

External Quality Assessment Scheme

Preanalytics, urine and blood sample collection Round 1, 2023

Specimens

Specimens are three case reports which are presented also on the LabScala.

Result reporting

Please enter the results via LabScala (www.labscale.com). We ask you to identify preanalytical errors and there is also a question: Did the laboratory technician act correctly in this situation? If you do not find your answer from the drop-down menu, please describe your action or preanalytical error in the free text Comment field in English. Please choose your profession from drop down menu. If you reply to this round as a group, then please choose group reply as a profession.

With one order you can return five results per case (5 results x 3 cases). In order to separate your five results, give a respondent name in the respondent field. There will be an own table from each of the results sent. If you want to send more than one result per case, press "Add response +" on the blue column and a new set of questions opens.

Cases

Case 1

The patient delivers 24-hour collected urine sample (dU-MetNor = Diurnal Metanephrines and normetanephrines) to the laboratory. A label marked patient's name, personal identity code and the start and end times of the collection is attached collection container. The biomedical laboratory scientist accepts the urine container and delivers the urine container to the laboratory.

Did the laboratory technician act correctly in this situation?
(Yes / No / I do not know)

Case 2

The patient is receiving treatment in the hospital. The biomedical laboratory scientist collects blood sample in EDTA tube for complete blood count (CBC). The ward nurse comes to the room and asks the biomedical laboratory scientist to also collect blood for potassium, sodium and creatinine (heparin tube). The biomedical laboratory scientist replies that he can do so but needs to perform another puncture of a vein to draw blood.

Did the laboratory technician act correctly in this situation?
(Yes / No / I do not know)

Case 3

The patient is receiving treatment in the hospital. He has a laboratory request for coagulation screening test. The patient's veins are difficult to find and the venipuncture for coagulation screening need to perform without a tourniquet. The biomedical laboratory scientist attempts draw blood two times. For the third venipuncture he uses tourniquet. He adds the comment "tourniquet used during venipuncture" to the sample request.

Did the laboratory technician act correctly in this situation?
(Yes / No / I do not know)

2023-03-14

INSTRUCTIONS

Product no. 7801
LQ779223011-013/FI

The results should be reported no later than
April 10, 2023.

Inquiries

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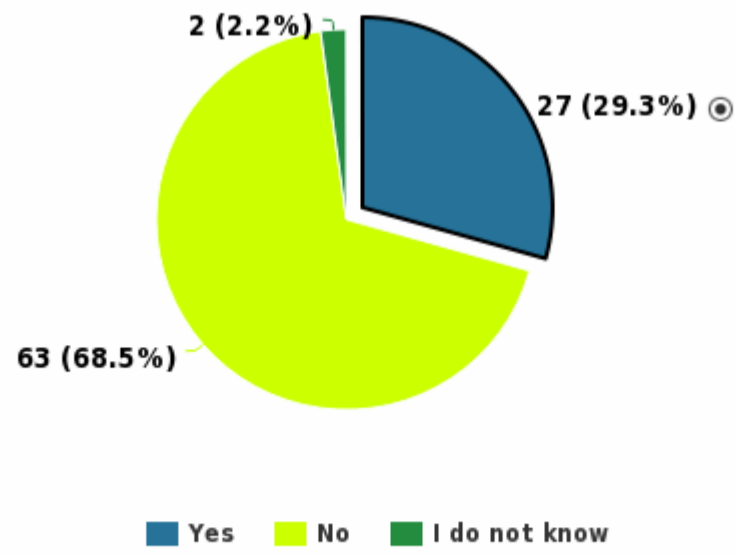
Which preanalytical errors did you find in these cases? (name max five)

The list of preanalytical errors has been updated to fit all four Labquality's preanalytical schemes. Please select the ones that are relevant to the cases presented here. You can find the errors in LabScala dropdown menu by starting to write an answer in the field.

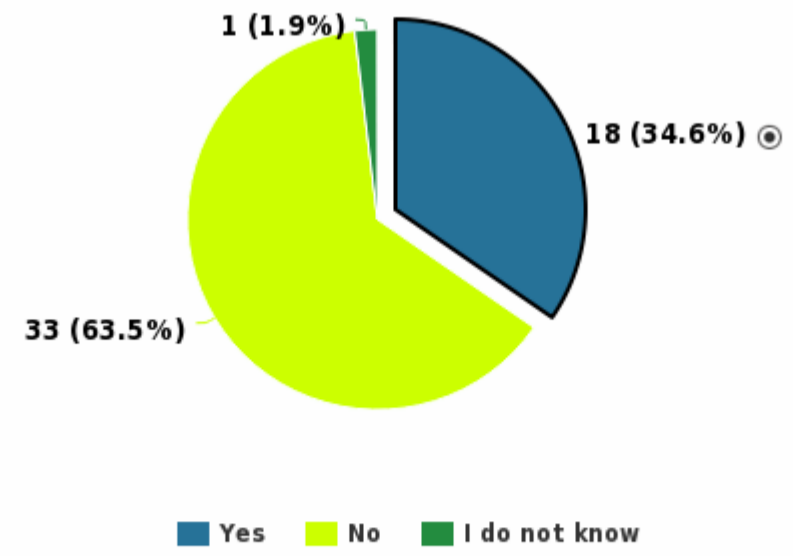
- No errors
- Wrong request
- Missing request
- Too many requests
- The requests have changed
- Incorrect emergency requests ordered
- Insufficient information about the person requesting the analysis
- Important background information of the patient missing
- Reference serum for the requested analysis missing
- Incorrect timing for the sample or follow-up sample
- Insufficient/incorrect guidance to sample collection procedure
- Patient prepared incorrectly
- No fasting or fasting not confirmed
- Possible medication not confirmed
- Use of stimulants (alcohol, tobacco, drugs)
- Physical exercise
- Incorrect washing of the genital area
- First portion of urine stream not discarded
- Insufficient/incorrect patient ID confirmation
- Too short bladder incubation time
- Bladder incubation time not confirmed/marked
- Incorrect/insufficient hand hygiene
- Phlebotomist had no disposable gloves
- Unrefined sampling site
- Incorrect sampling site
- Patient's arm supported poorly
- Punctured to a bruise/skin damage
- Blood drop is dripping
- Cold puncture site
- Inadequate or disordered equipment
- Incorrect tourniquet usage
- Too tight squeeze
- Wrong needle/lancet
- No adapter/holder used
- Wrong angle of puncture
- Risk of needlestick injury
- Unsafe sharps disposal
- Patient guided incorrectly after sampling
- Wrong sample collection
- Wrong order of draw/sampling
- Wrong timing of the phlebotomy/sampling
- The sample transferred/packed to transport container incorrectly
- Faulty/defective transport container
- Expired transport container
- Insufficient/contradictory information in the request, sample label or transport container
- Incorrect storage of test strips
- Too old test strips
- Cold test cassette
- Analysis not repeated
- Too old sample
- Sample has a strong colour
- Destroyed sample
- Error when dipping the strip
- Wrong timing for reading the result
- Poor lighting
- Suspicious result
- Patient safety risk
- Incorrect usage of POC test
- Punctured too early
- Sample taken from the wrong drop
- Unsuccessful puncture
- Discard tube not taken
- Incorrect/insufficient sample marking/labeling
- Insufficient information about the sampling site
- Wrong primary tube/sample container
- Tube date expired
- Incorrect sample volume
- Low quality sample
- Haemolysed sample
- Lipemic sample
- Icteric sample
- Air bubbles in the tube
- Wrong temperature of the sample
- Blood in the sample
- Contaminated sample
- Diluted sample
- Sample contains tissue fluid
- Incorrect sample material/type
- Insufficient information about the sample composition
- Sample should have been put to ice after phlebotomy/sampling
- Sample should not have been put to ice after phlebotomy/sampling
- Sample not mixed
- Too vigorous mixing of the sample
- The sample should not have been mixed
- Insufficient clotting time
- Too long lag time before handling the sample
- Centrifugated too soon after phlebotomy
- Incorrect centrifuge settings
- Wrong secondary tube
- Wrong sample storage
- Wrong sample handling prior to transport
- Wrong transportation temperature
- Too long transportation time
- Wrong sample transport container
- Wrong means of sample transport
- Incorrectly functioning POC test
- Incorrect result of the POC test
- Incorrect preliminary result

Case 1|Did the laboratory technician act correctly in this situation? | U.Gotautaitė

All profession groups



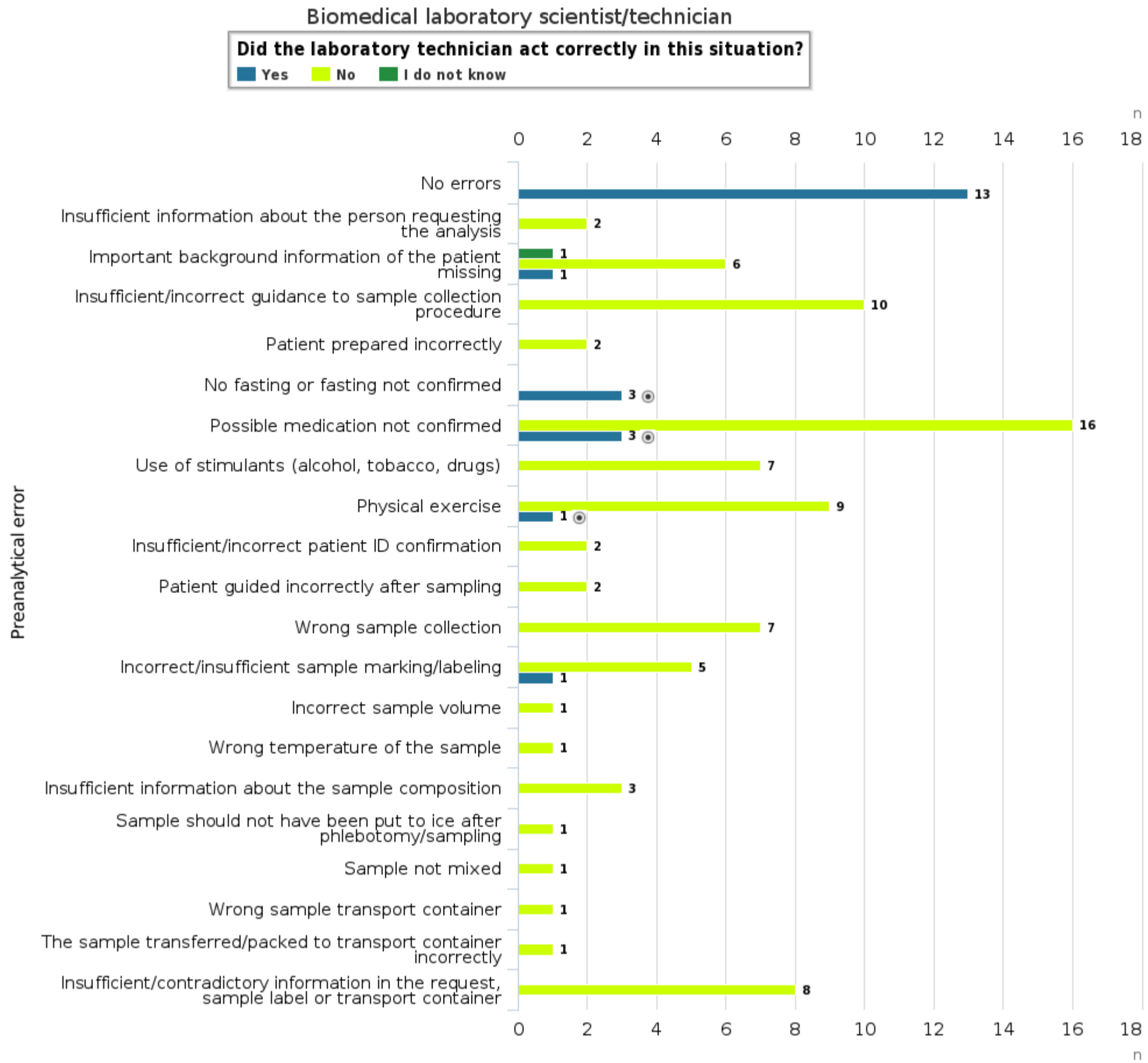
Biomedical laboratory scientist/technician



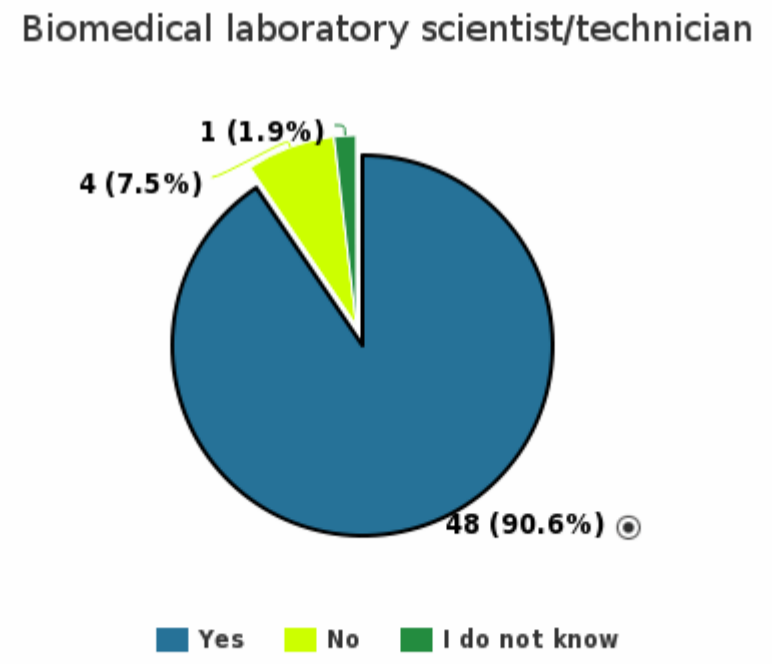
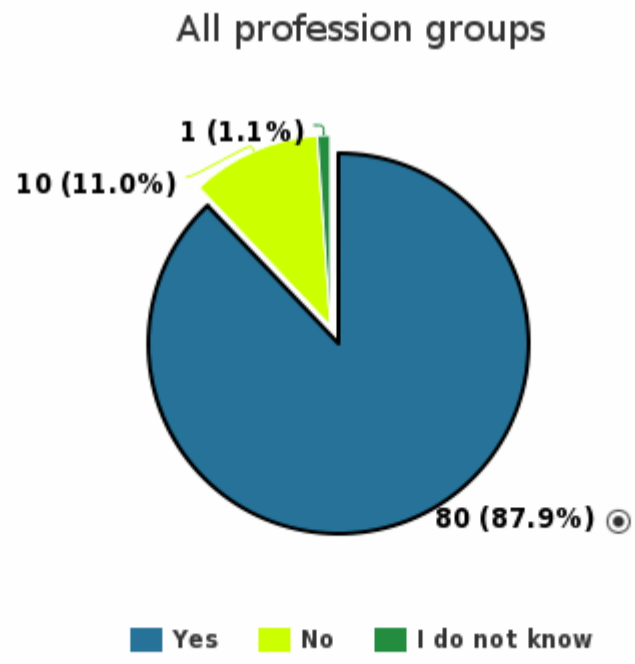
Case 1|Did the laboratory technician act correctly in this situation?|All profession groups | U.Gotautaitė



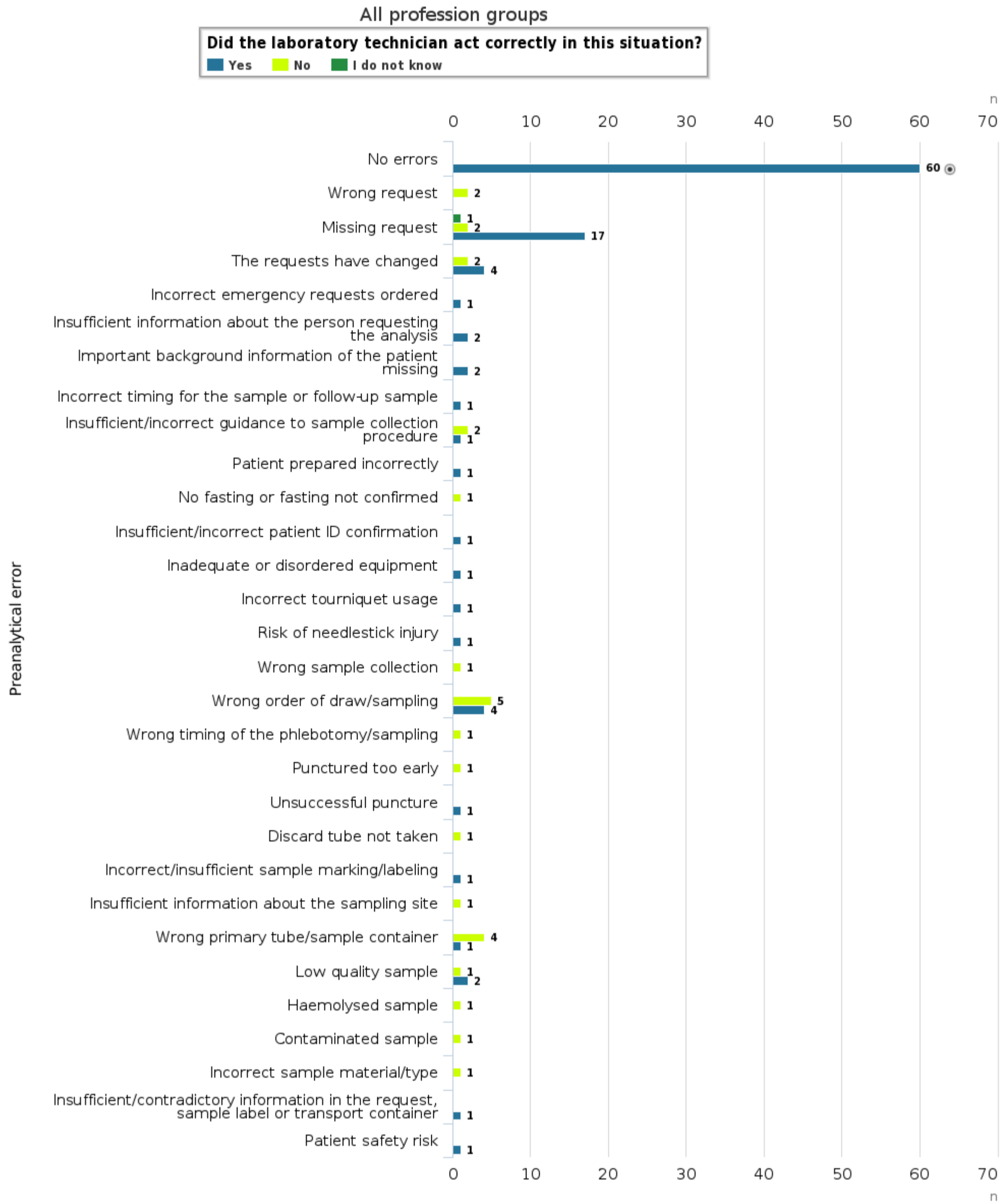
Case 1|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician | U.Gotautaitė



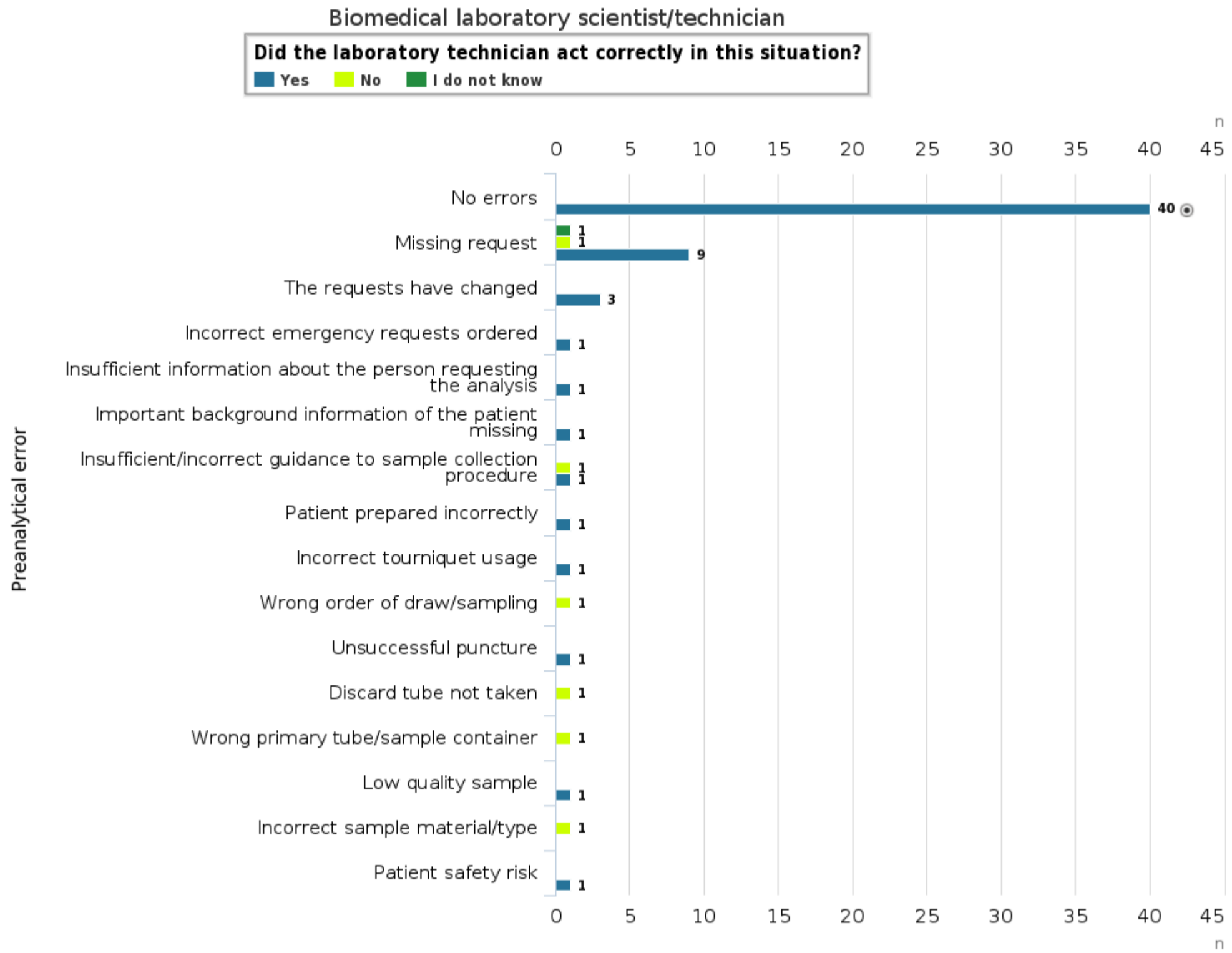
Case 2|Did the laboratory technician act correctly in this situation? | U. Gotautaitė



Case 2|Did the laboratory technician act correctly in this situation?|All profession groups | U. Gotautaitė

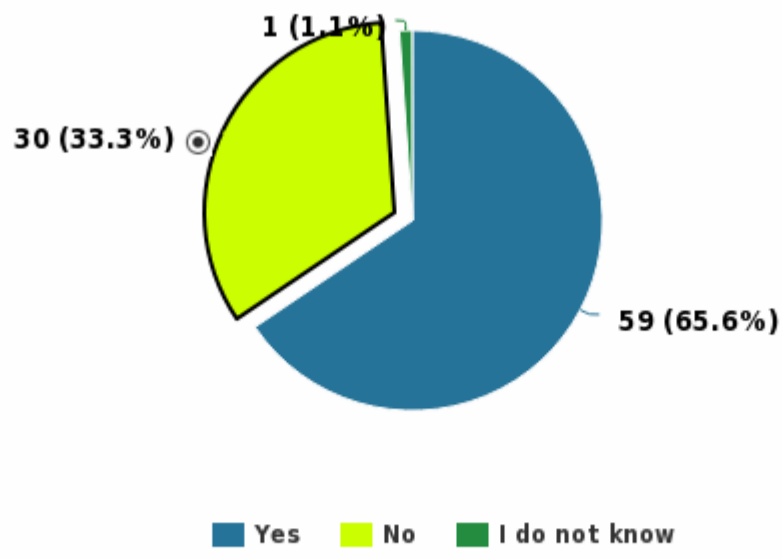


Case 2|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician | U. Gotautaitė

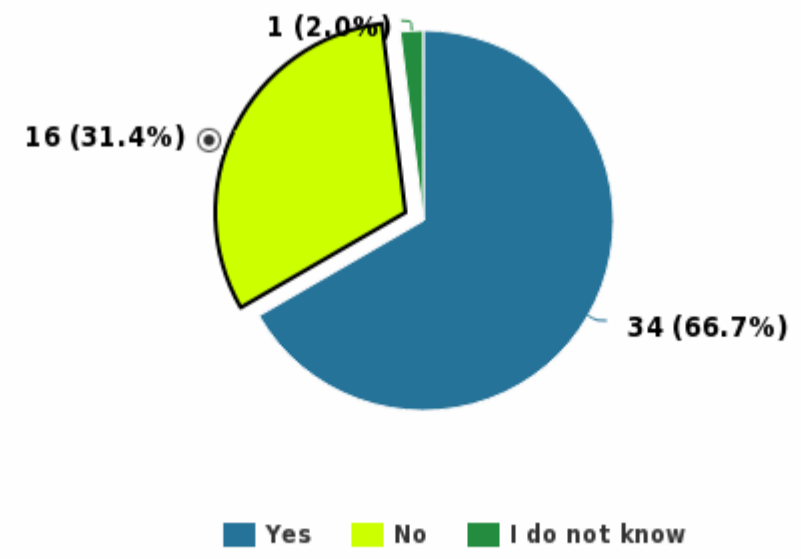


Case 3|Did the laboratory technician act correctly in this situation? | U.Gotautaitė

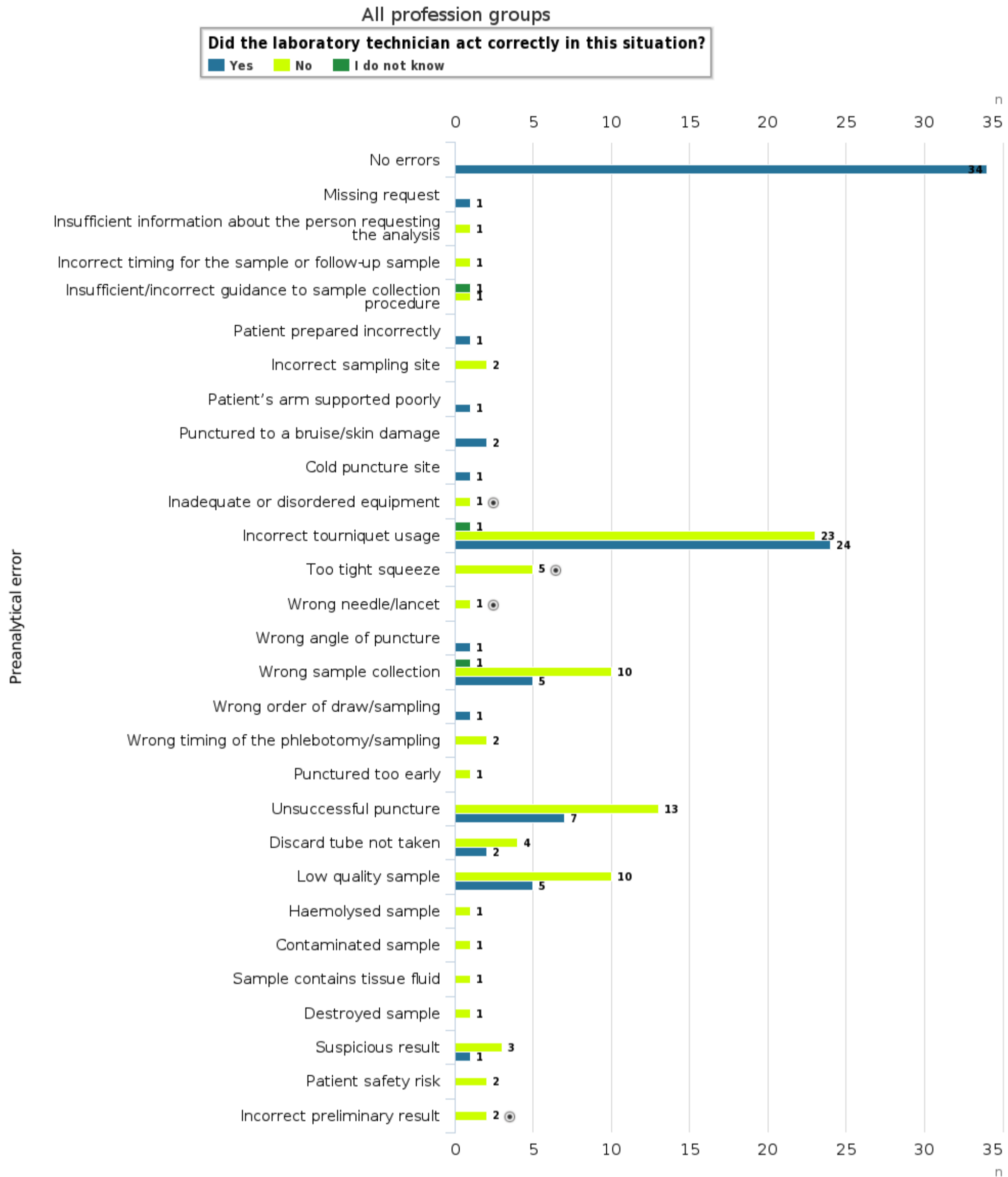
All profession groups



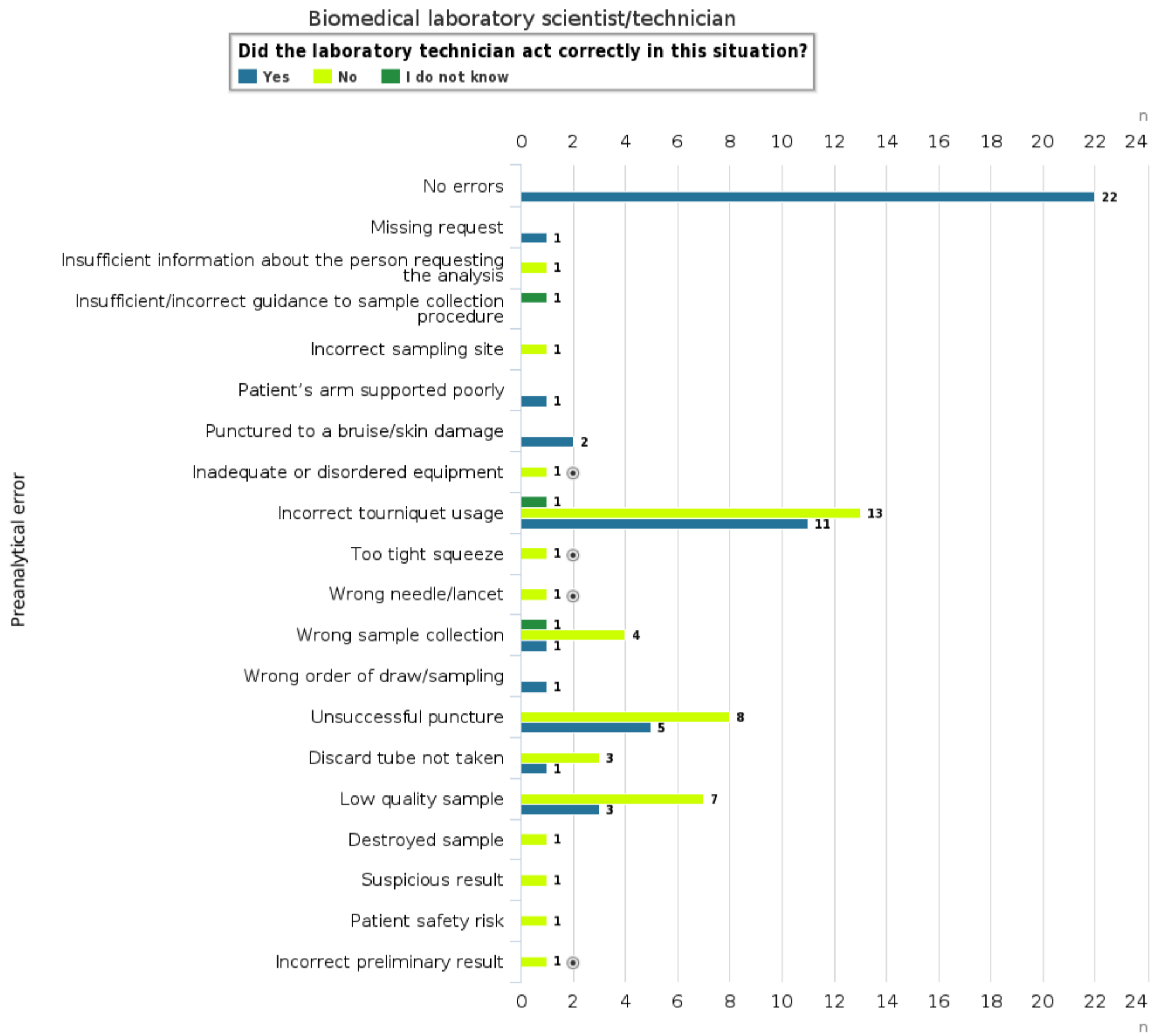
Biomedical laboratory scientist/technician



Case 3|Did the laboratory technician act correctly in this situation?|All profession groups | U.Gotautaitė



Case 3|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician | U.Gotautaitė



Report info

Participants

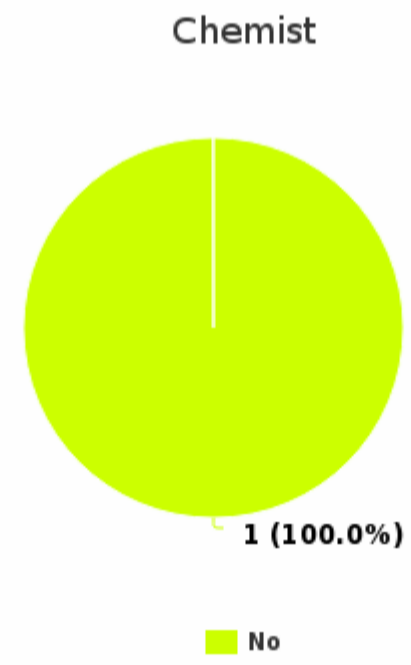
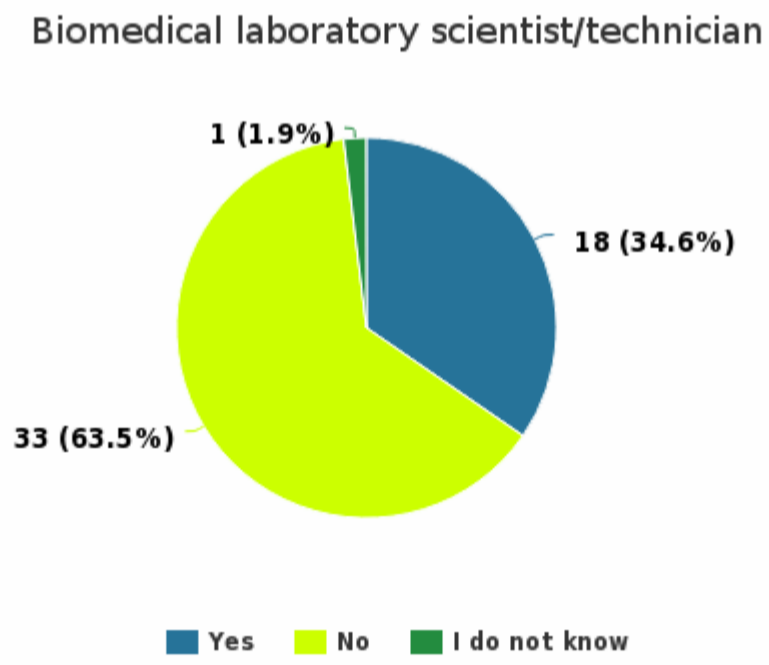
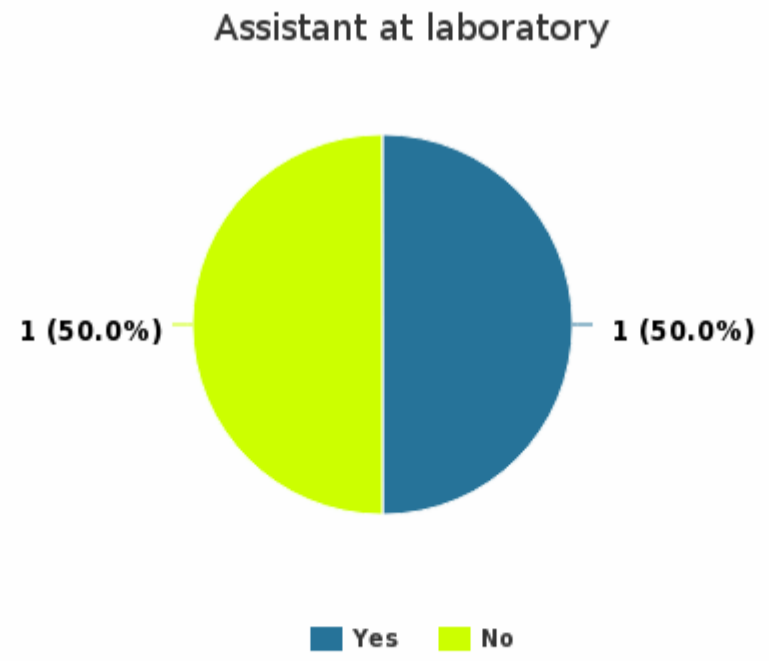
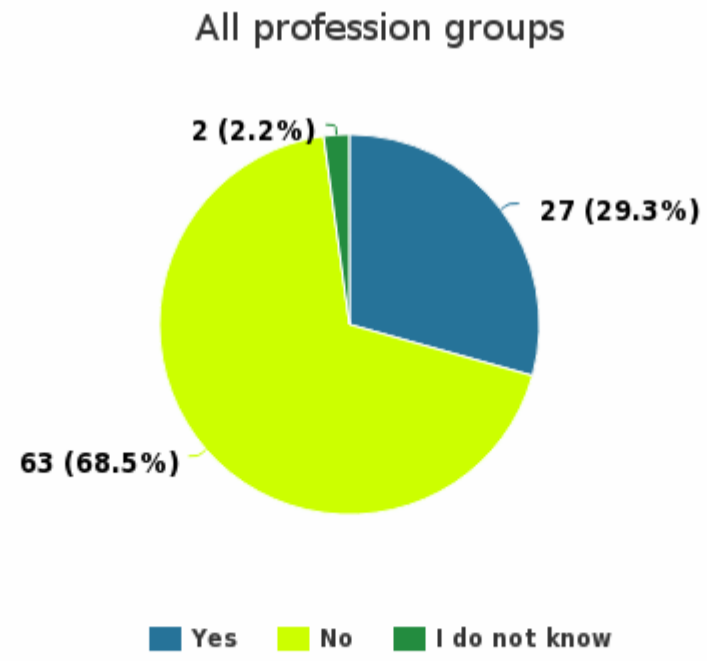
99 participants from 10 countries.

Report info

Suggestions of what would be the correct action in every case are done based on general recommendations. There might be some differences between organizations and countries, and some other action might also be valid and correct. The idea of these rounds is to get the participants to think about their own laboratory's procedures from a preanalytical point of view.

Results are grouped according to the informed participants' profession. Reported actions are shown in pie diagrams as percentages. Bar charts represent action answers in different colours as counts and they are grouped by different preanalytical errors. Laboratory's own results are marked with a black radio button . If you have not reported any results you will get a note: "You have not responded in time, only global report is available." In case you have any questions regarding the reports, please contact the EOA coordinator.

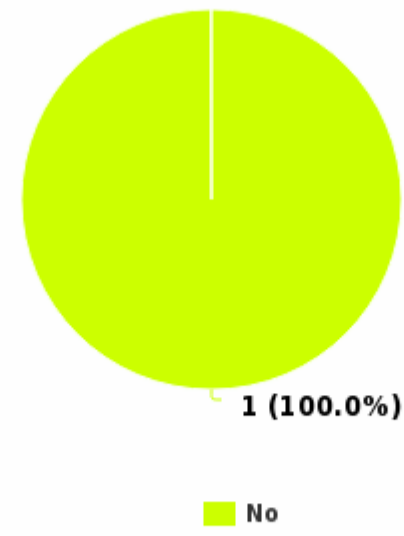
Case 1|Did the laboratory technician act correctly in this situation?



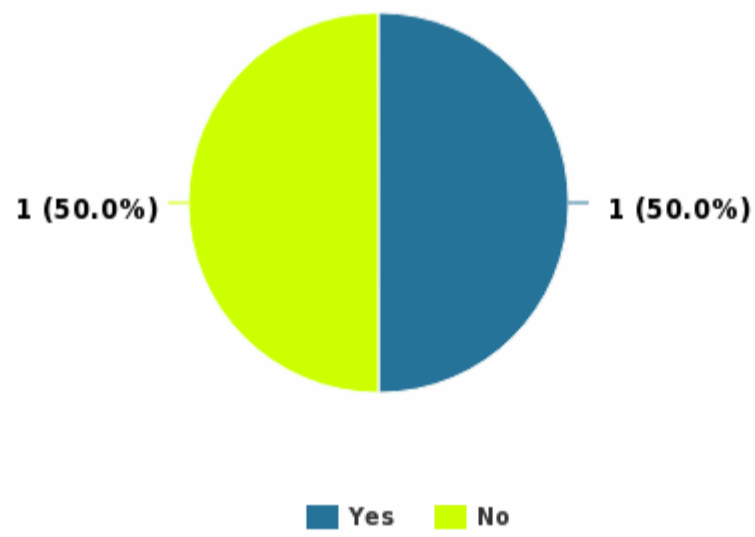
Group reply



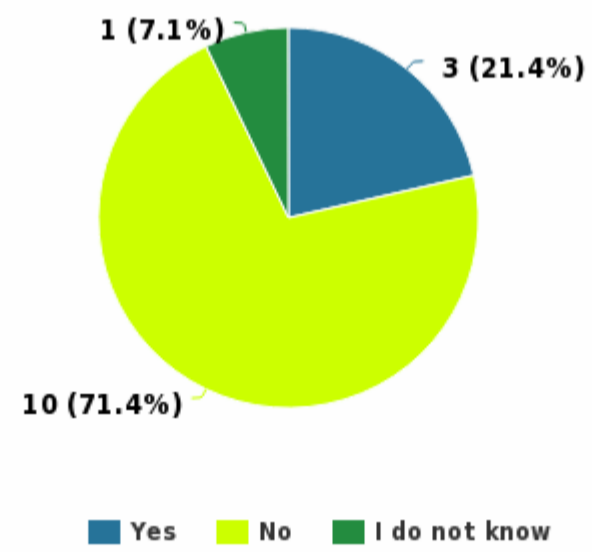
Medical doctor (degree in lab.medicine)



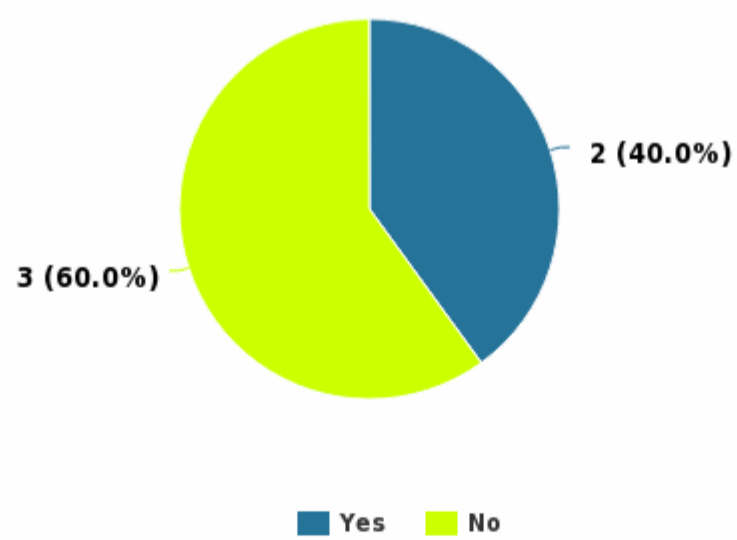
Medical doctor (other)



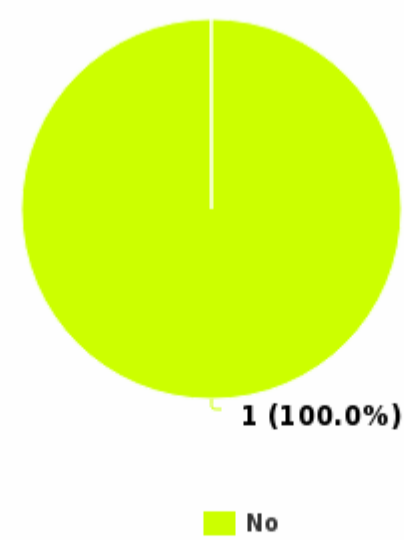
Nurse



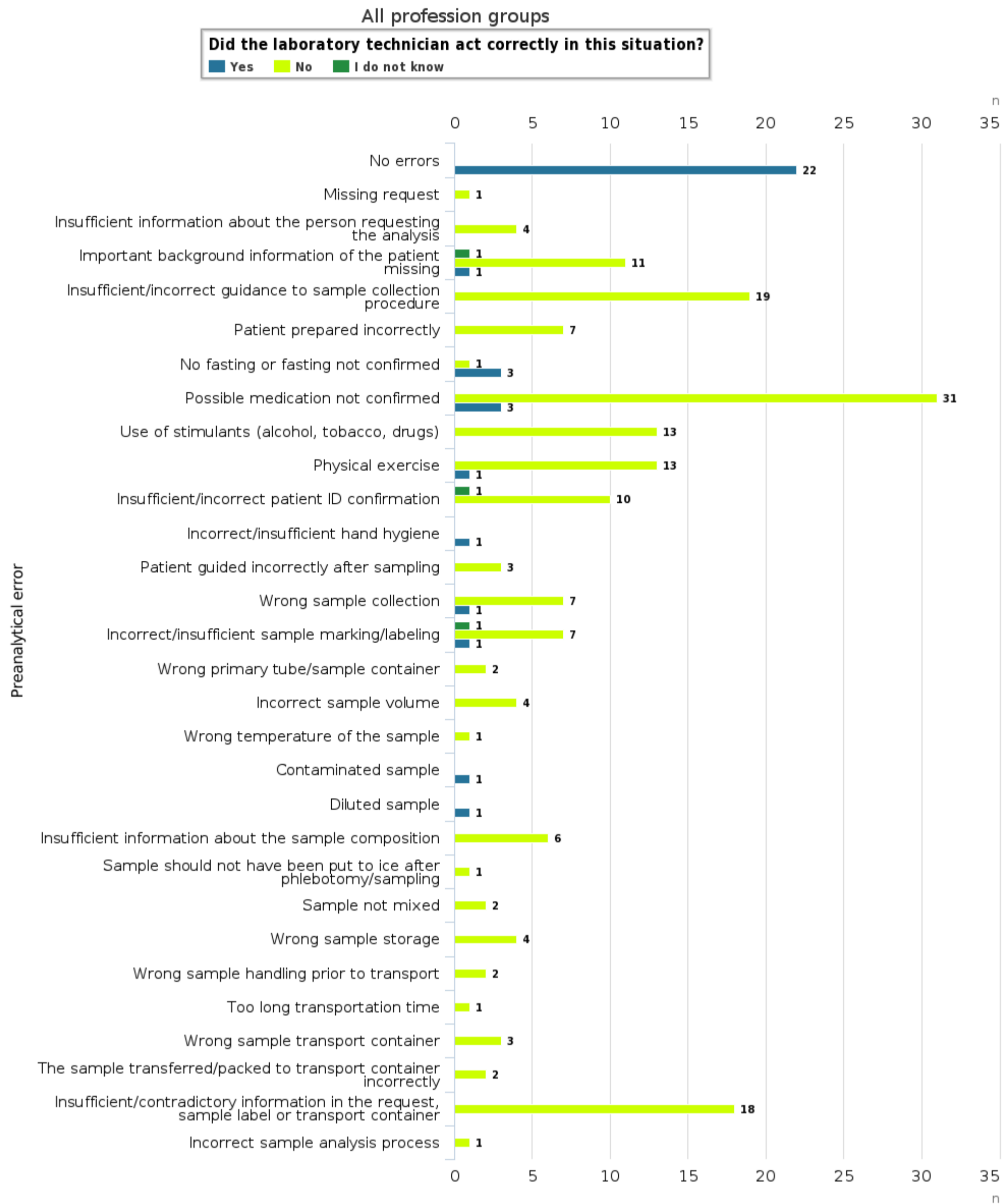
Other, what?



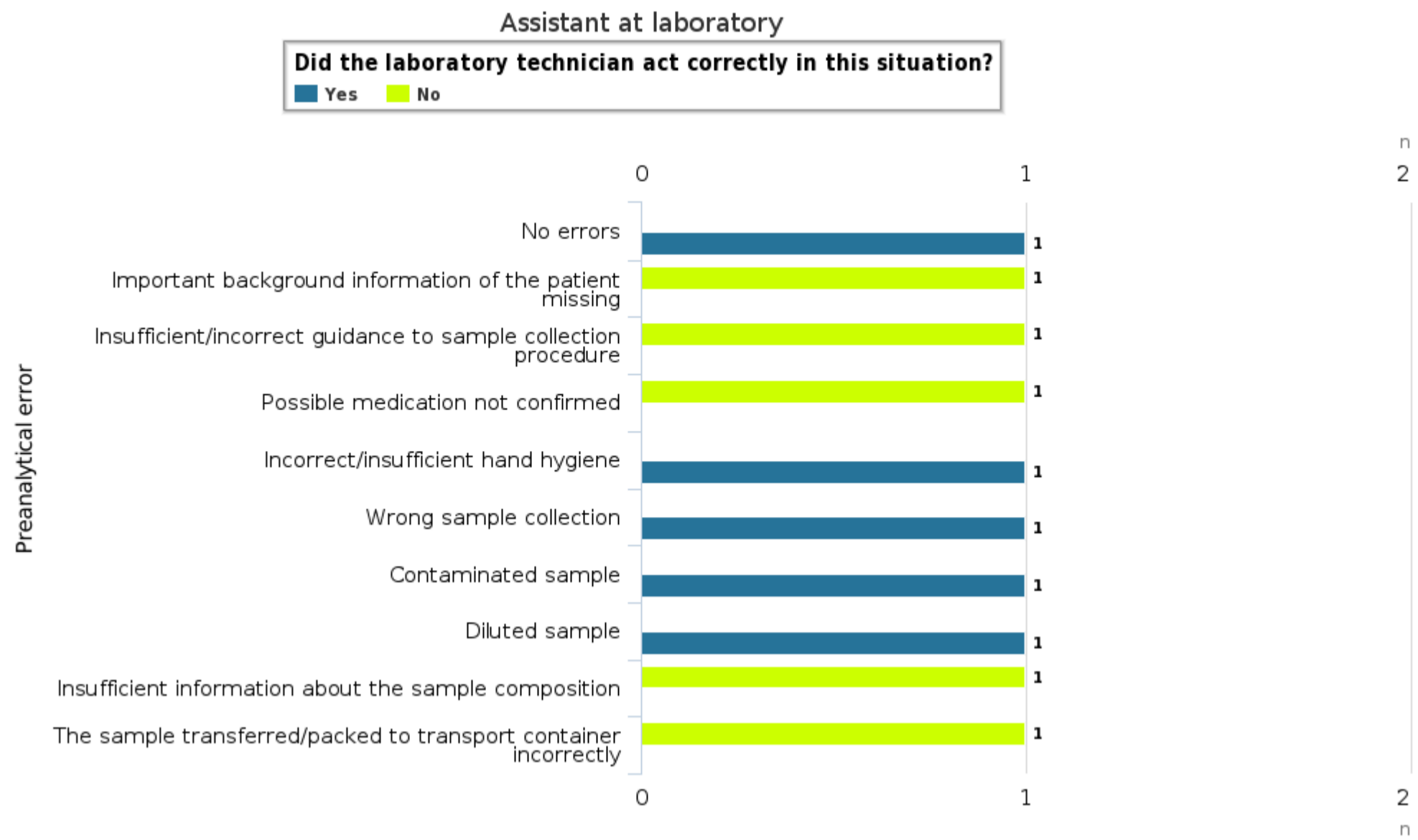
Phlebotomist



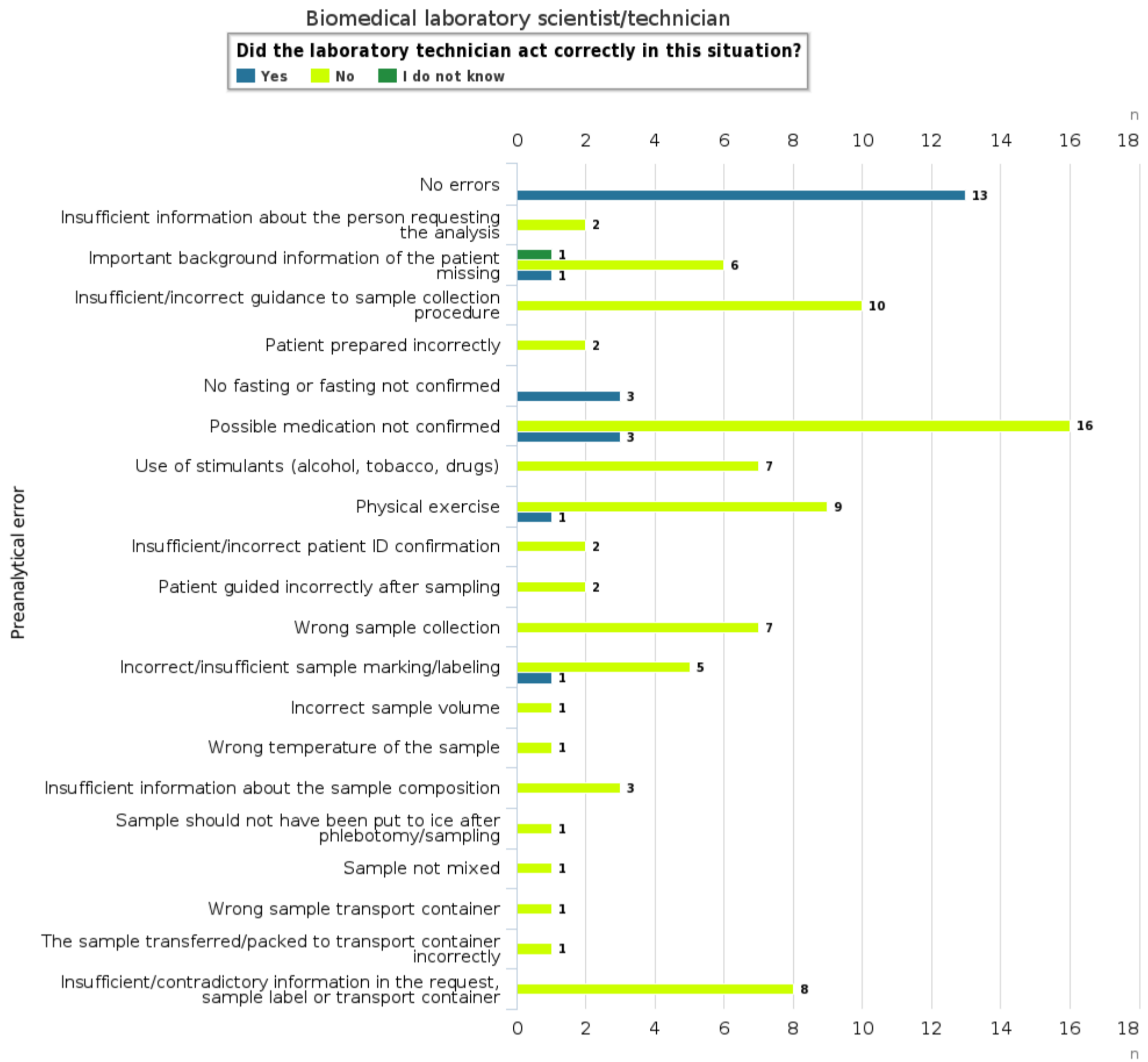
Case 1|Did the laboratory technician act correctly in this situation?|All profession groups



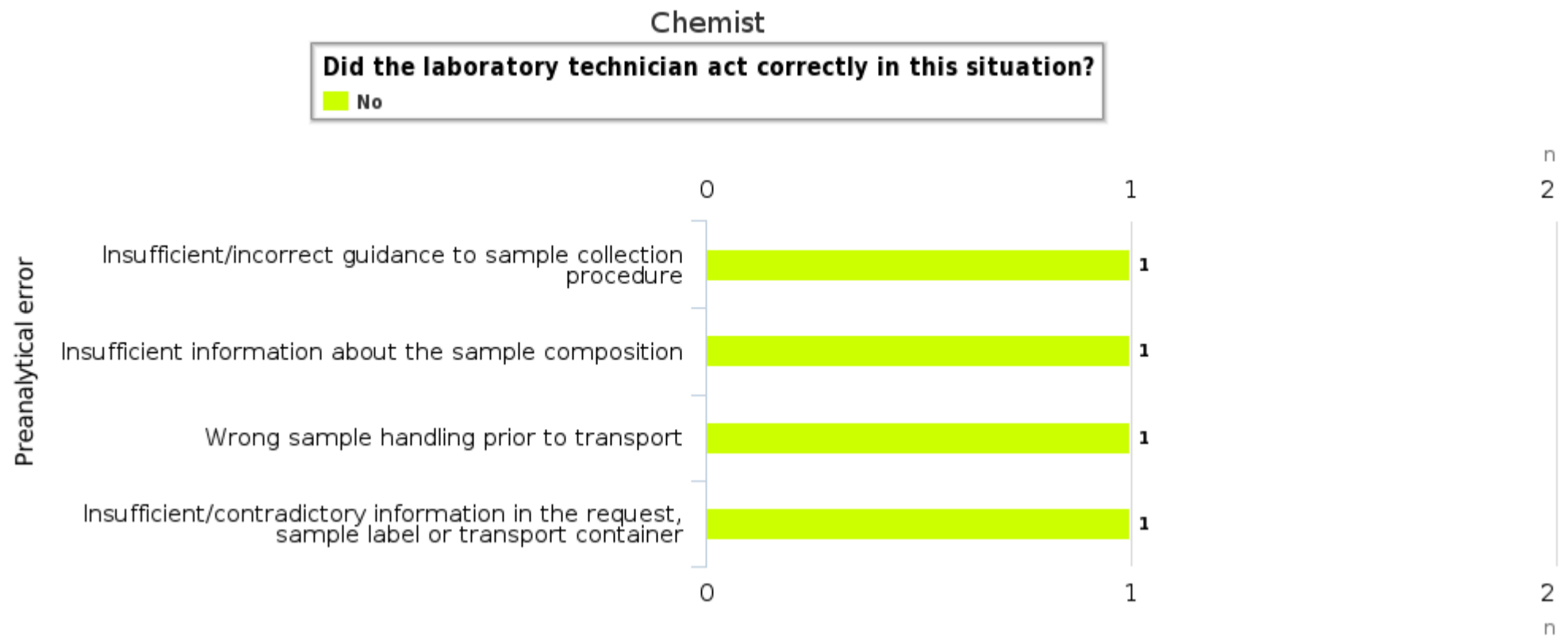
Case 1|Did the laboratory technician act correctly in this situation?|Assistant at laboratory



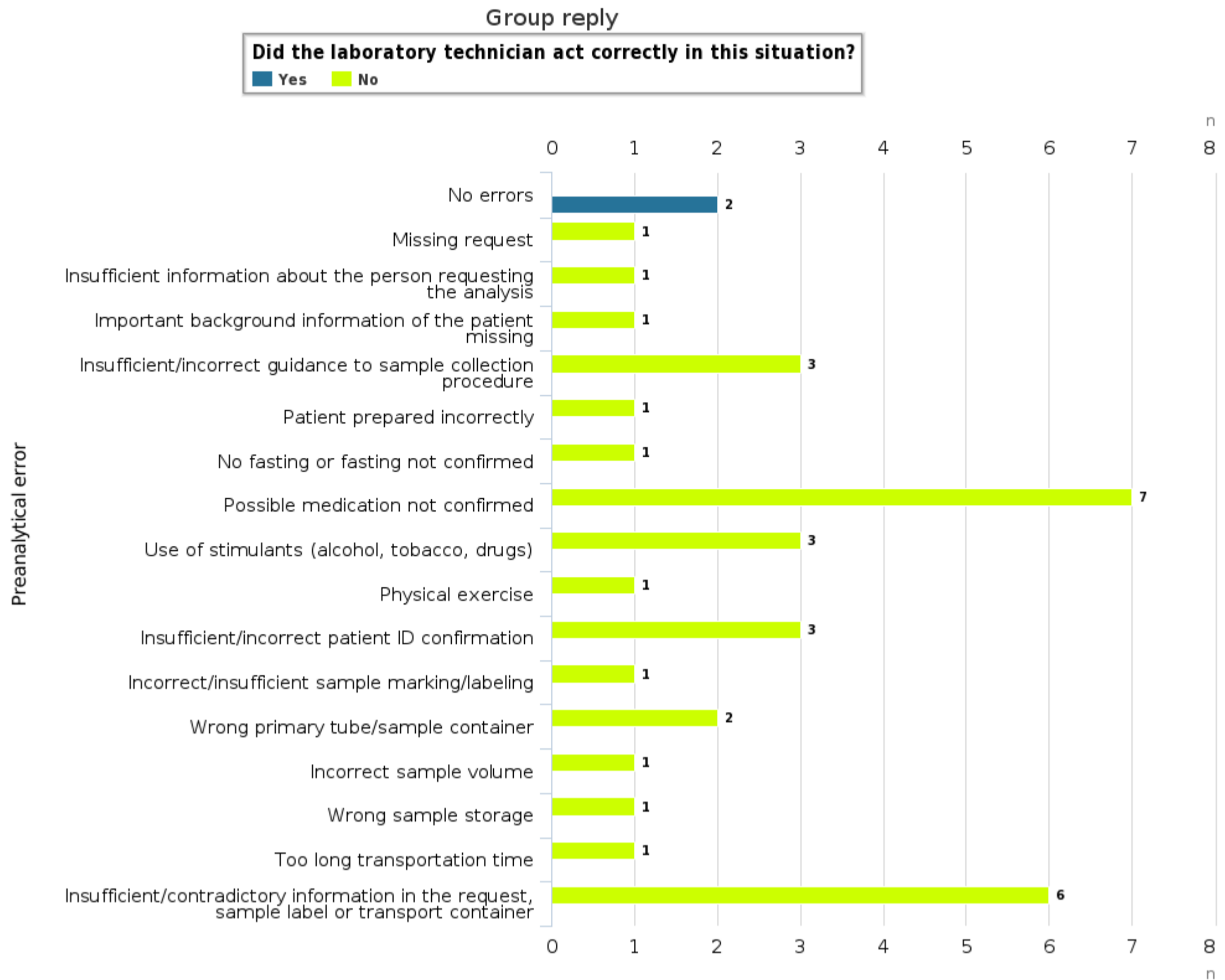
Case 1|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician



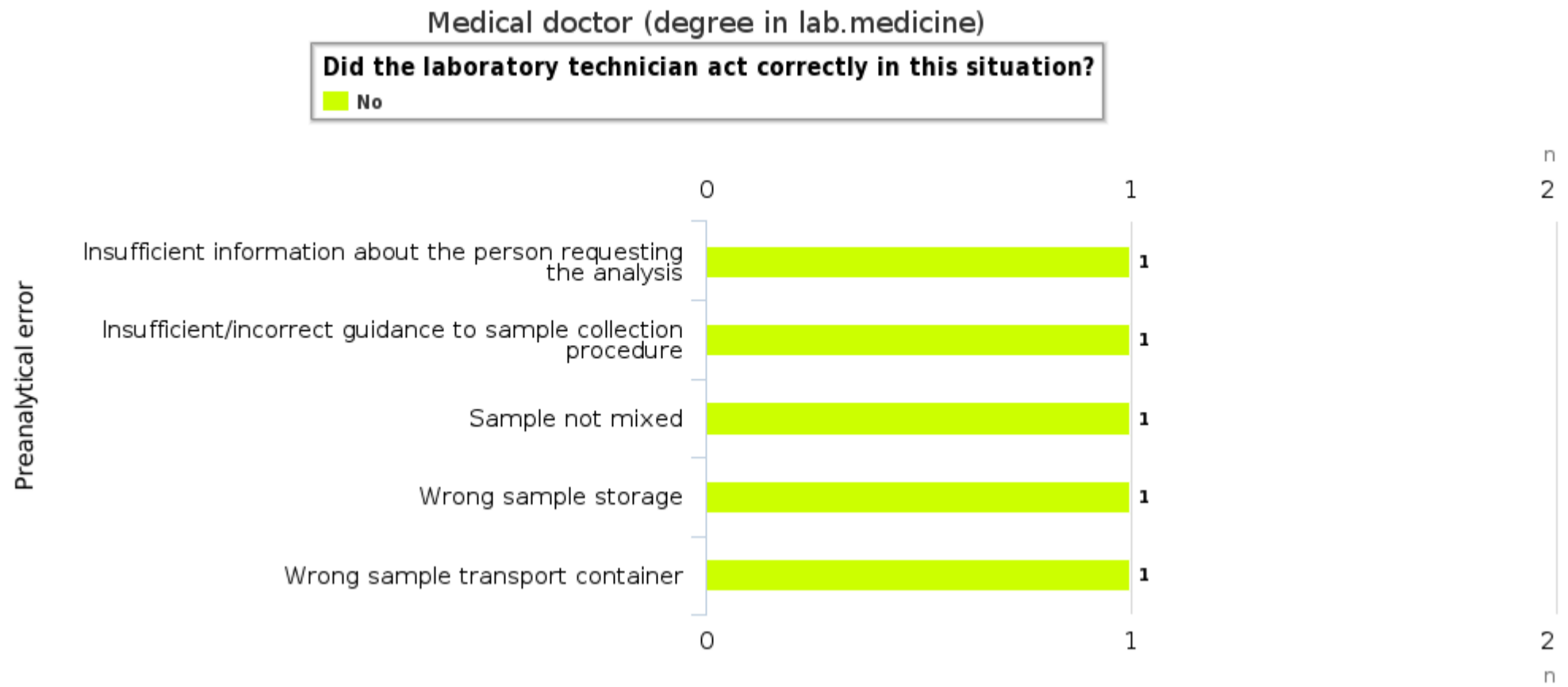
Case 1|Did the laboratory technician act correctly in this situation?|Chemist



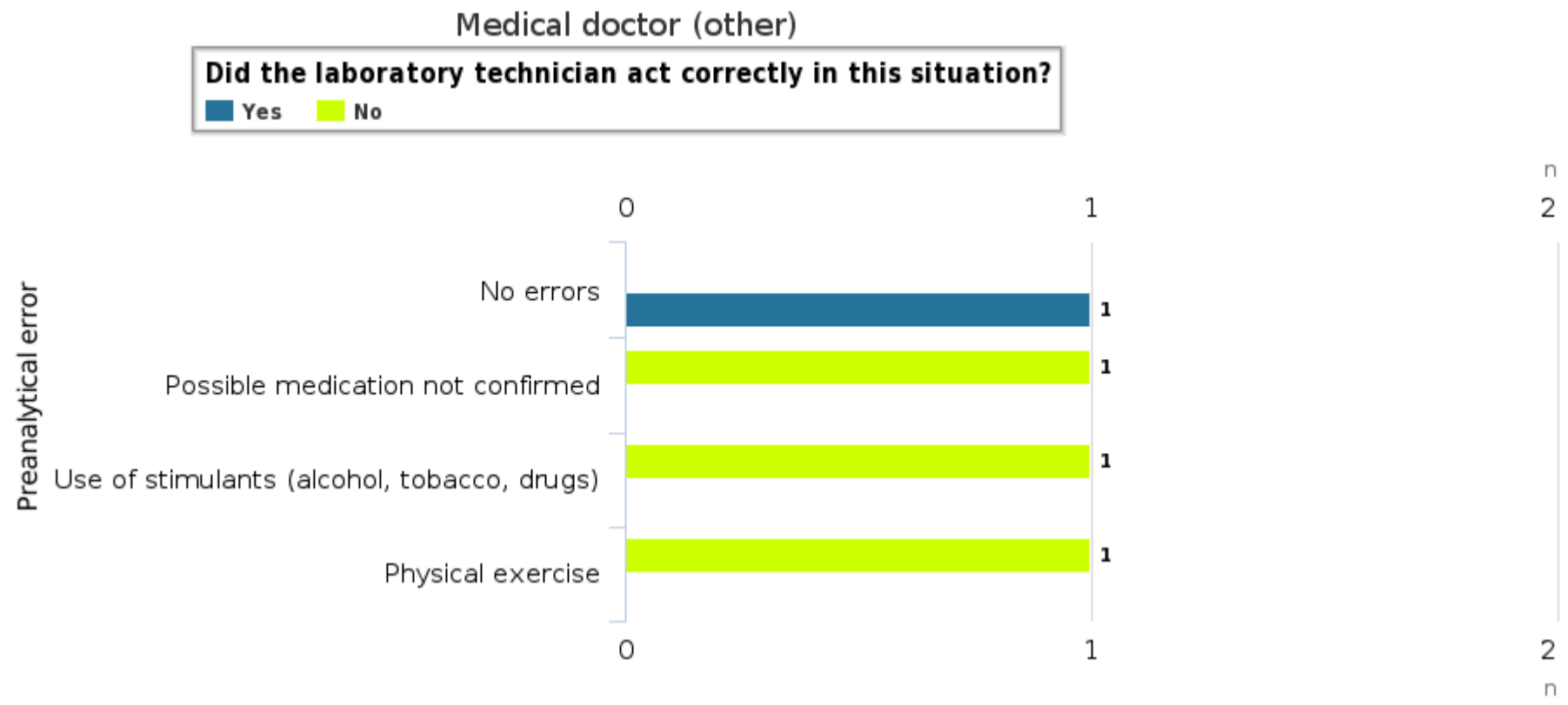
Case 1|Did the laboratory technician act correctly in this situation?|Group reply



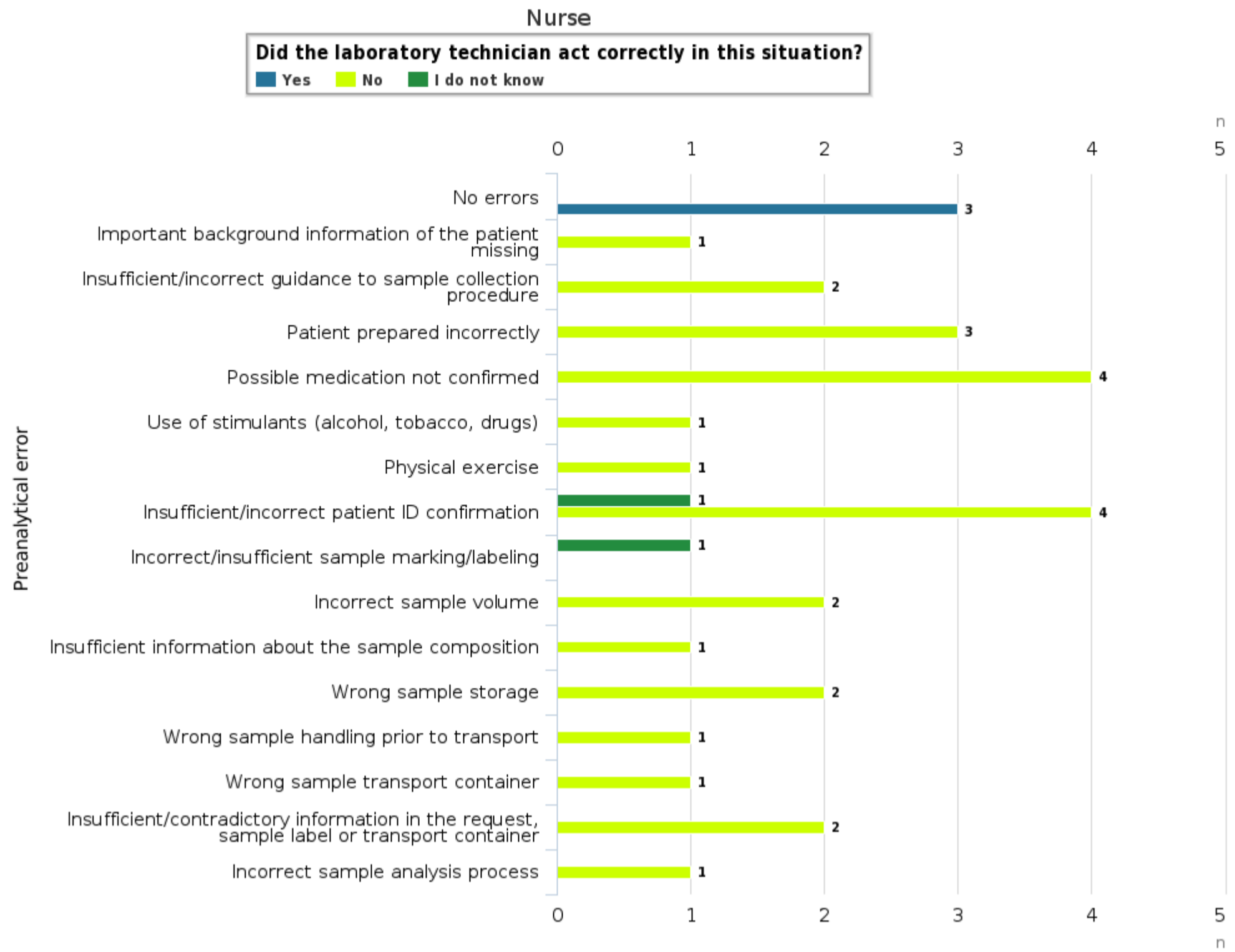
Case 1|Did the laboratory technician act correctly in this situation?|Medical doctor (degree in lab.medicine)



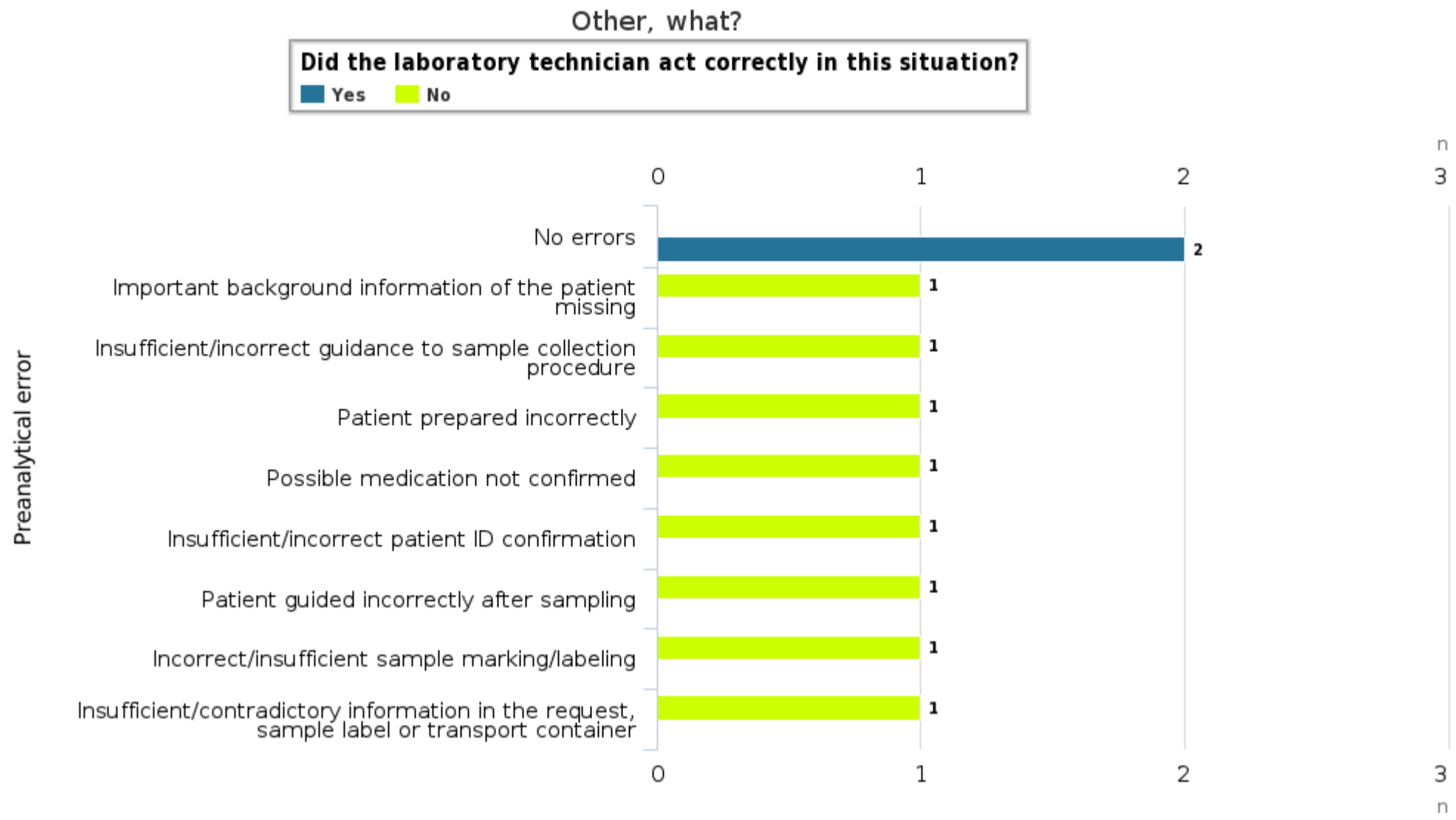
Case 1|Did the laboratory technician act correctly in this situation?|Medical doctor (other)



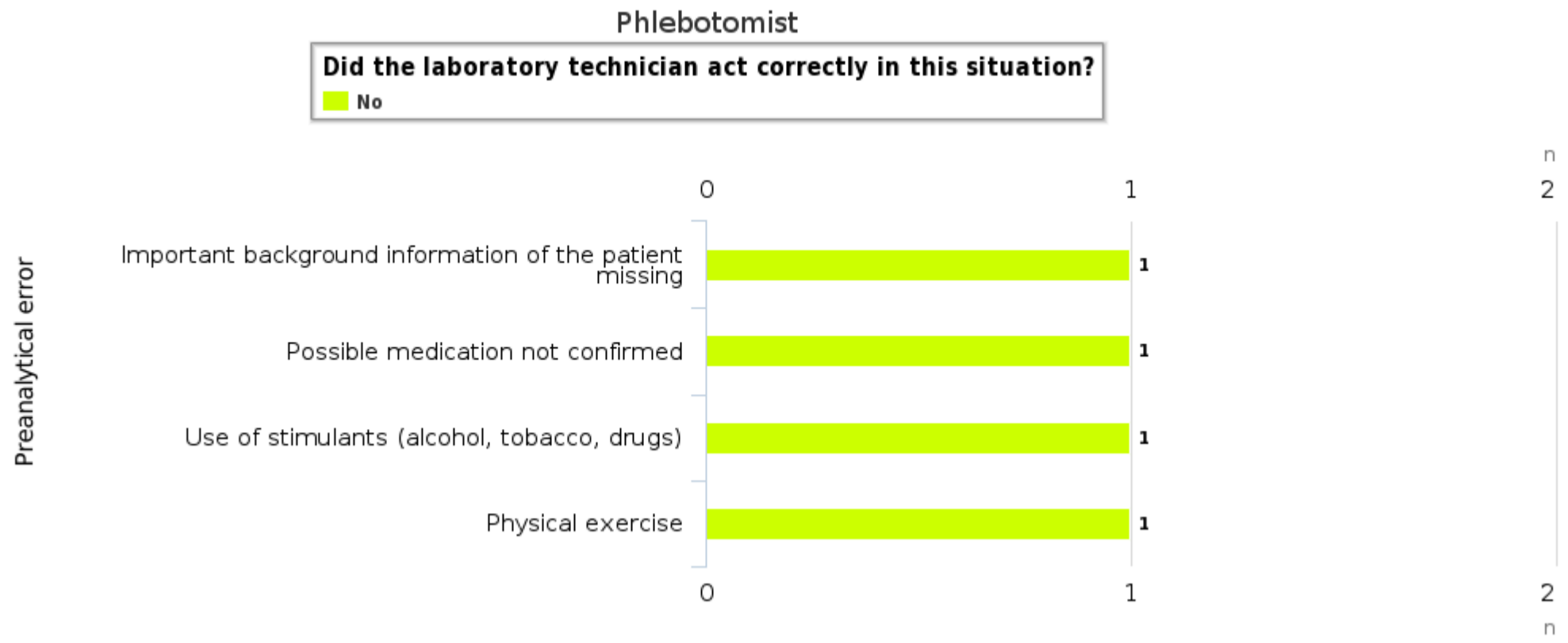
Case 1|Did the laboratory technician act correctly in this situation?|Nurse



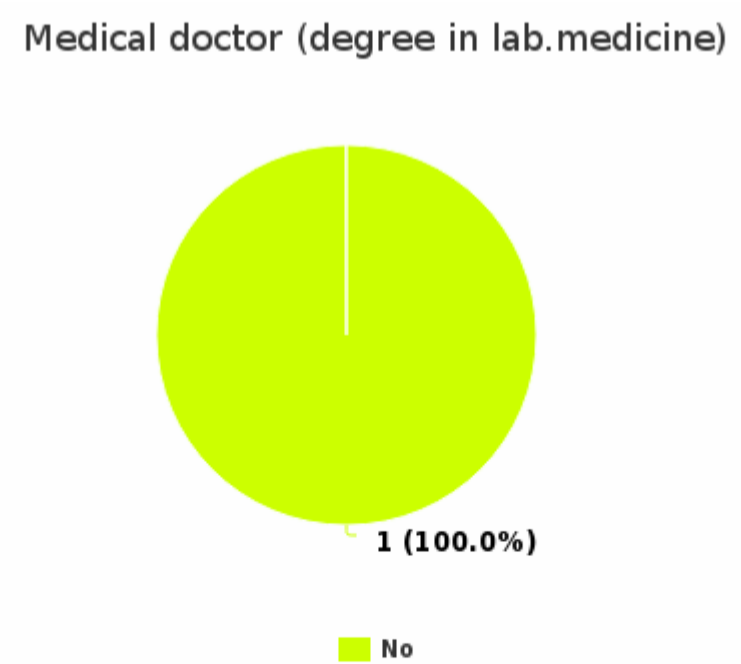
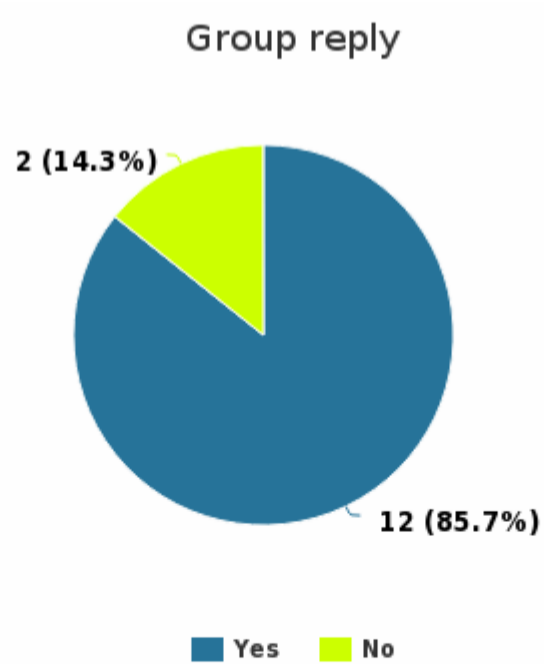
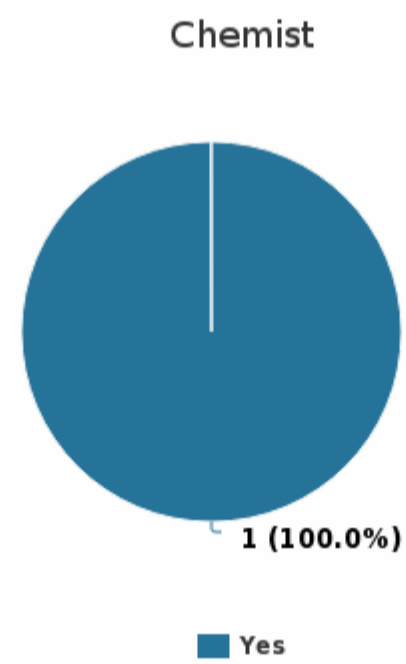
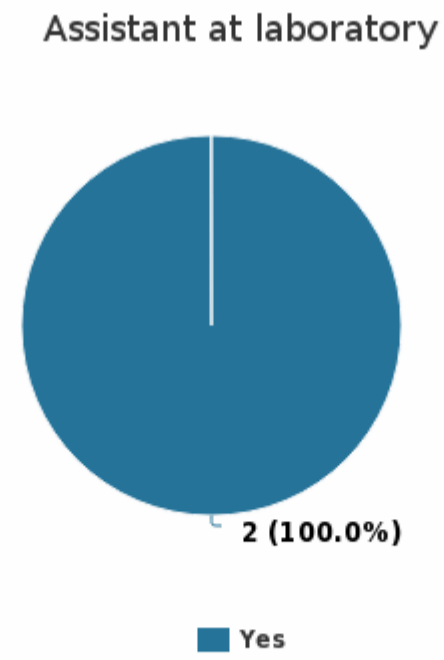
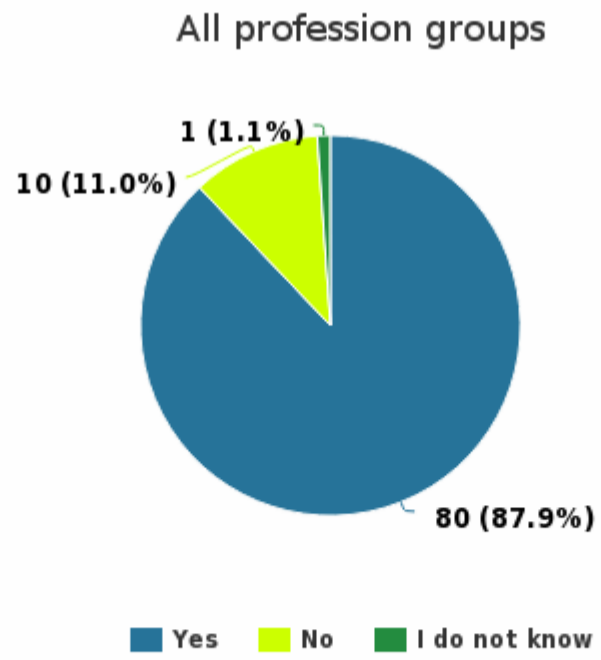
Case 1|Did the laboratory technician act correctly in this situation?|Other, what?



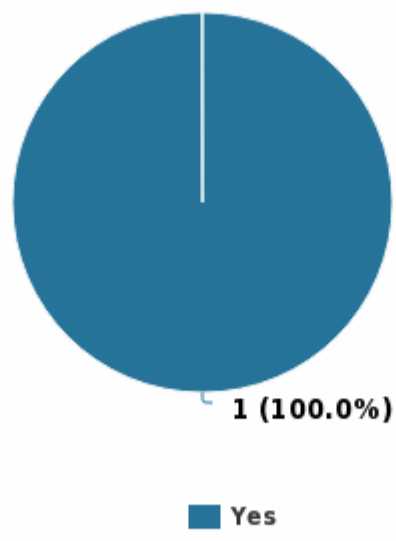
Case 1|Did the laboratory technician act correctly in this situation?|Phlebotomist



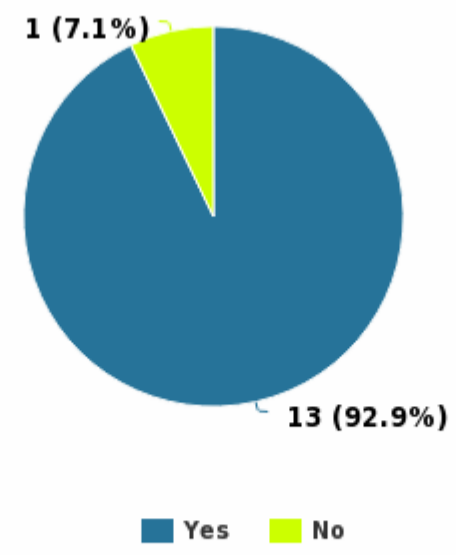
Case 2|Did the laboratory technician act correctly in this situation?



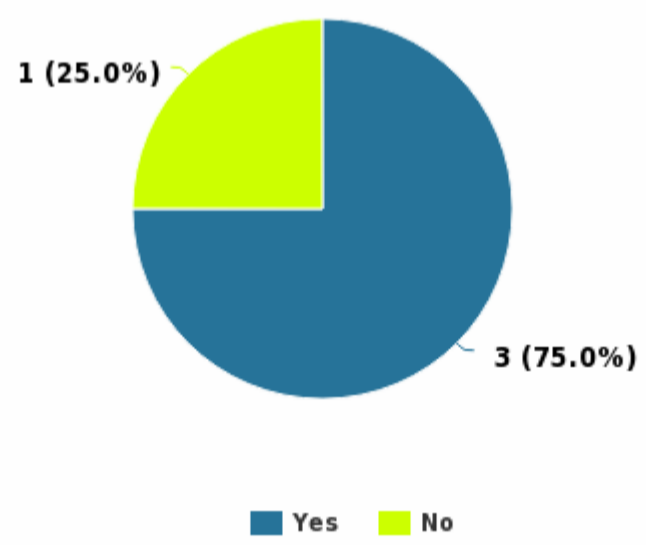
Medical doctor (other)



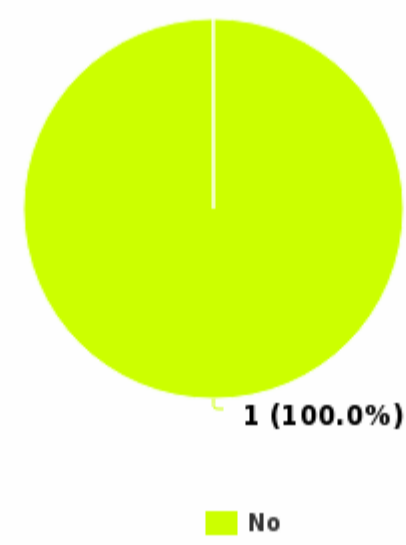
Nurse



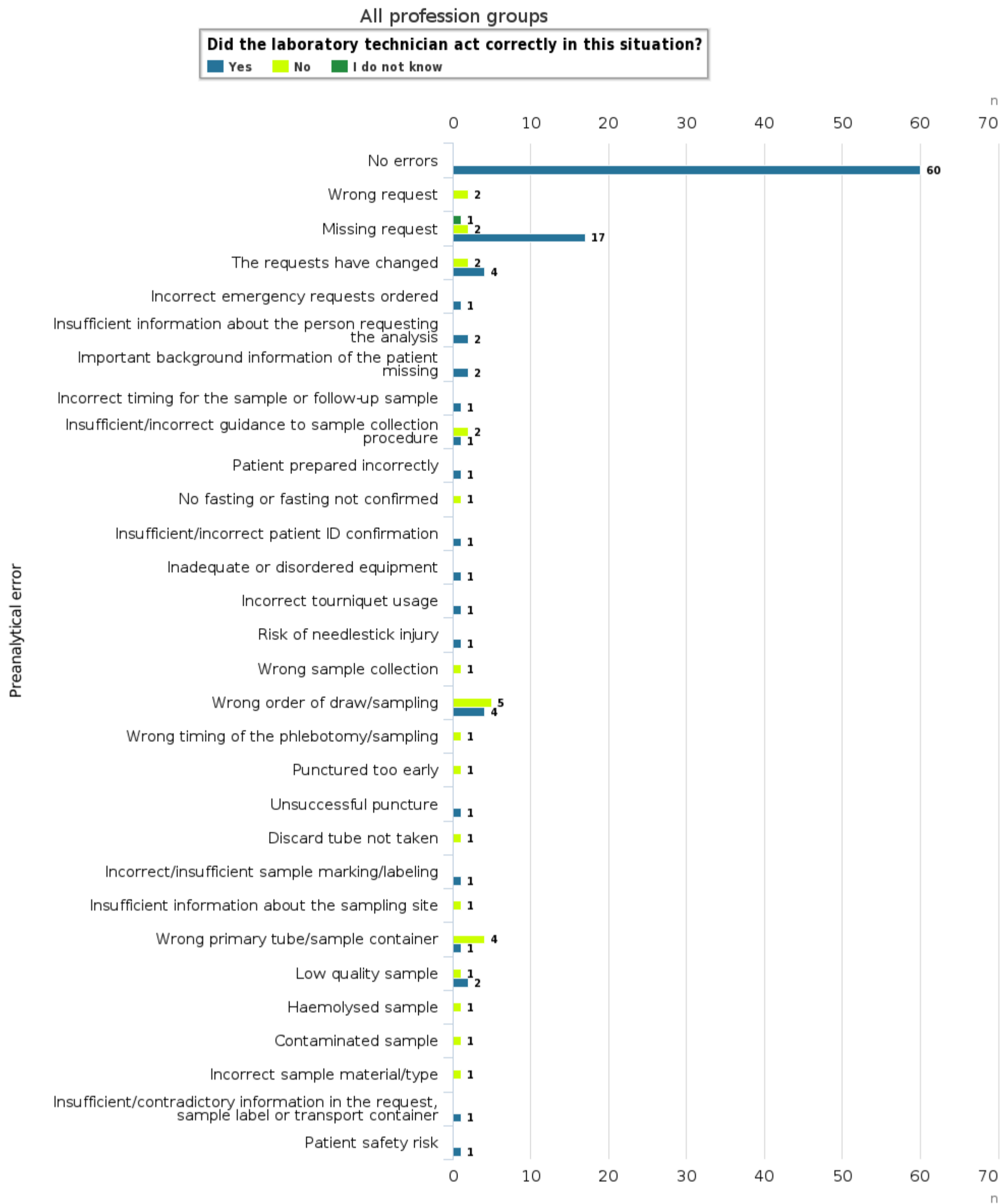
Other, what?



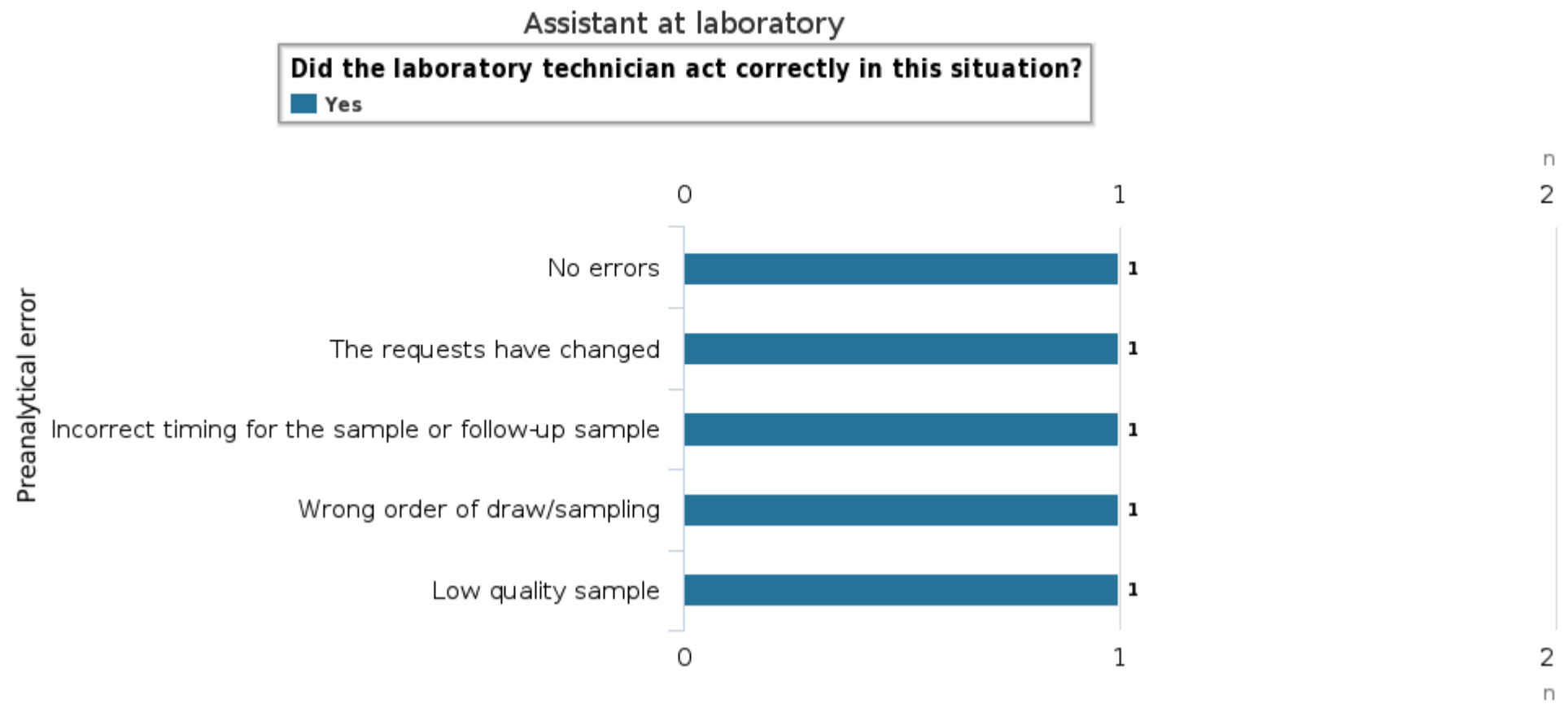
Phlebotomist



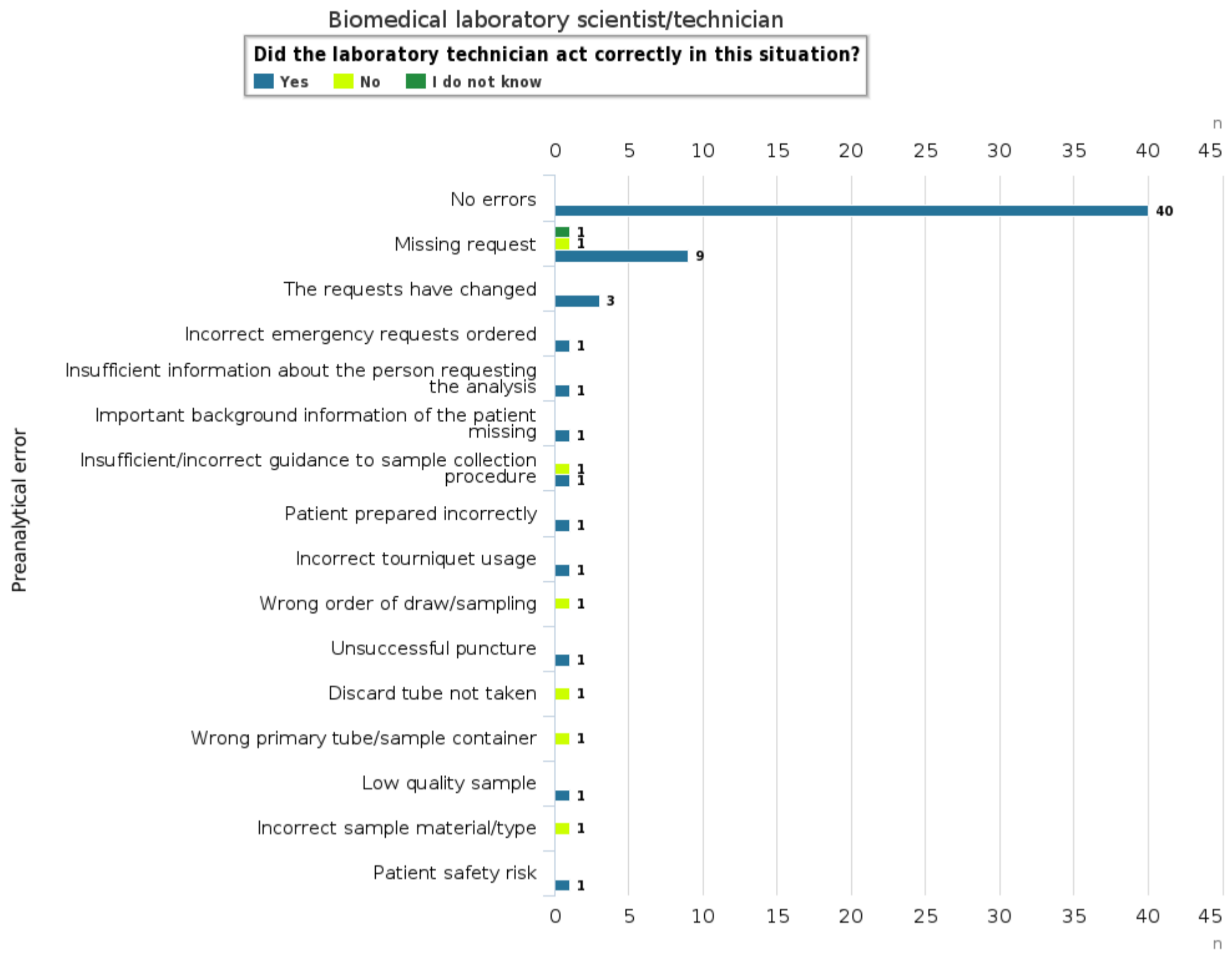
Case 2|Did the laboratory technician act correctly in this situation?|All profession groups



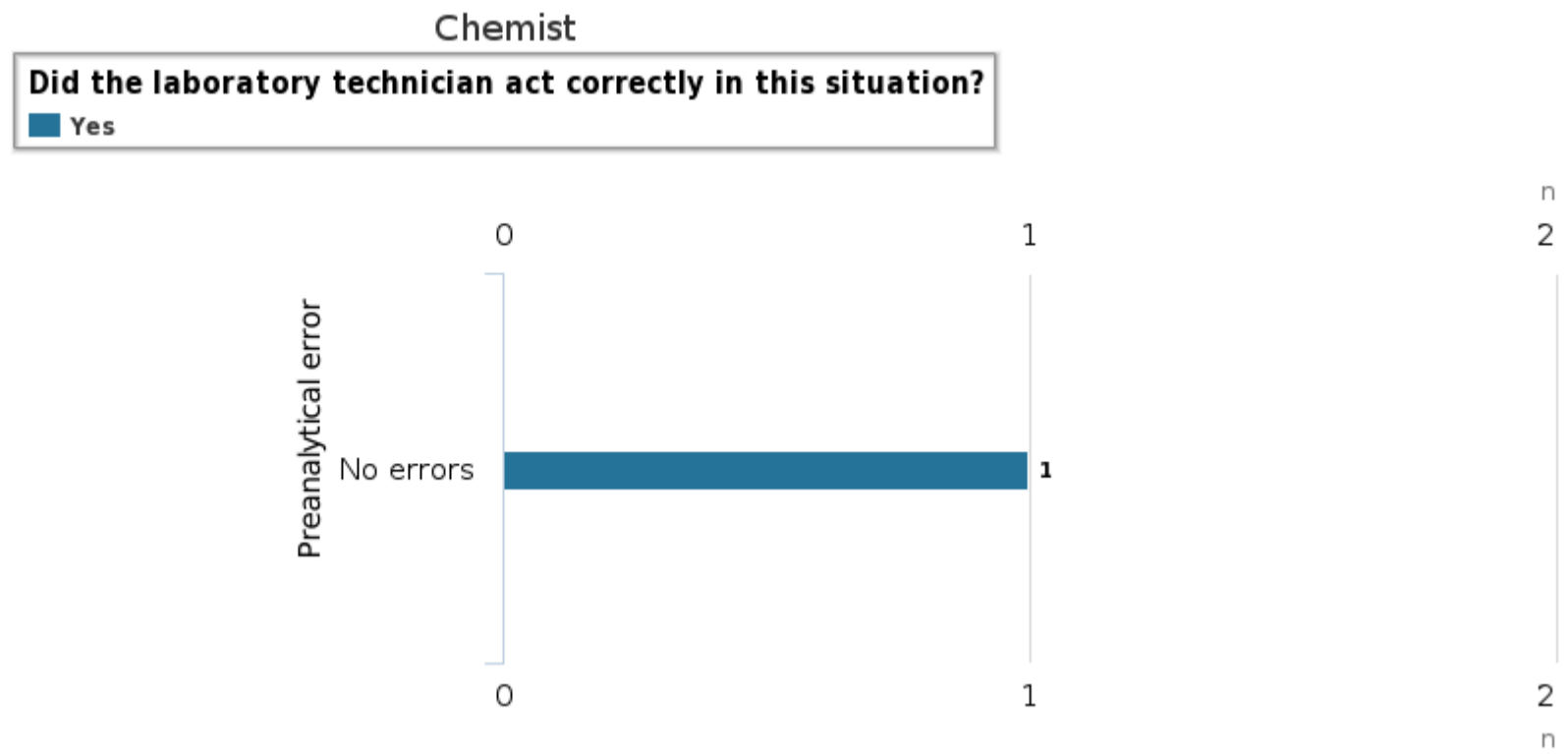
Case 2|Did the laboratory technician act correctly in this situation?|Assistant at laboratory



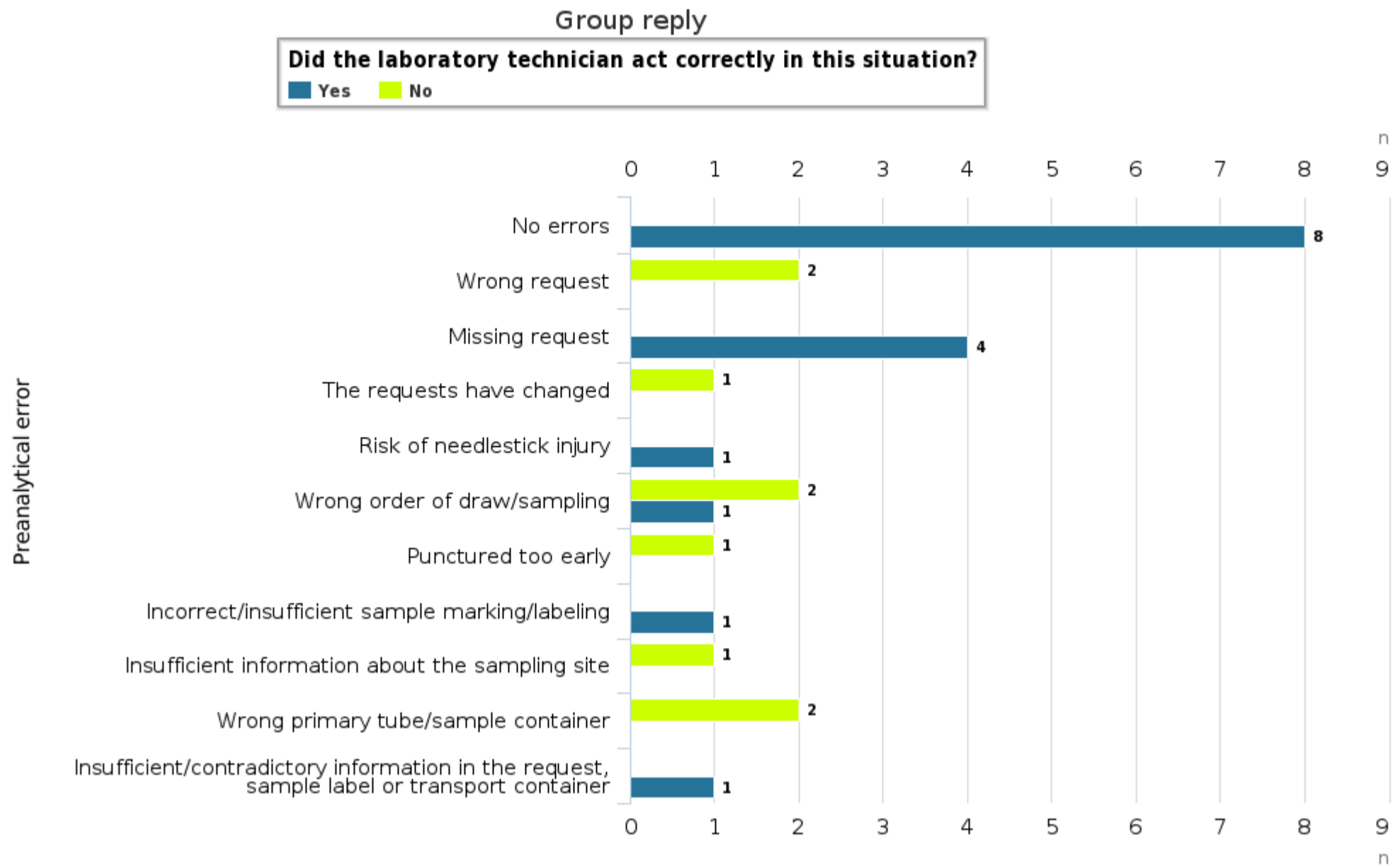
Case 2|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician



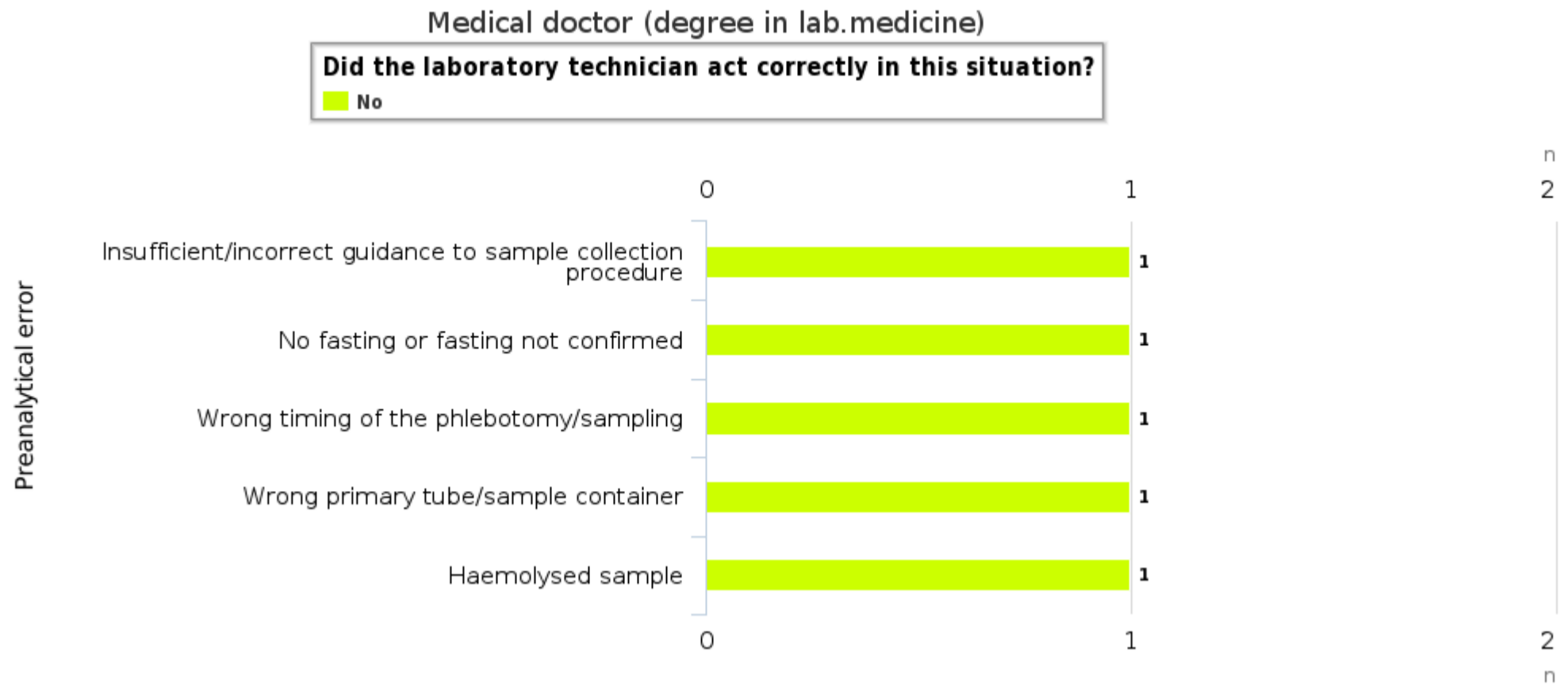
Case 2|Did the laboratory technician act correctly in this situation?|Chemist



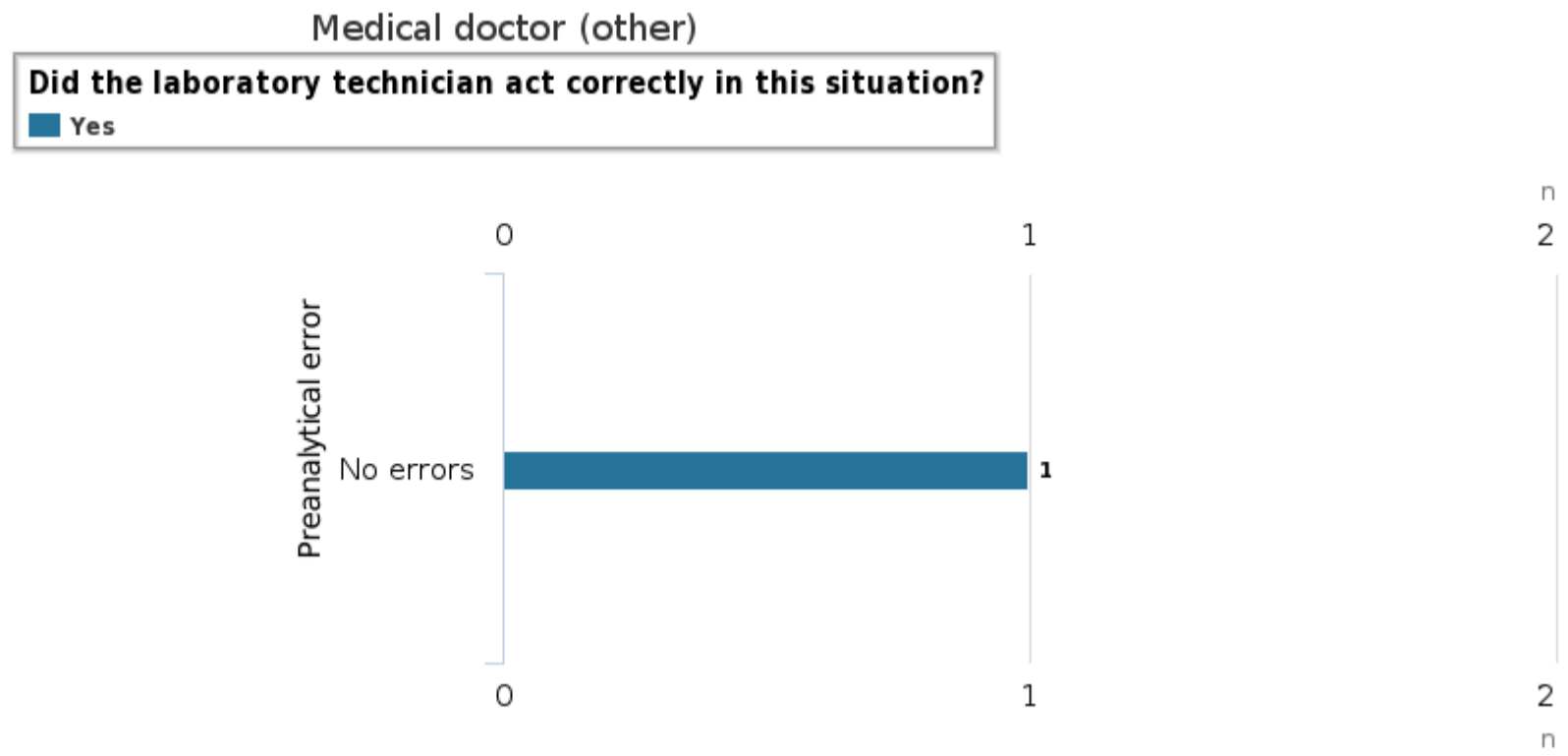
Case 2|Did the laboratory technician act correctly in this situation?|Group reply



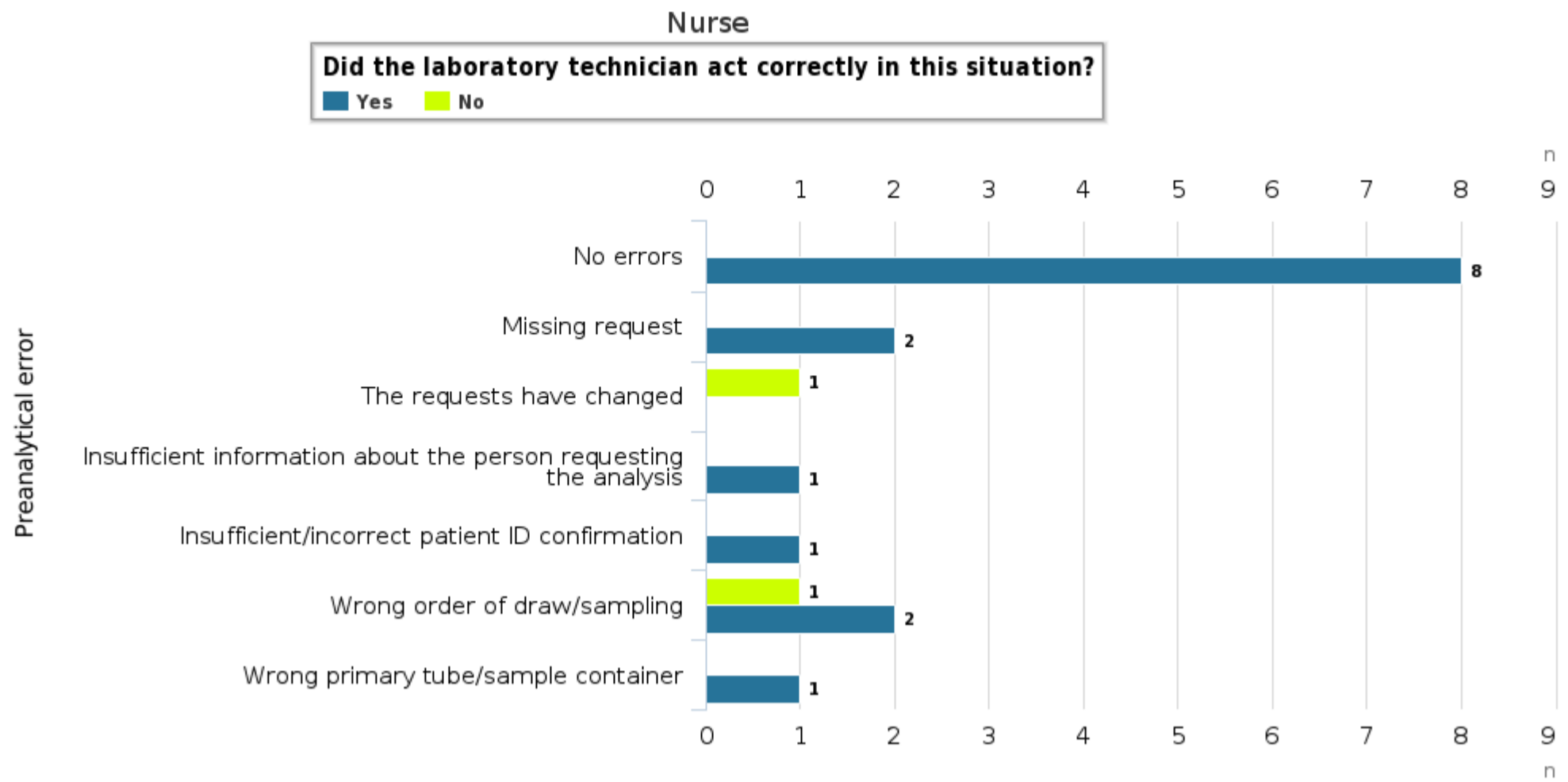
Case 2|Did the laboratory technician act correctly in this situation?|Medical doctor (degree in lab.medicine)



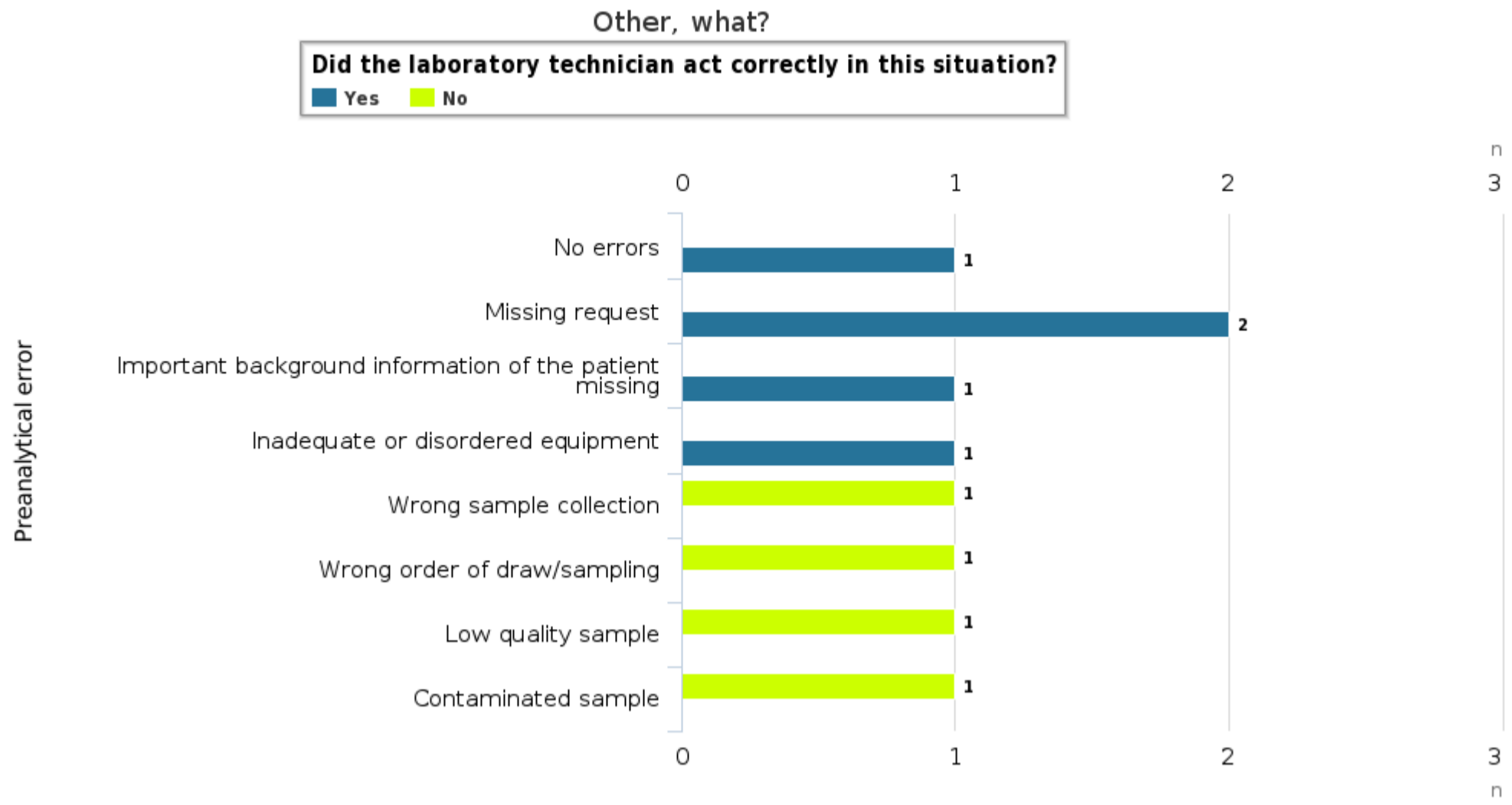
Case 2|Did the laboratory technician act correctly in this situation?|Medical doctor (other)



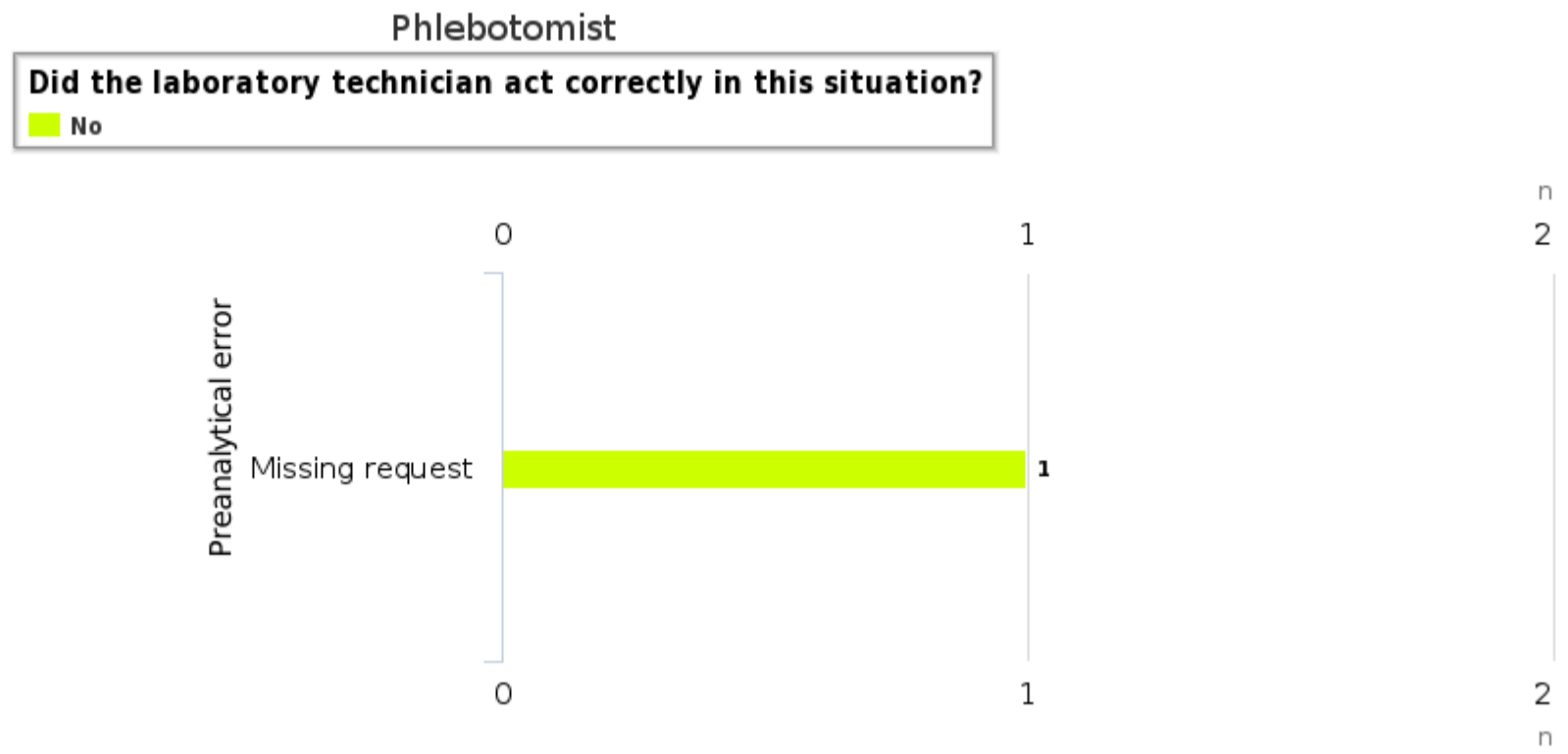
Case 2|Did the laboratory technician act correctly in this situation?|Nurse



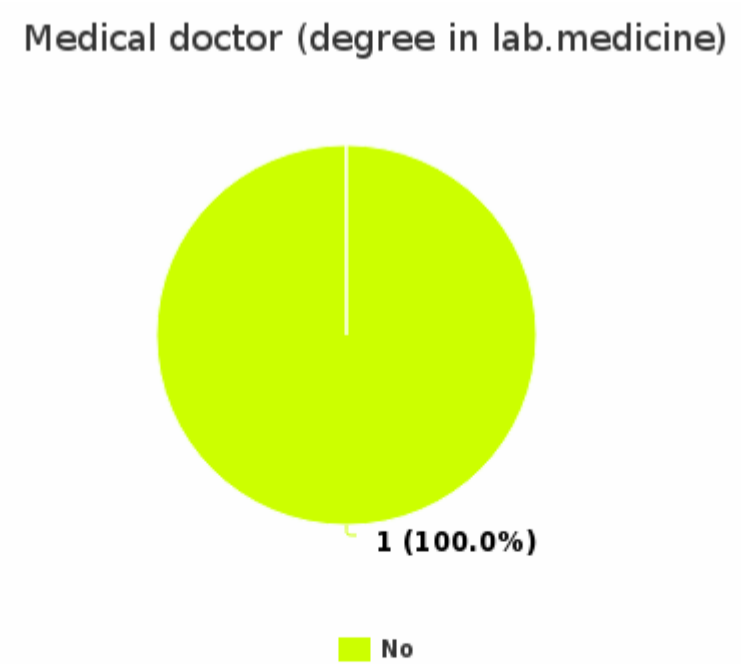
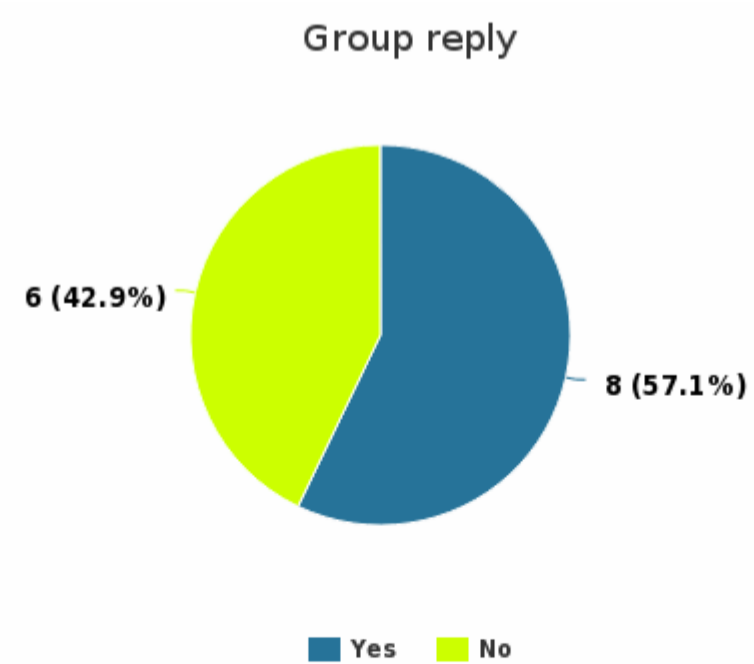
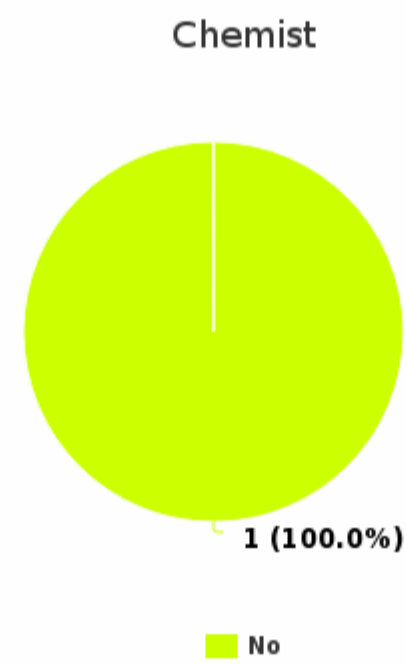
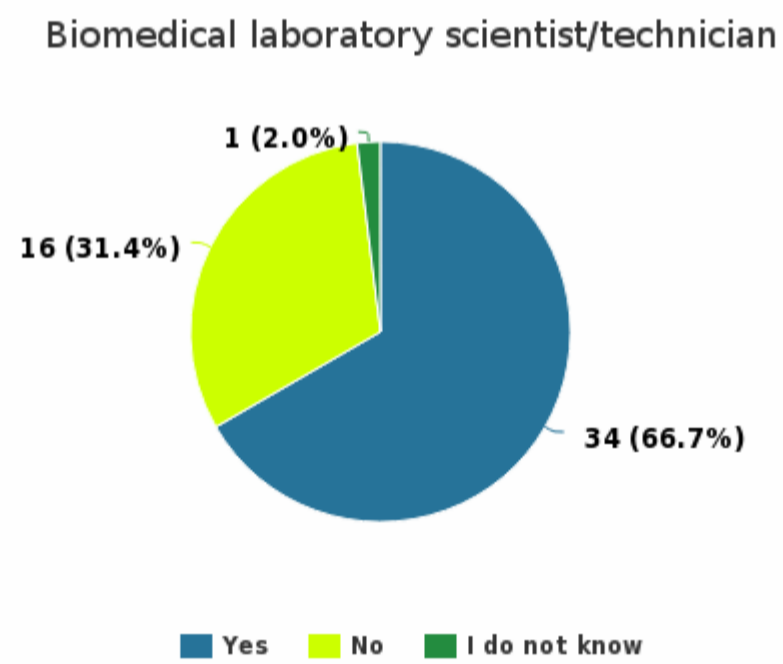
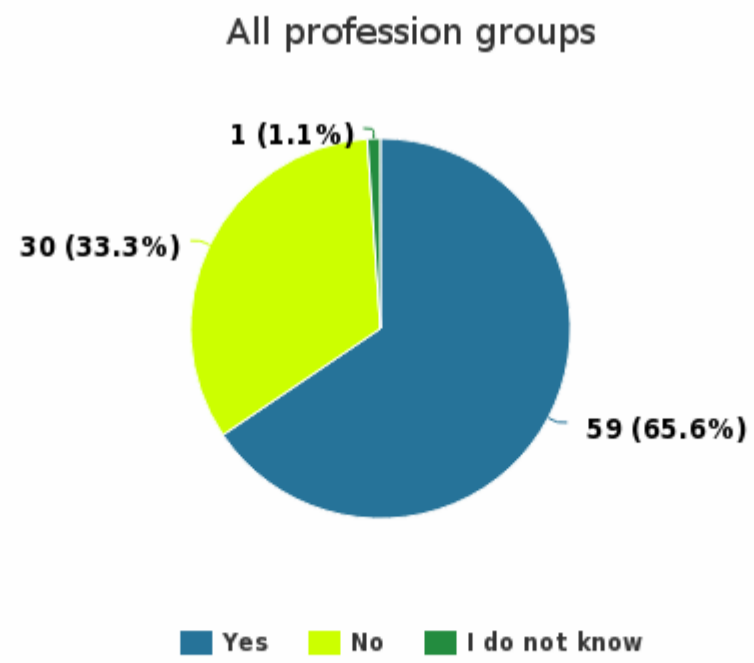
Case 2|Did the laboratory technician act correctly in this situation?|Other, what?



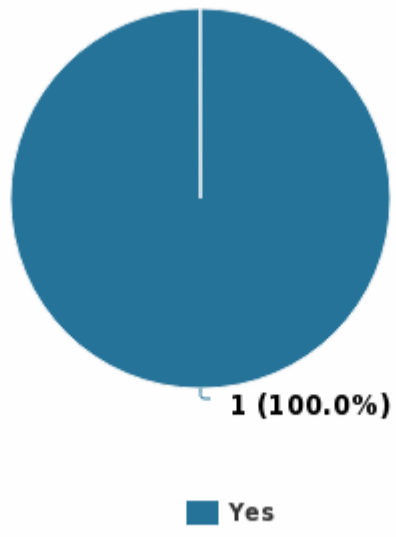
Case 2|Did the laboratory technician act correctly in this situation?|Phlebotomist



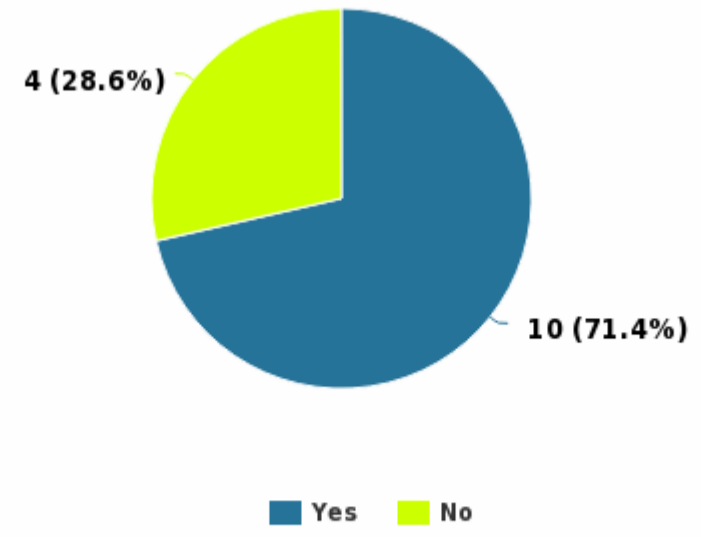
Case 3|Did the laboratory technician act correctly in this situation?



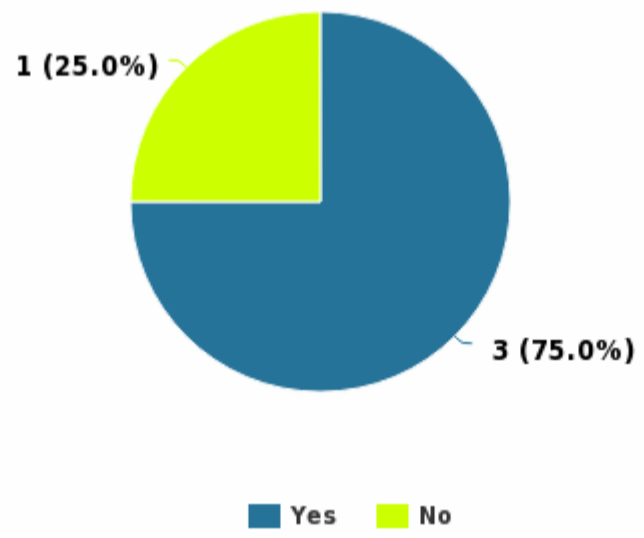
Medical doctor (other)



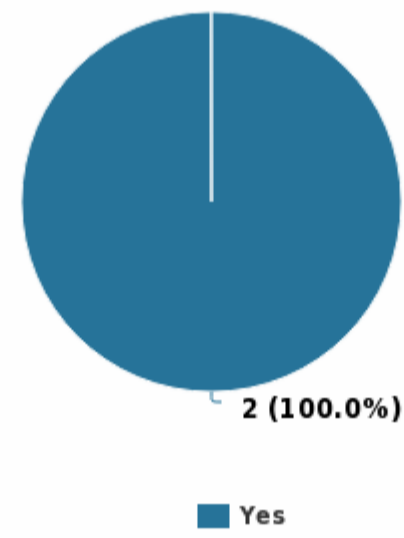
Nurse



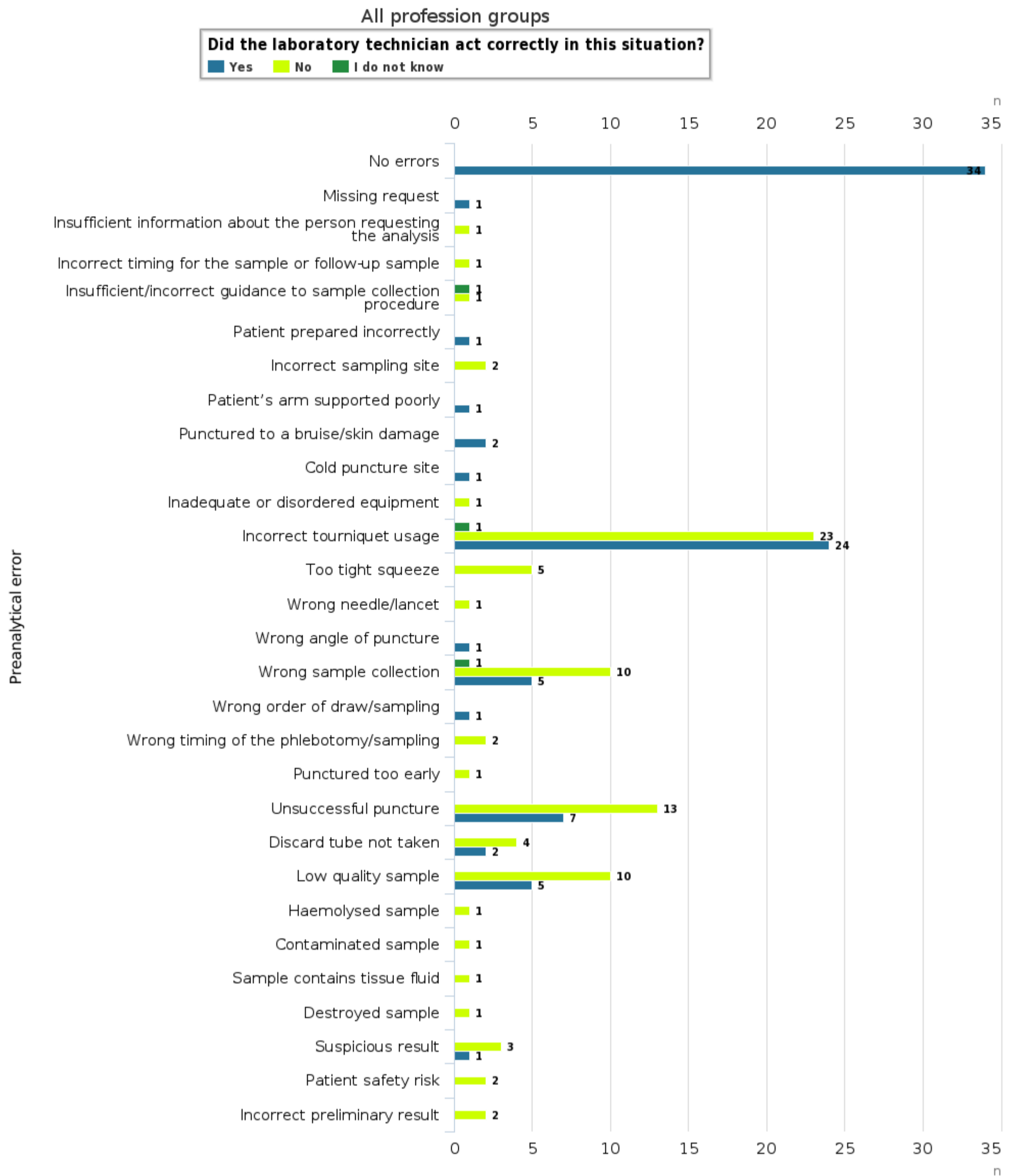
Other, what?



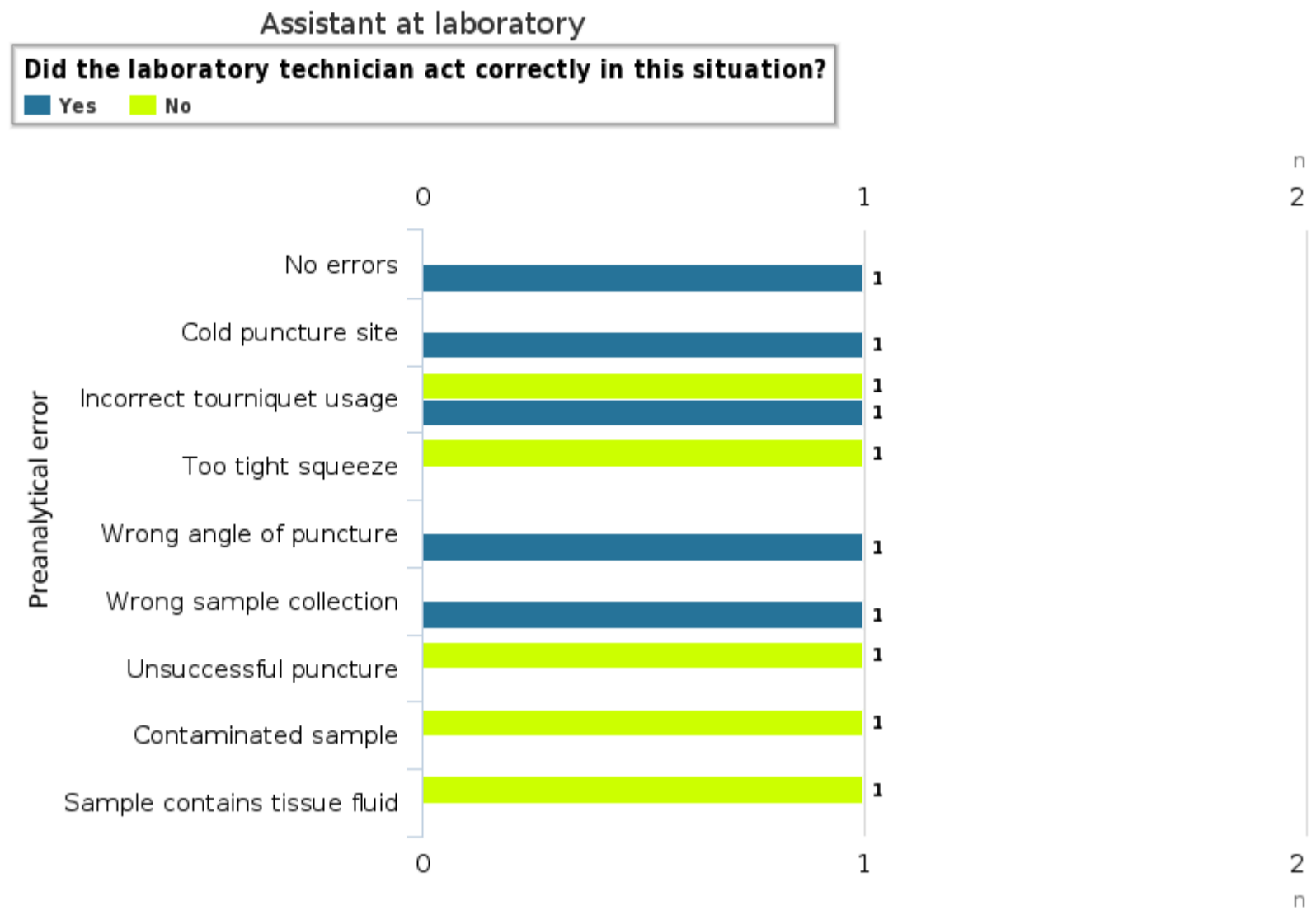
Phlebotomist



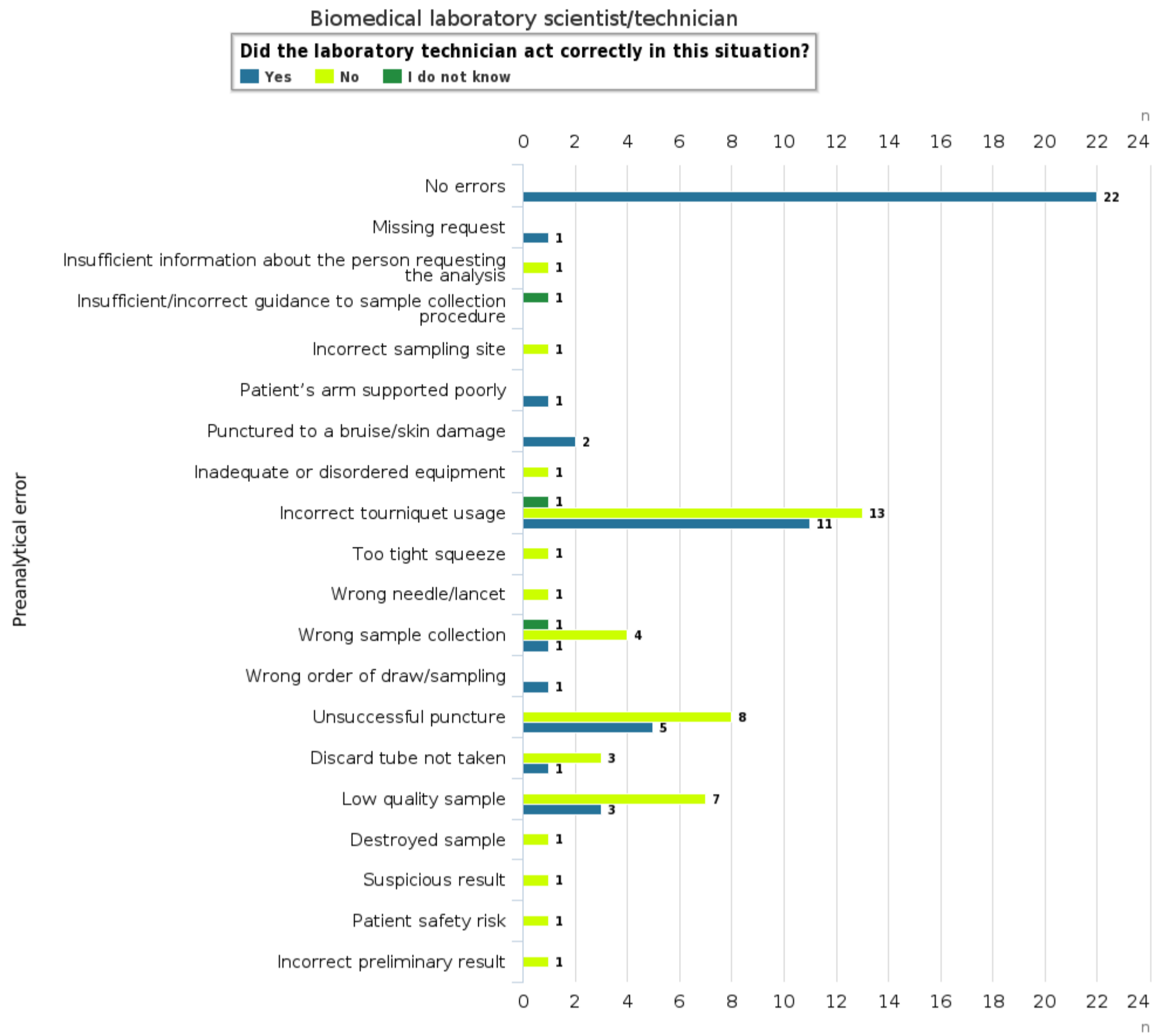
Case 3|Did the laboratory technician act correctly in this situation?|All profession groups



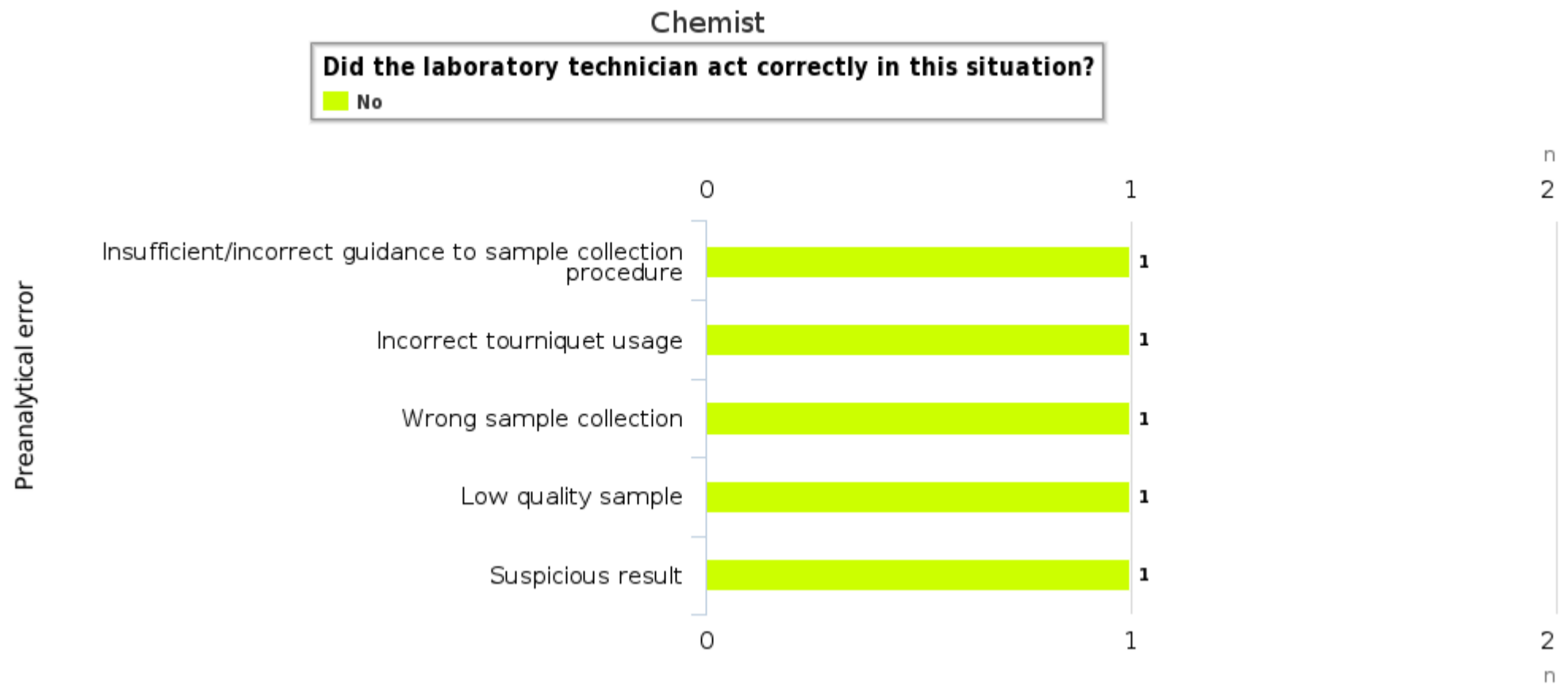
Case 3|Did the laboratory technician act correctly in this situation?|Assistant at laboratory



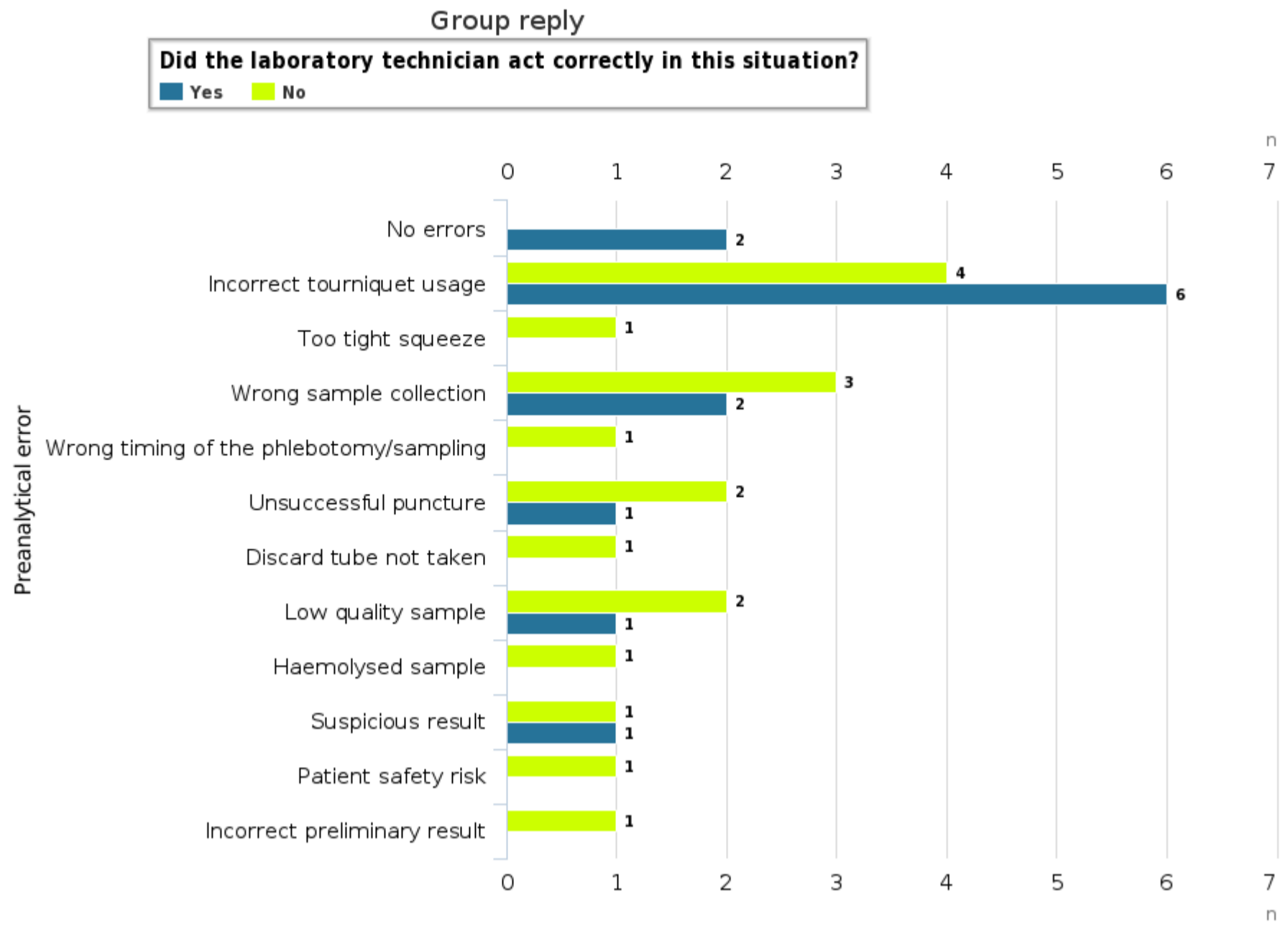
Case 3|Did the laboratory technician act correctly in this situation?|Biomedical laboratory scientist/technician



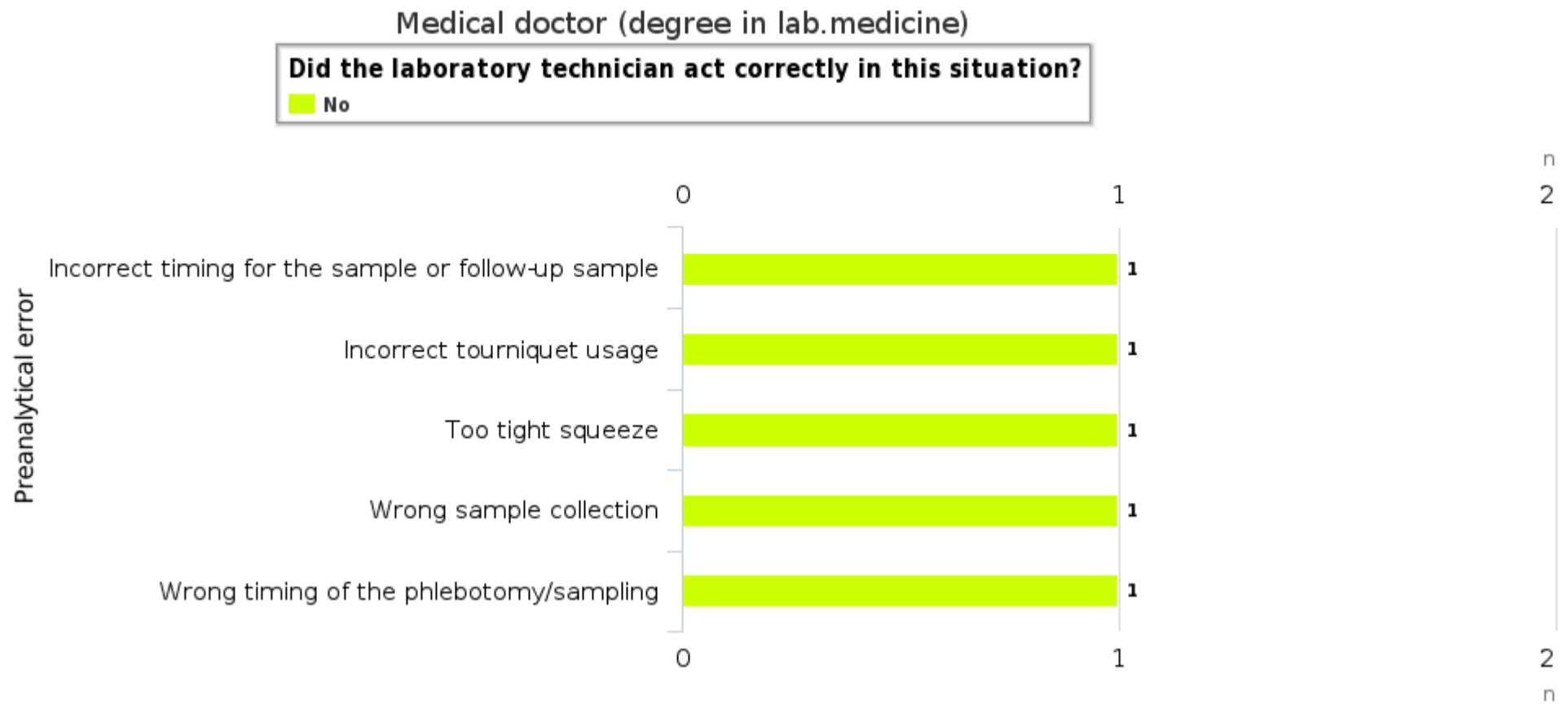
Case 3|Did the laboratory technician act correctly in this situation?|Chemist



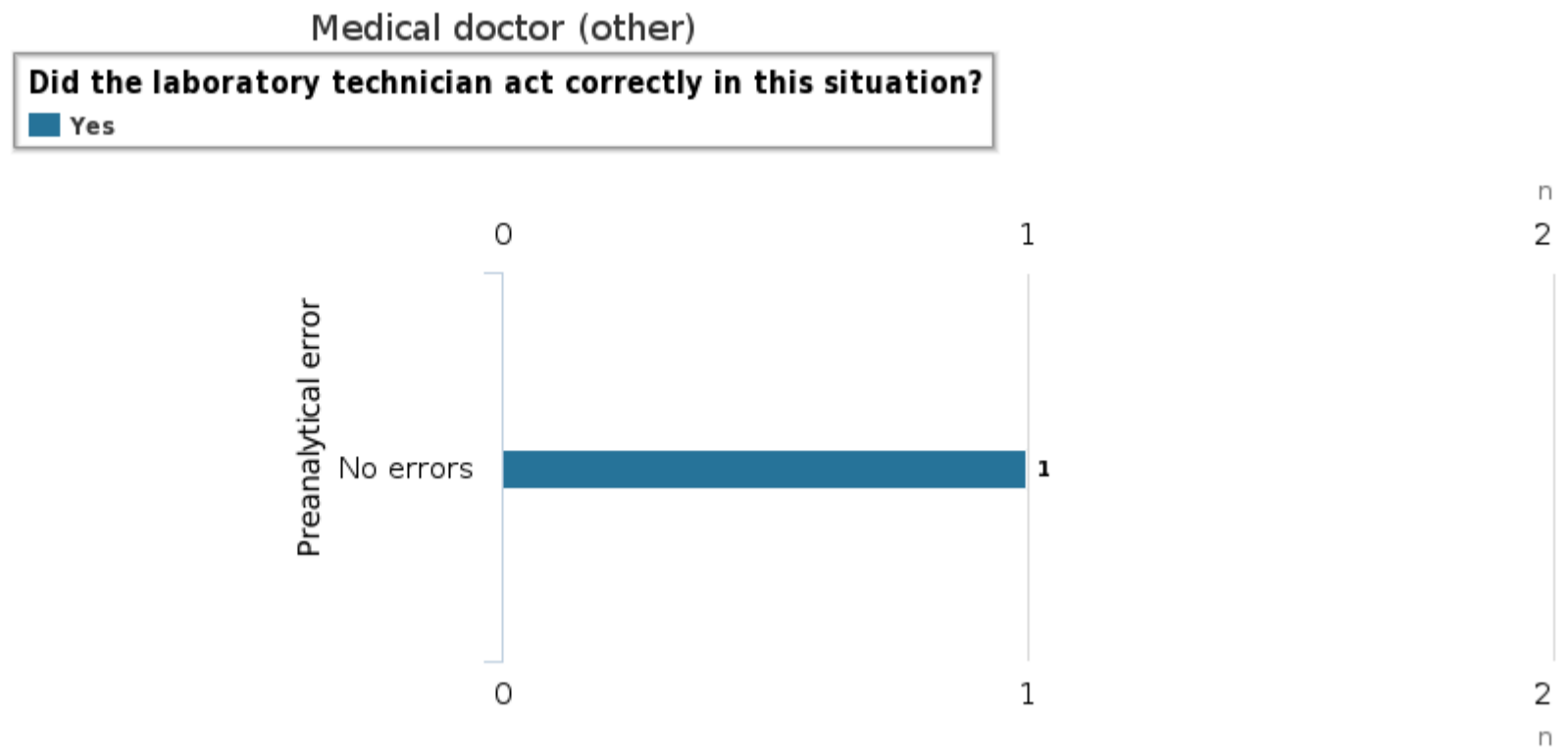
Case 3|Did the laboratory technician act correctly in this situation?|Group reply



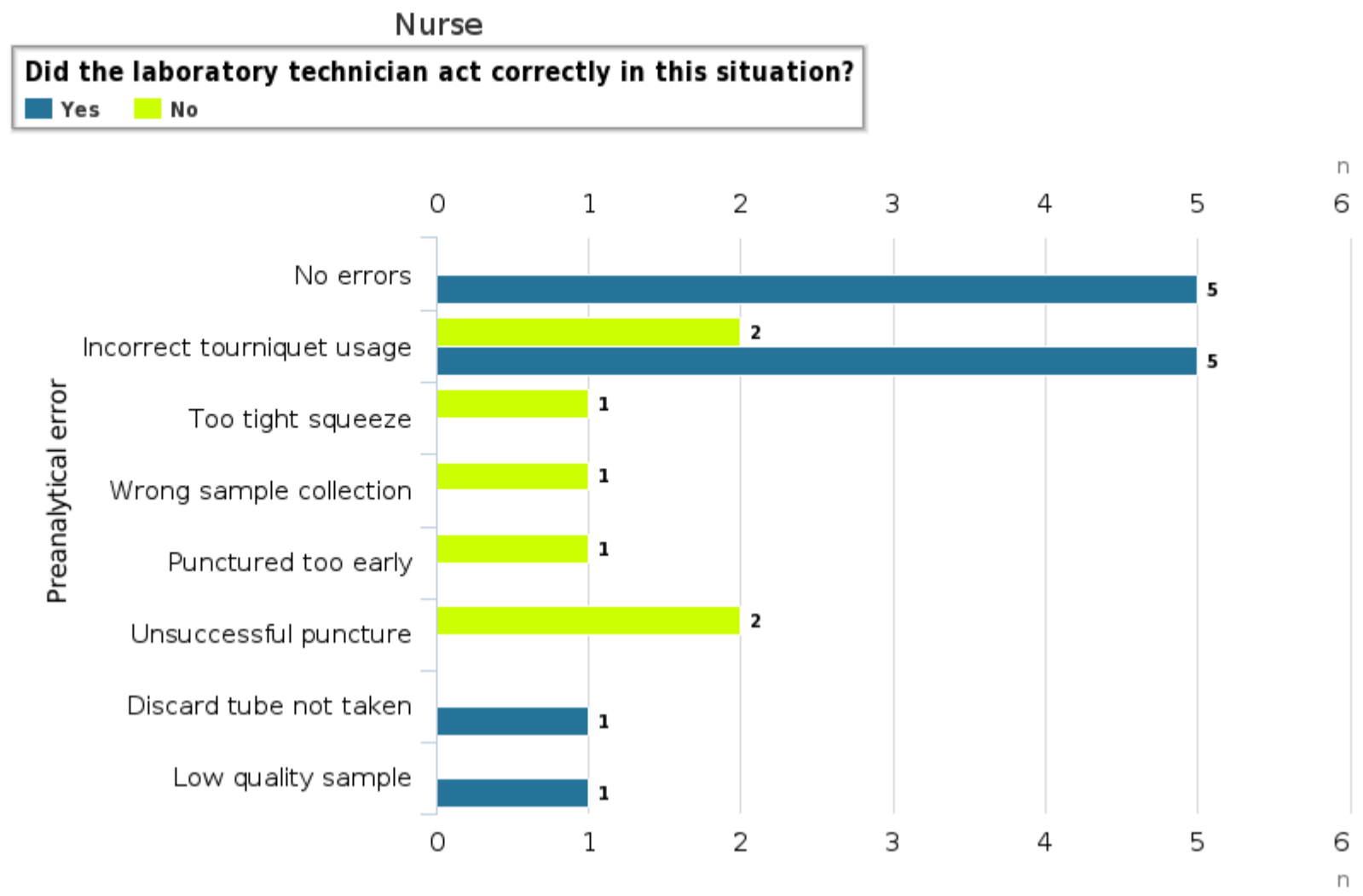
Case 3|Did the laboratory technician act correctly in this situation?|Medical doctor (degree in lab.medicine)



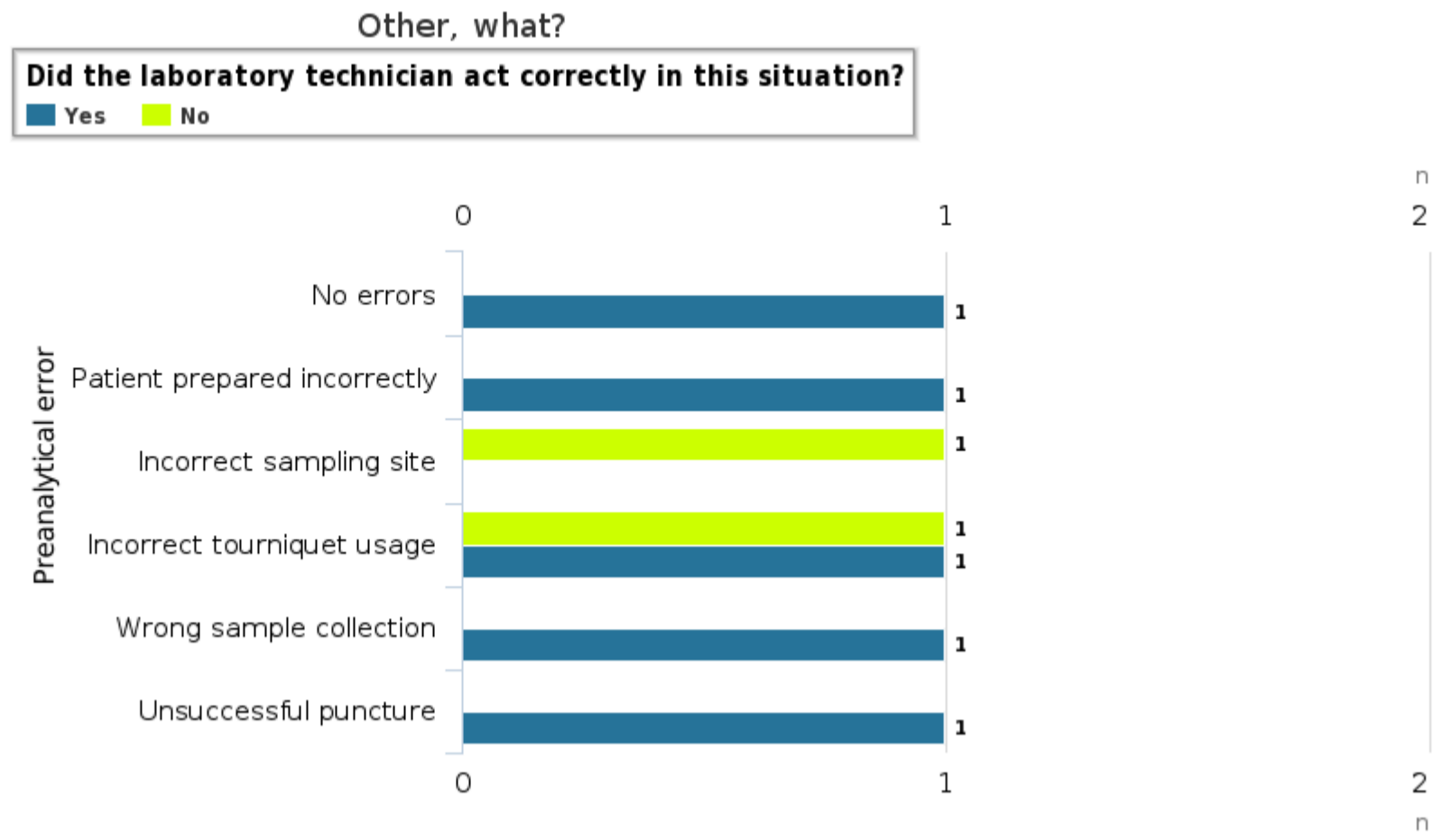
Case 3|Did the laboratory technician act correctly in this situation?|Medical doctor (other)



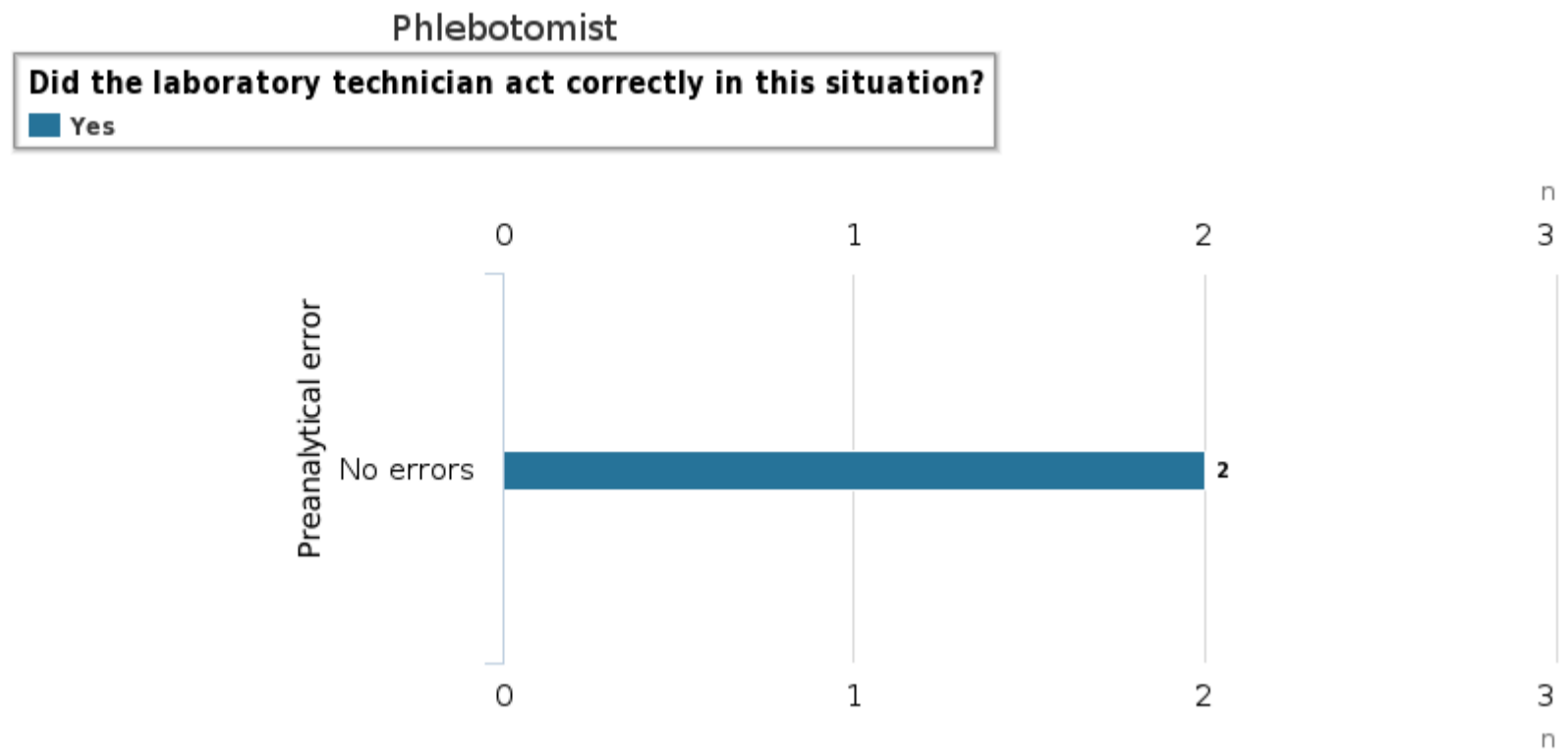
Case 3|Did the laboratory technician act correctly in this situation?|Nurse



Case 3|Did the laboratory technician act correctly in this situation?|Other, what?



Case 3|Did the laboratory technician act correctly in this situation?|Phlebotomist



Report info

Participants

99 participants from 10 countries.

Report info

Suggestions of what would be the correct action in every case are done based on general recommendations. There might be some differences between organizations and countries, and some other action might also be valid and correct. The idea of these rounds is to get the participants to think about their own laboratory's procedures from a preanalytical point of view.

Results are grouped according to the informed participants' profession. Reported actions are shown in pie diagrams as percentages. Bar charts represent action answers in different colours as counts and they are grouped by different preanalytical errors. Laboratory's own results are marked with a black radio button . If you have not reported any results you will get a note: "You have not responded in time, only global report is available." In case you have any questions regarding the reports, please contact the EOA coordinator.

Preanalytics, phlebotomy Round 1, 2023

Specimens

Samples S001 (LQ779223011) - S003 (LQ779223013) were case reports. In each case the participants were asked if the action was appropriate, and participants were also asked to identify potential preanalytical errors. It was possible to choose multiple errors per case.

All the cases represented phlebotomy process either in laboratory, different departments or patient's home. Each case represented situations that occur in the laboratory and health care units almost daily basis and simulated authentic situations where it is necessary to make decisions alongside other routine work.

Report info

Please see the description of the data analysis on the last page of the laboratory-specific histograms and Numerical Summary reports. It is important to read the Final report first, because it contains important information of the samples and results in each round.

Comments- Expert

Case 1

The patient delivers 24-hour collected urine sample (dU-MetNor = Diurnal Metanephrines and normetanephrines) to the laboratory. A label marked patient's name, personal identity code and the start and end times of the collection is attached collection container. The biomedical laboratory scientist accepts the urine container and delivers the urine container to the laboratory.

69 % respond that the biomedical scientist did not act correctly in this case. That is the right interpretation. The patient's identity must be verified and also check that the laboratory request corresponds to the 24-hour urine sample (dU-MetNor, Metanephrines and Normetanephrines). Furthermore, it must be ensured that the urine sample has been collected according to the instructions such as the diet, medications and activity restrictions. It must be ensured that the sample has been restored in the refrigerator throughout the collection and the preservation agent (6 mol/l hydrochloric acid) has been added according to the instructions. Finally, the total amount of urine should be measured, urine mixed, and 10 ml of the sample delivered to the laboratory for examination.

Case 2

The patient is receiving treatment in the hospital. The biomedical laboratory scientist collects blood sample in EDTA tube for complete blood count (CBC). The ward nurse comes to the room and asks the biomedical laboratory scientist to also collect blood for potassium, sodium and creatinine (heparin tube). The biomedical laboratory scientist replies that he can do so but needs to perform another puncture of a vein to draw blood.

88 % respond that the biomedical scientist worked correctly in this case. That is the correct interpretation. It is essential that heparin samples for an electrolyte panel are taken before EDTA. One of the respondents stated: "According to the current laboratory instructions, a new venipuncture should make to avoid cross-contamination – previously I would have taken it with the same venipuncture after a waste tube."

Case 3

The patient is receiving treatment in the hospital. He has a laboratory request for coagulation screening test. The patient's veins are difficult to find and the venipuncture for coagulation screening need to perform without a tourniquet.

2023-05-19

FINAL REPORT

Product no. 7801

Samples sent	2023-03-14
Round closed	2023-04-10
Final report	2023-05-19

Request for correction

Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

Authorized by

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The biomedical laboratory scientist attempts draw blood two times. For the third venipuncture he uses tourniquet. He adds the comment " tourniquet used during venipuncture" to the sample request.

A third of respondents (33%) answered that the biomedical scientist did not act correctly in this case. That is the correct interpretation. The person drawing blood should not make more than two venipuncture attempts on one patient. That was emphasized by several respondents. Respondents also commented that they should not try to draw blood from the same vein again, because coagulation activation has started. Some of the answers emphasized that the biomedical scientist should take a two-minute break between venipunctures. However, two thirds of respondents thought the biomedical scientist worked correctly in this case.

End of report