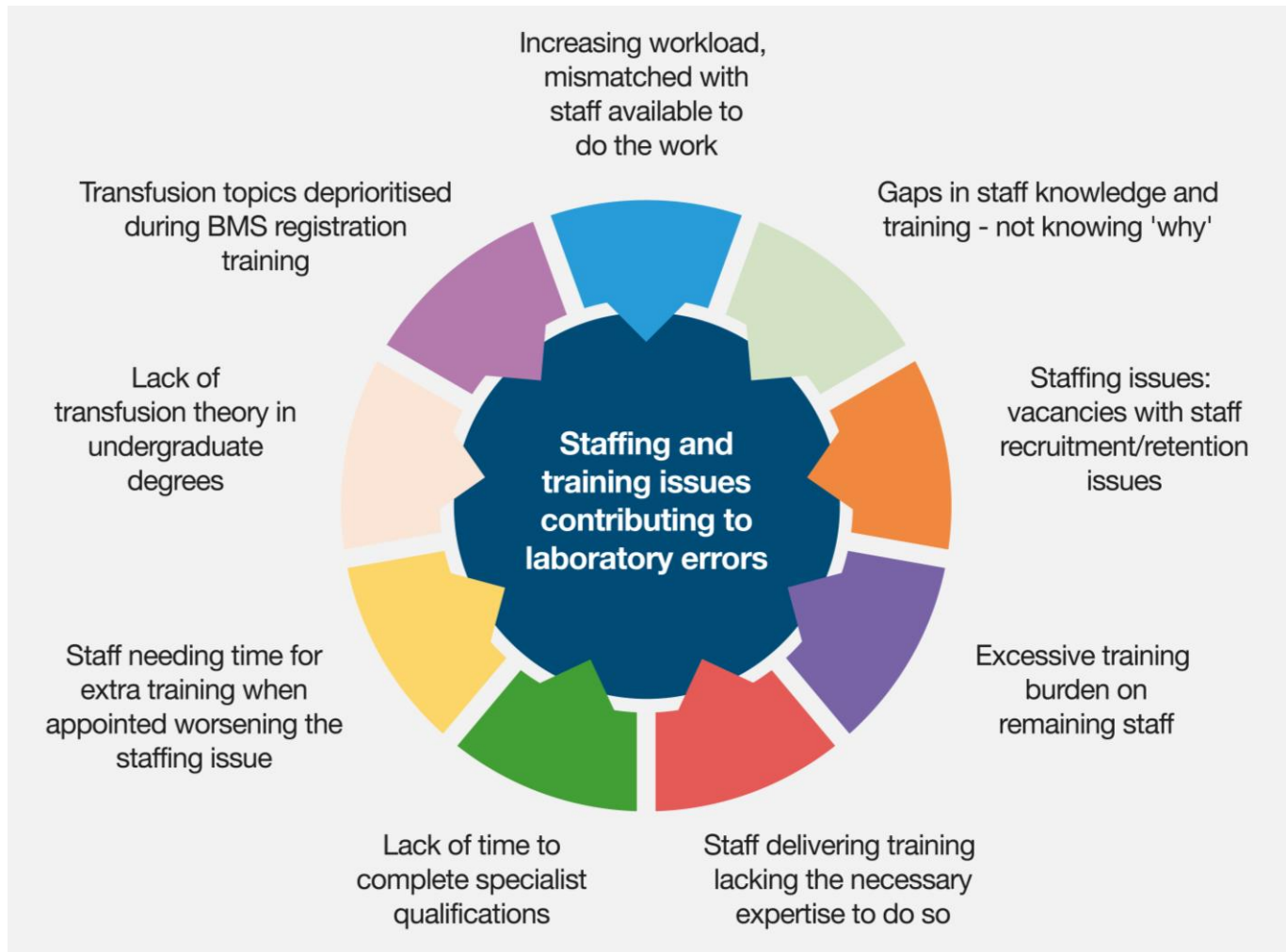


IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; Ig=immunoglobulin

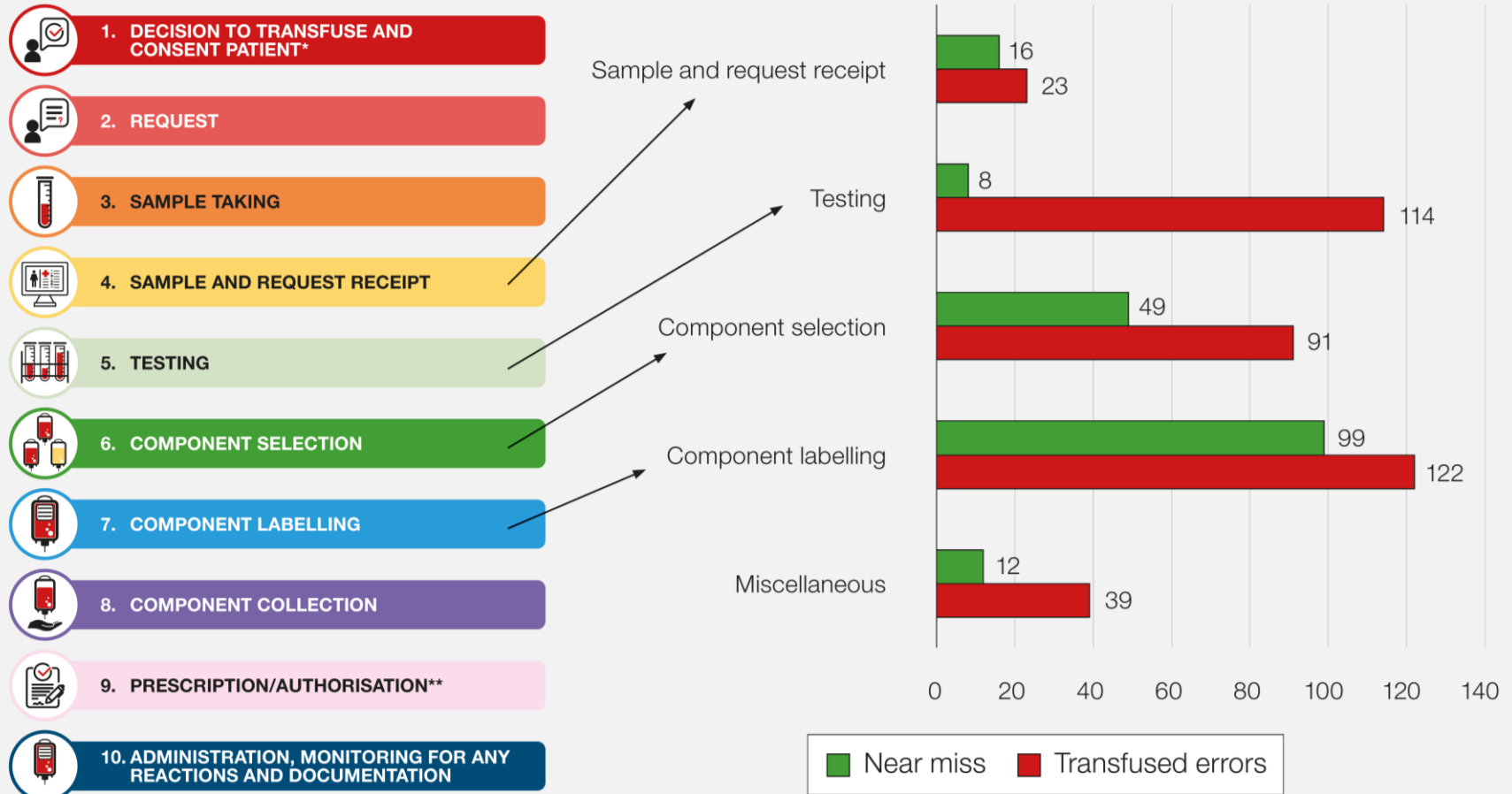
Cell-free fetal DNA prediction errors reported to SHOT 2019-2022



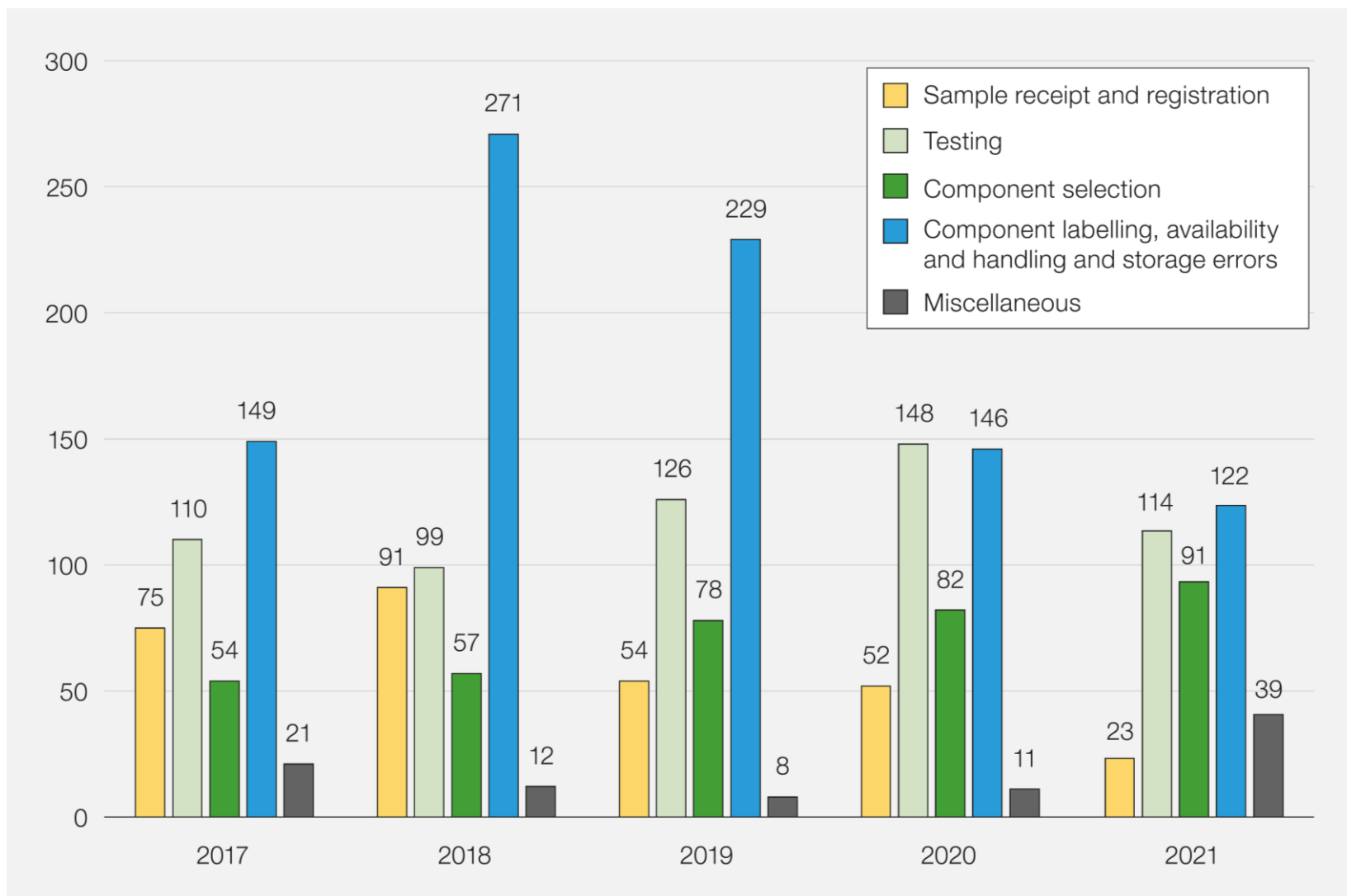
Summary of issues contributing to laboratory errors in 2022



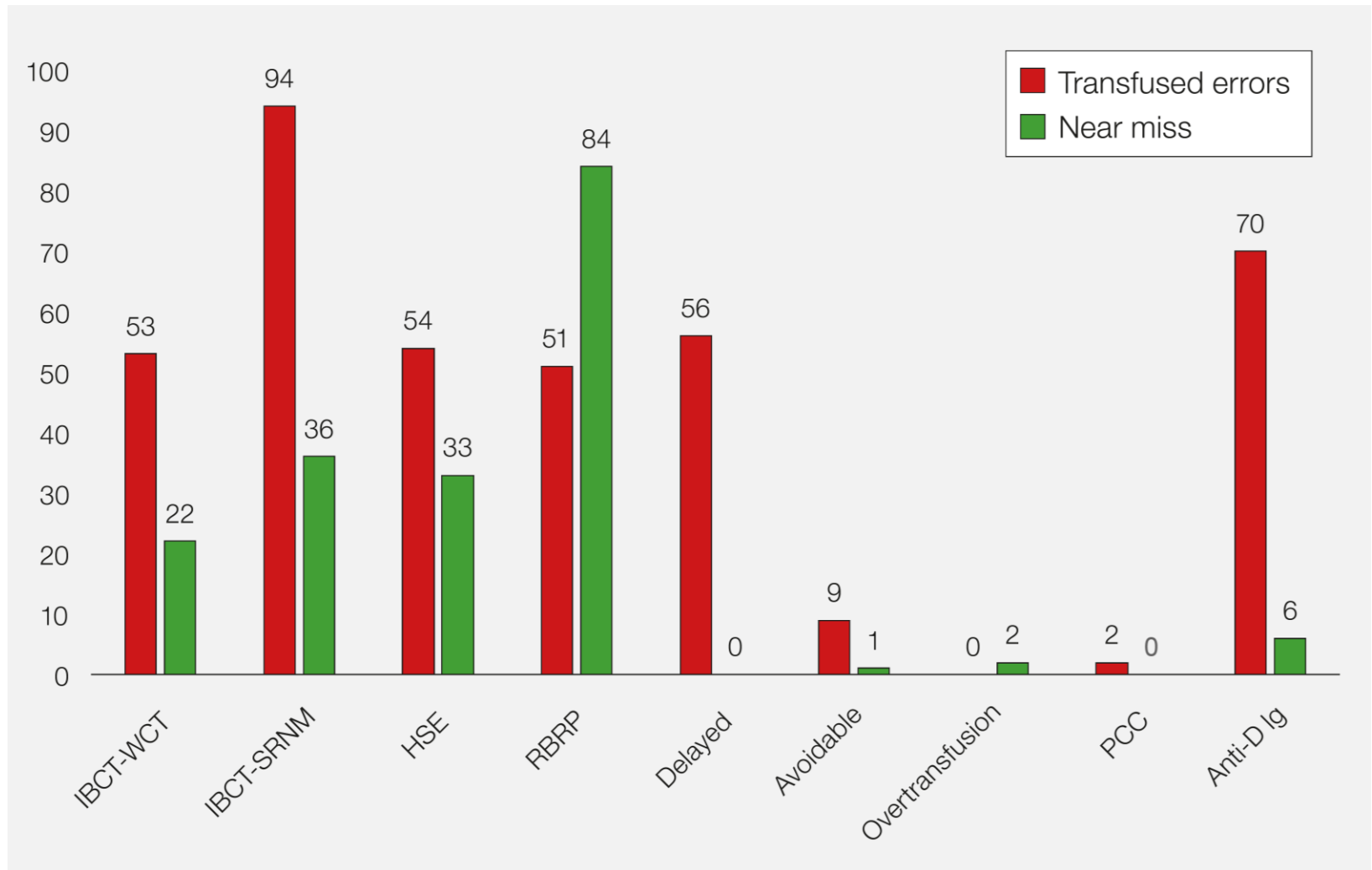
Laboratory errors (events and NM) related to the 10 steps in 2021



Laboratory errors 2017–2021 categorised by step where the error occurred

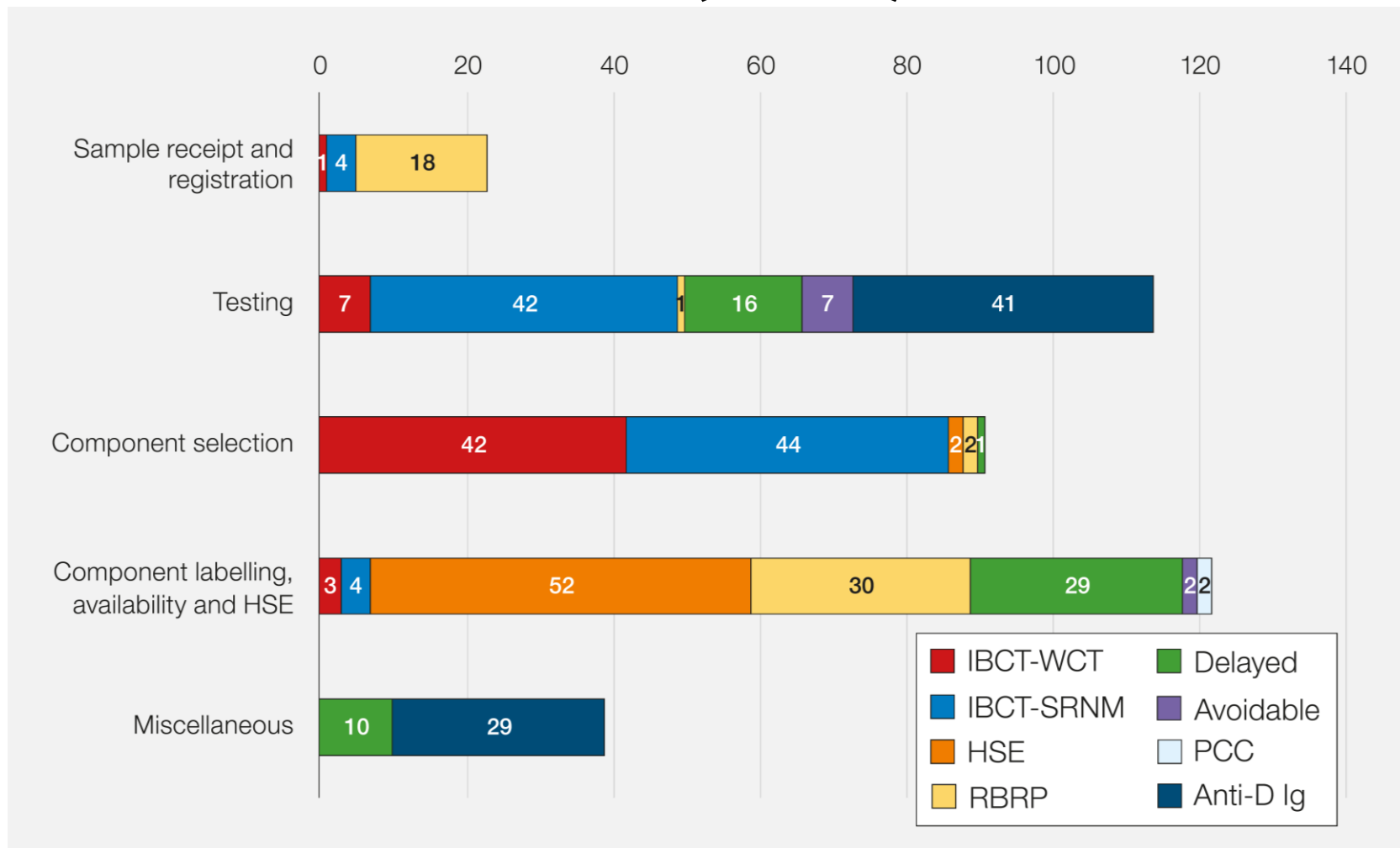


Laboratory incidents and near misses in 2021 by category of outcome (n=573)



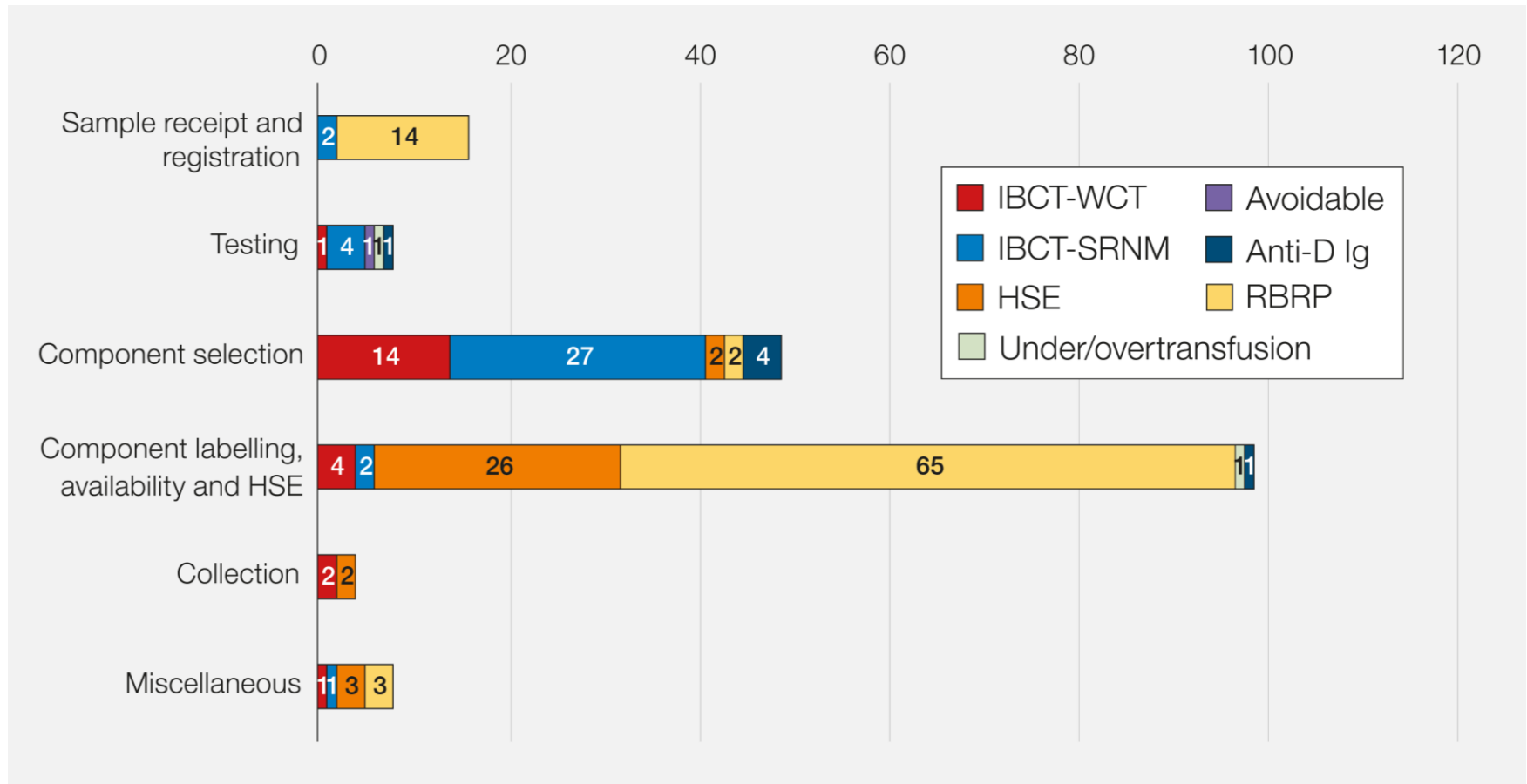
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

SHOT laboratory data showing at which stage in the transfusion process the primary error occurred in 2021 (n=389)



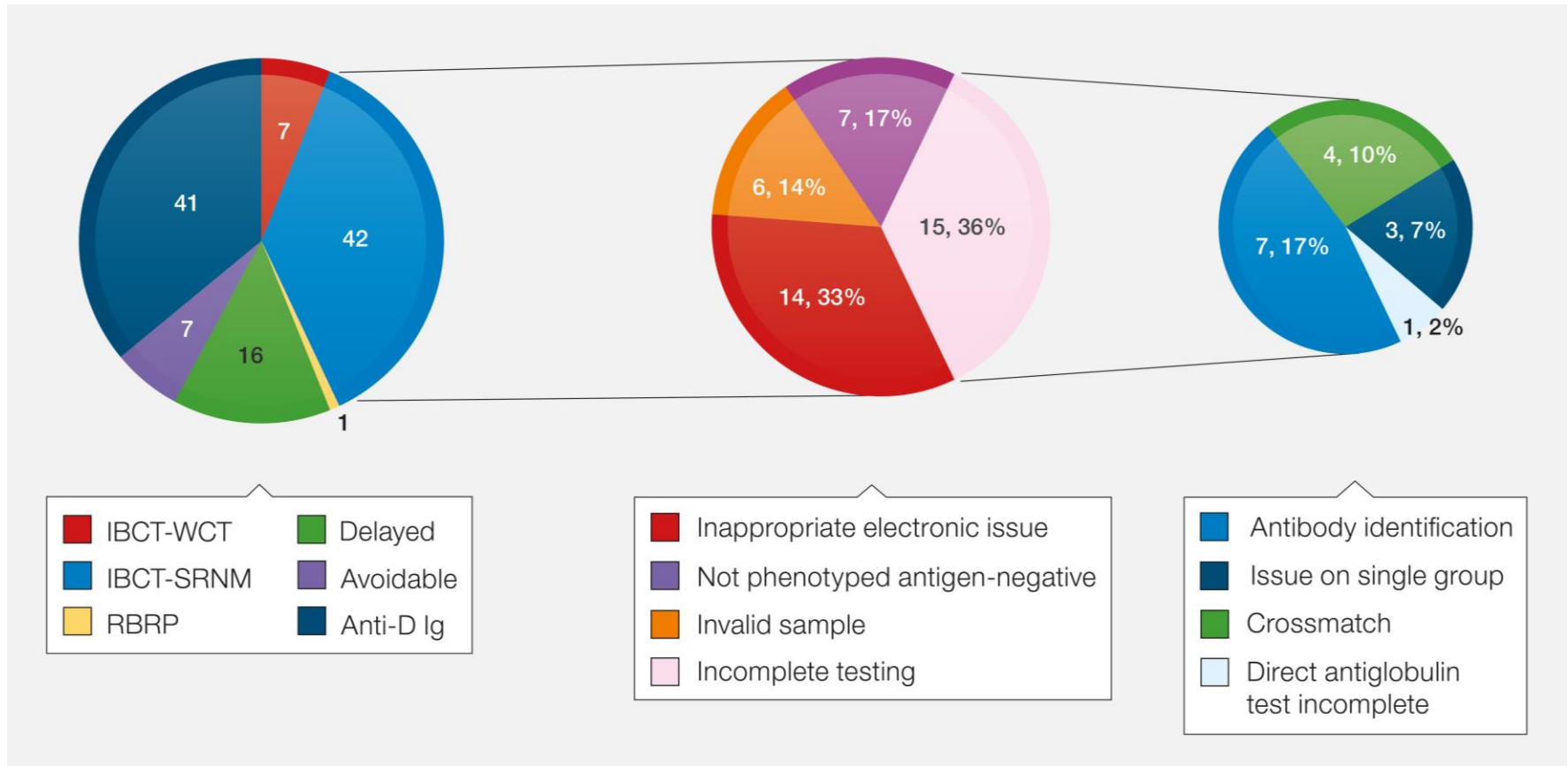
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; Ig=immunoglobulin

SHOT near miss laboratory errors in 2021 showing at which stage in the transfusion process the primary error occurred with outcome n=184



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

Laboratory testing errors in 2021 by reporting category (n=114) and SRNM testing errors by subcategory (n=42)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; RBRP=right blood right patient; Ig=immunoglobulin

PAUSE



PATIENT IDENTIFICATION

Are all the details correct and match on sample/form/label/LIMS?



AUTHORISED

Have all required tests been completed and authorised,
including antibody investigation?



UNIT NUMBER

Does the unit number match the compatibility label?



SELECTION OF COMPONENT

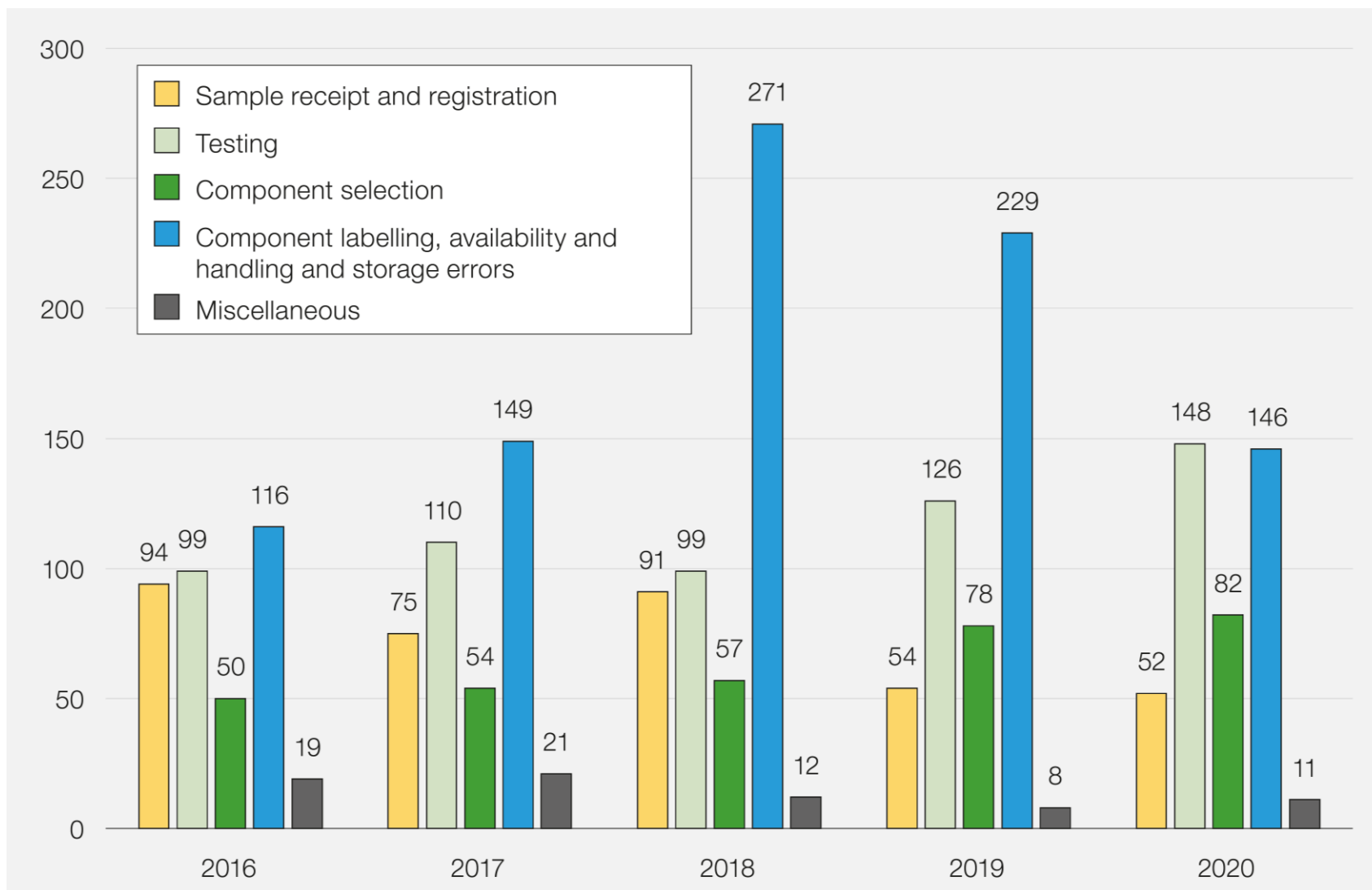
Is it as requested? Is it ABO AND D compatible?
Does it meet all specific requirements?



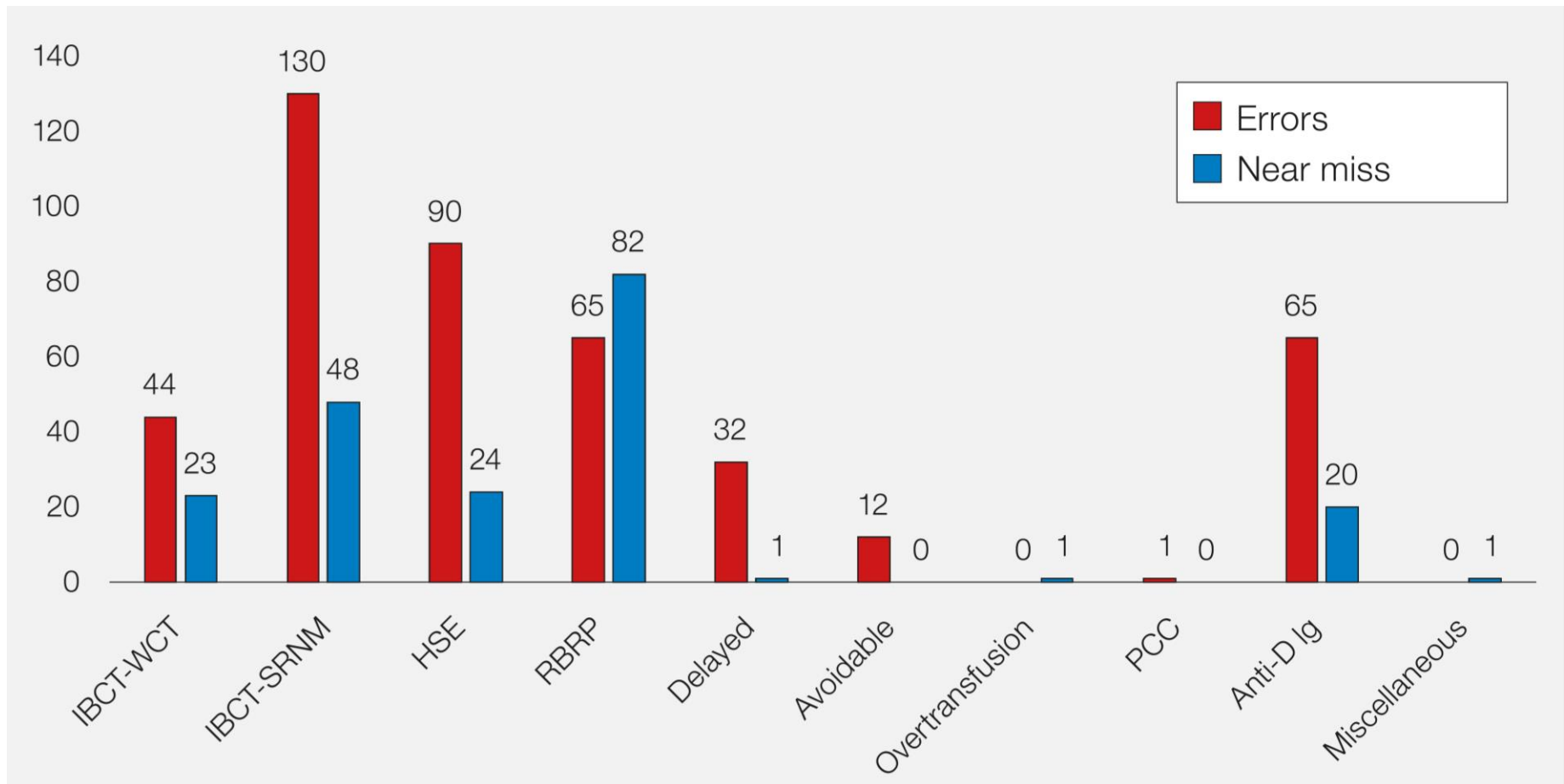
EXPIRY

Will the unit expire before required date/time?
Will sample expire before required date/time?

Laboratory errors 2016-2020 categorised by step where the error occurred

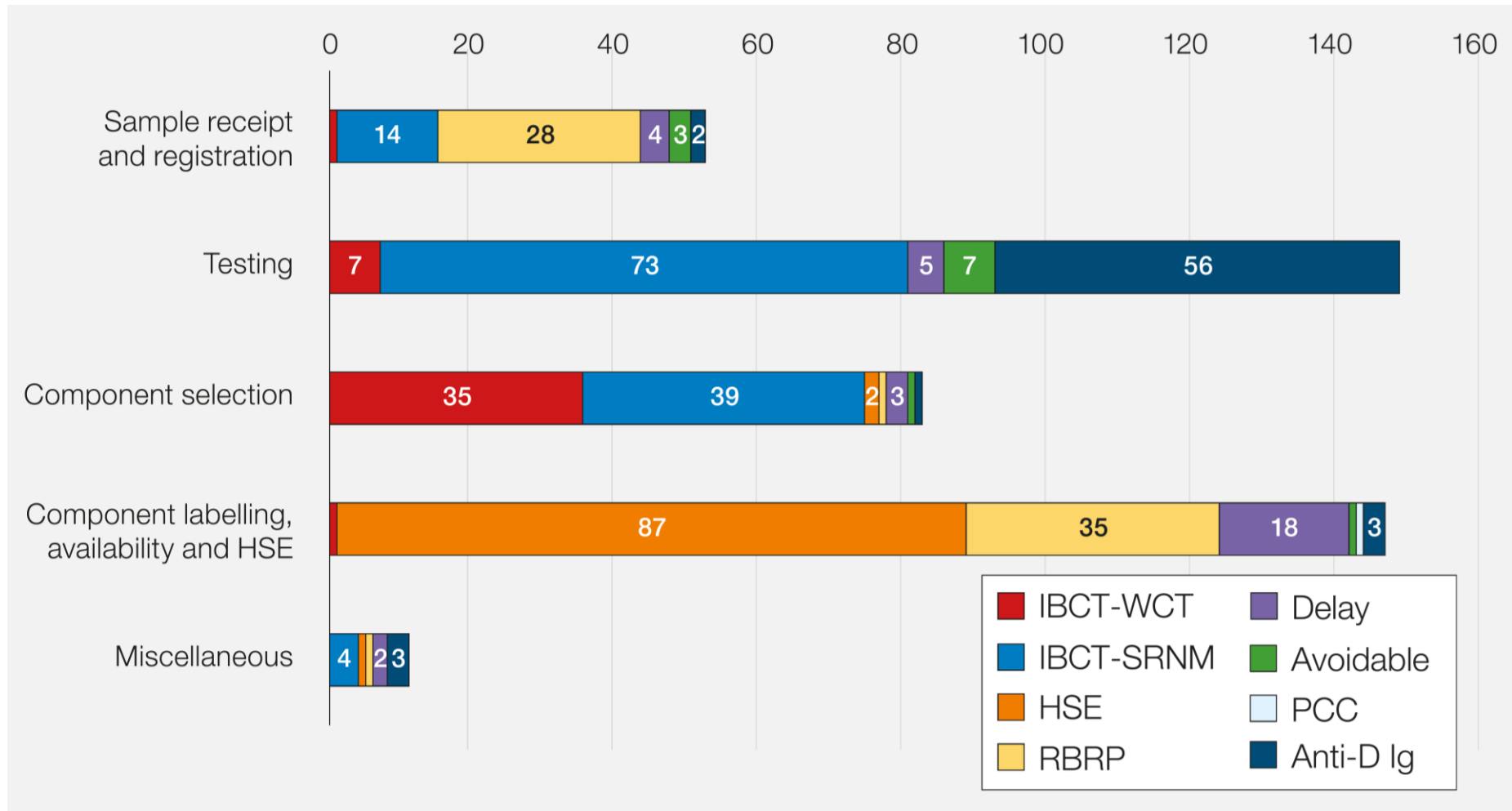


Laboratory incidents and near misses by category of outcome in 2020 (n=639)



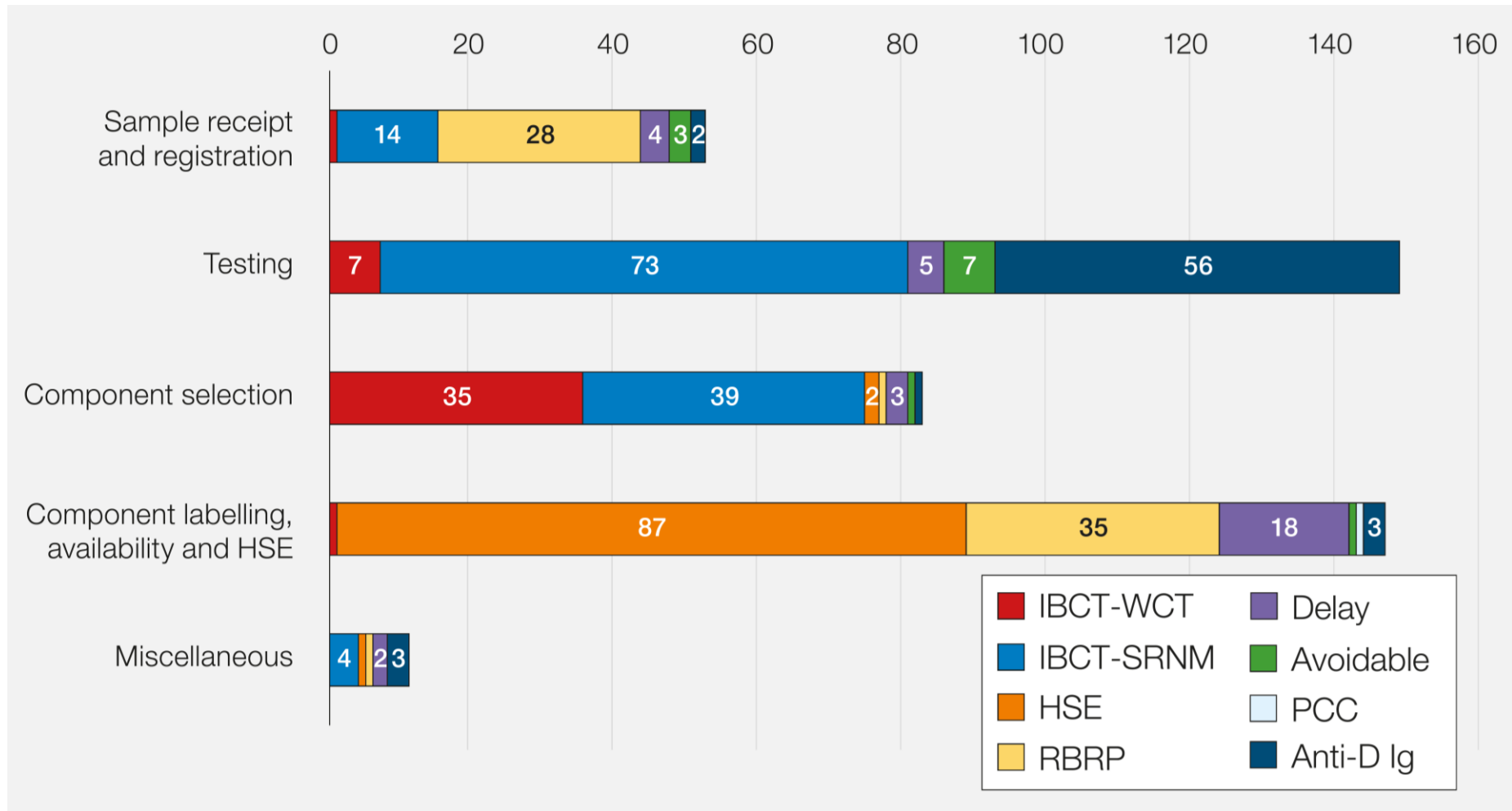
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

SHOT laboratory data showing at which stage in the transfusion process the primary error occurred in 2020 (n=439)



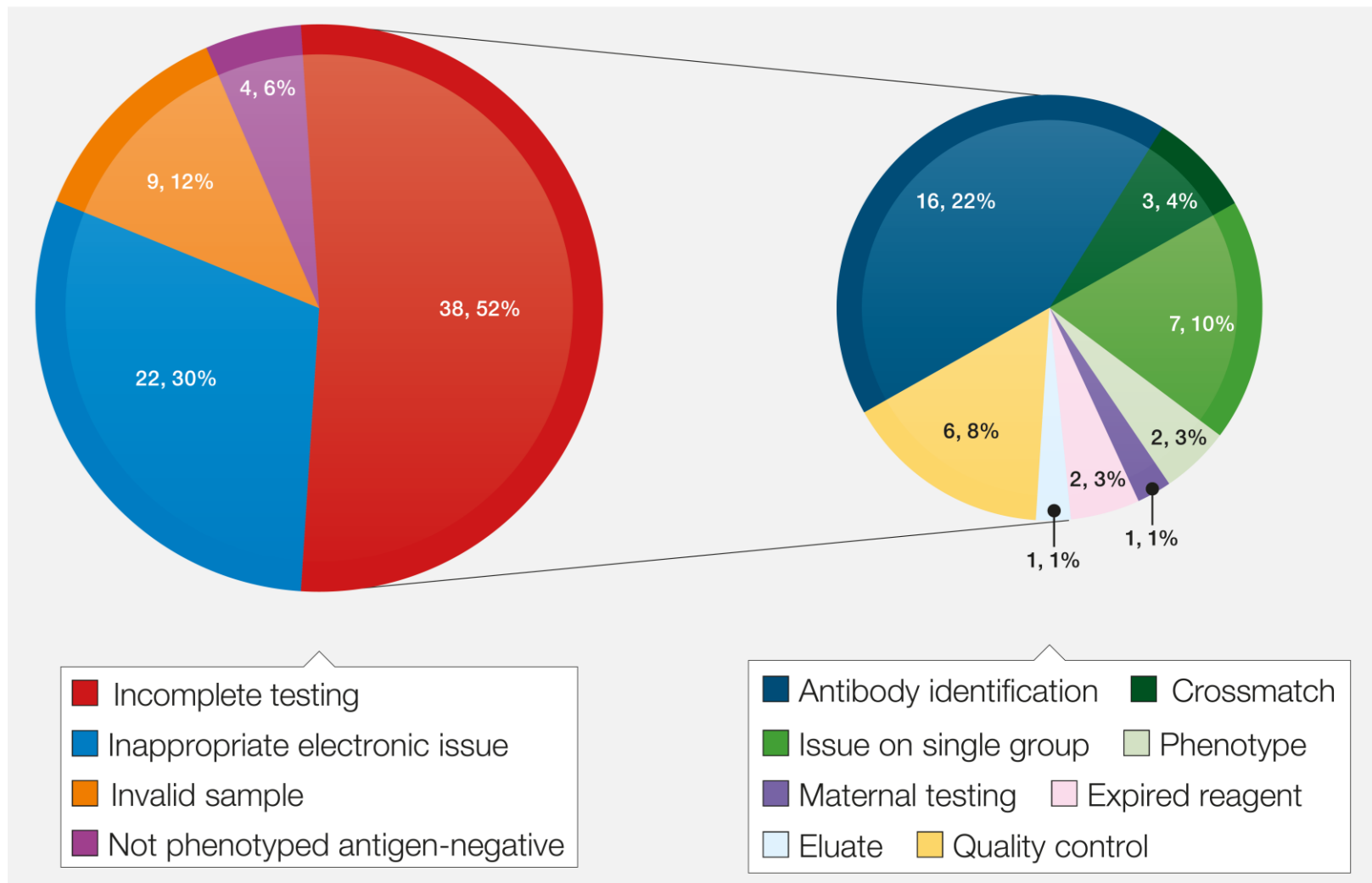
IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

SHOT near miss laboratory errors in 2020 showing at which stage in the transfusion process the primary error occurred with outcome (n=200)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

IBCT-SRNM laboratory testing errors separated by error subcategory in 2020 (n=73)



Laboratory component labelling and exit check 2019

Component check

1

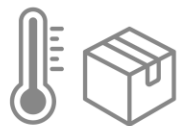


- ✓ Type of component
- ✓ ABO- and D-compatible with patient's blood group
- ✓ Donation number matches component issued on LIMS and on compatibility label
- ✓ Patient demographics on compatibility label identical to request form/LIMS
- ✓ Within expiry period (up to anticipated time of transfusion end)
- ✓ Patient specific requirements met (if applicable)
- ✓ Required phenotype met (if applicable)
- ✓ Component quality (e.g. no leaks, tears or clots)



Storage check

2



- ✓ Storage requirements met
- ✓ Storage equipment within temperature control



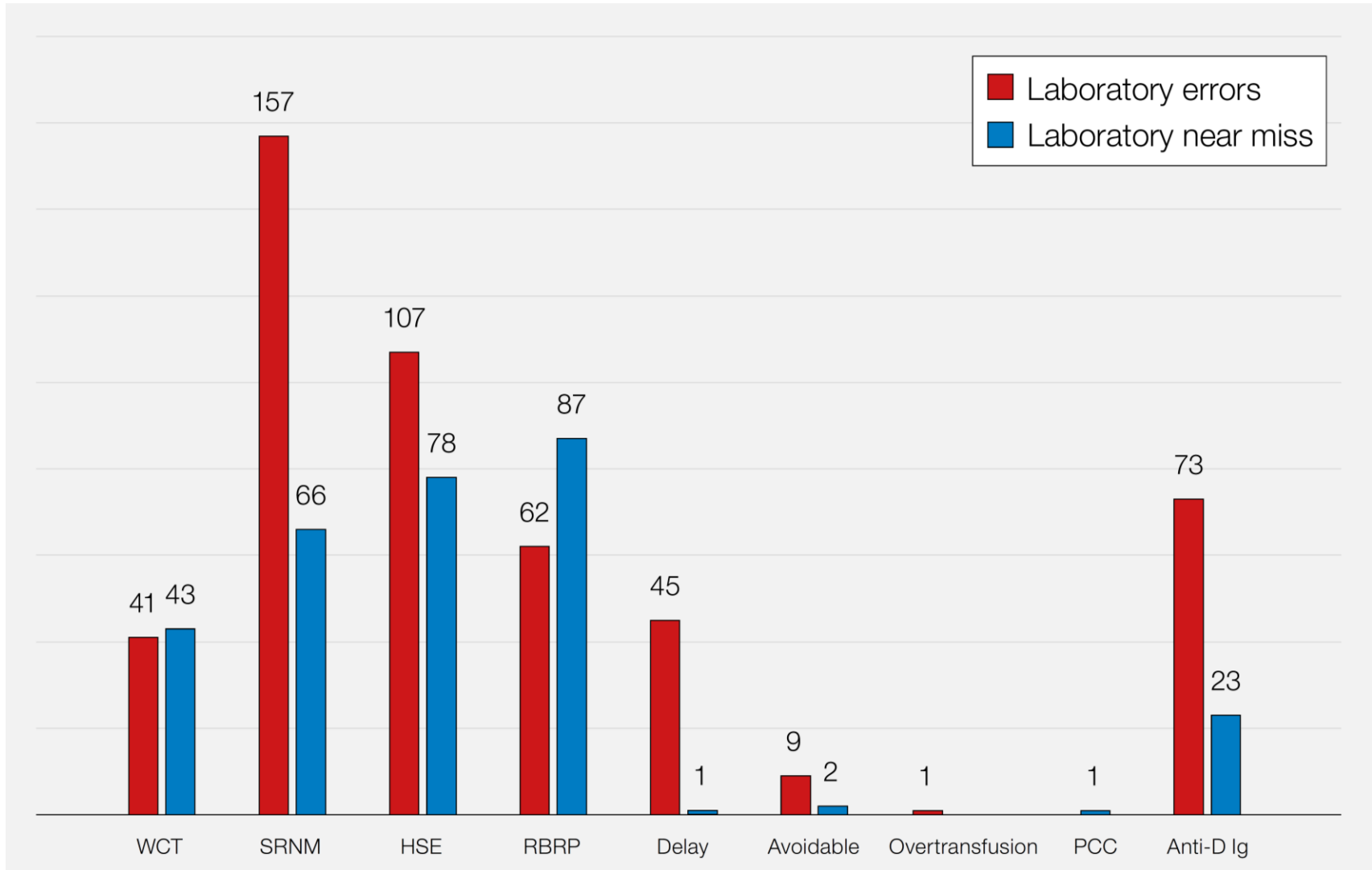
Component ready for collection

3

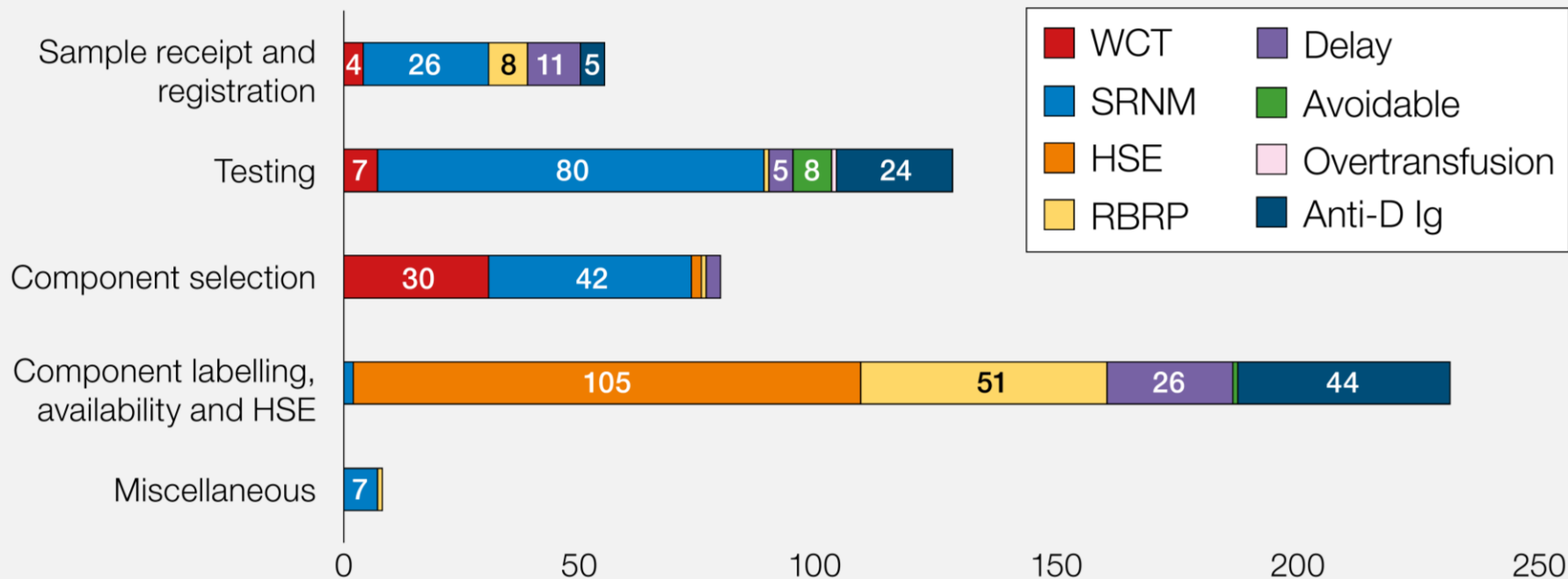


- ✓ Inform clinical area (verbally or electronically)

Laboratory incidents and near misses by category of outcome in 2019 (n=796)



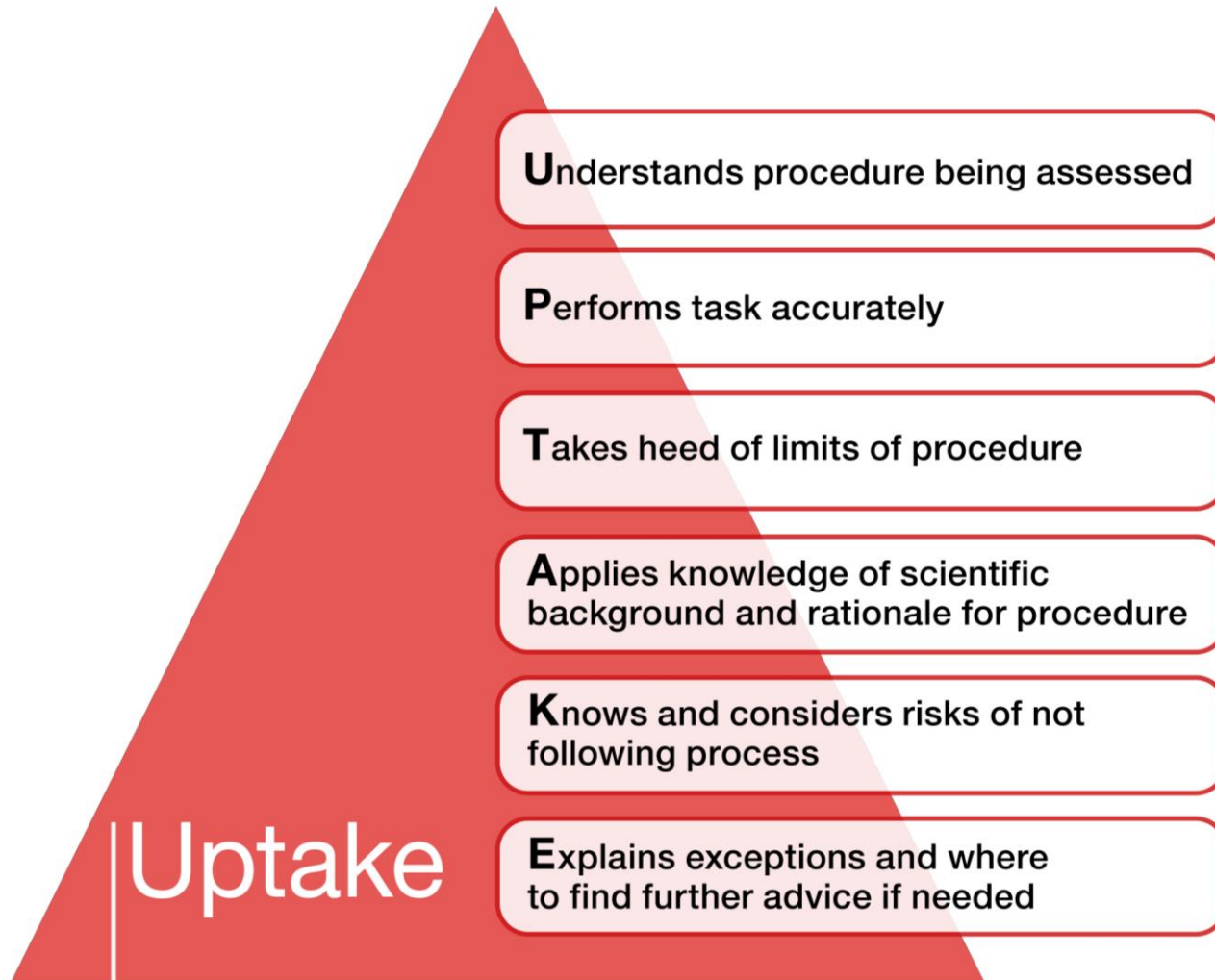
SHOT laboratory data showing at which stage in the transfusion process the primary error occurred in 2019 (n=495)



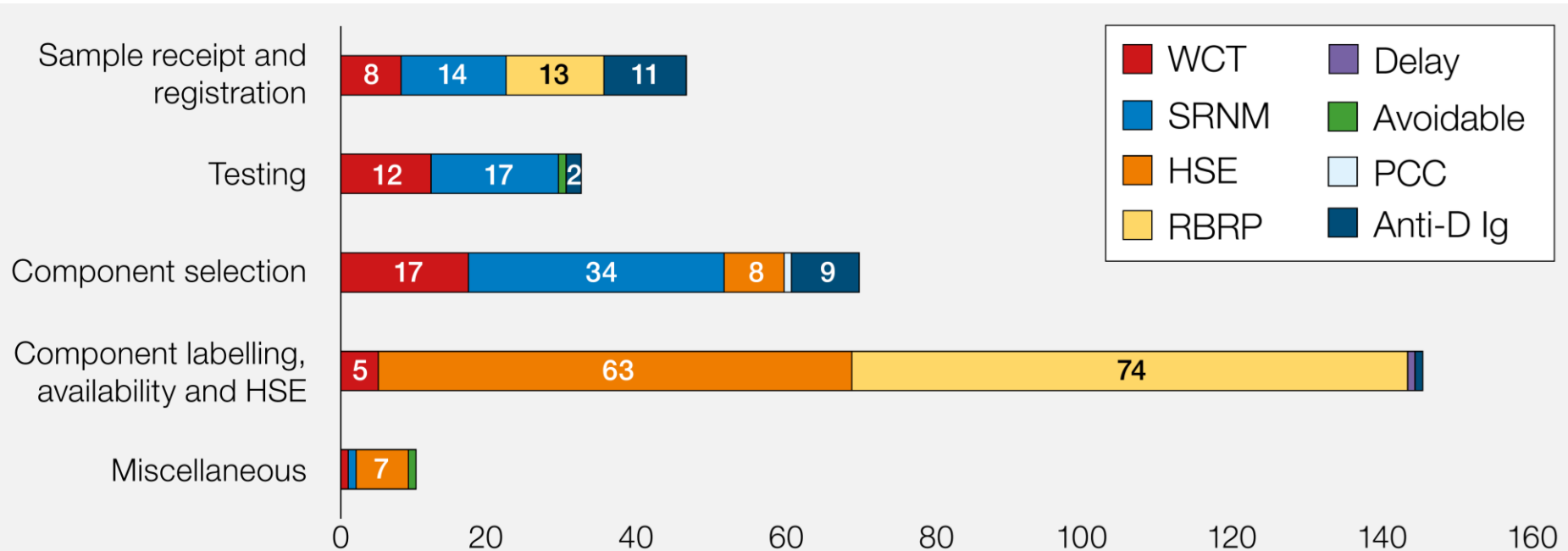
WCT=wrong component transfused; SRNM=specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; Ig=immunoglobulin

Numbers <4 are too small to be annotated on the figure: Testing: RBRP=1, overtransfusion=1; Component selection: HSE=2, RBRP=1, Delay=3; Component labelling, availability and HSE: SRNM=2, avoidable=1; Miscellaneous: RBRP=1

UPTAKE areas to be covered in a robust competency assessment 2019



SHOT near miss laboratory errors in 2019 showing at which stage in the transfusion process the primary error occurred with outcome (n=301)



WCT=wrong component transfused; SRNM=specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin
Numbers <2 are too small to be annotated on the figure. All segments with no data label=1