2013 CAS ALLIED HEALTH RESEARCH STUDY

Survey of Anesthesia Assistants – Final Report

January 2014

Association Resource Centre

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INTRODUCTION

Study Background

- Over the last number of years, there has been an increasing trend toward anesthesiologists and anesthesia assistants working together on patient cases. As the use of anesthesia assistants becomes more common, a number of questions have been raised about the working relationship between the two professions. Views from both sides are needed to paint an accurate picture.

- To address the gap in information, the Canadian Anesthesiologists' Society engaged the Association Resource Centre to conduct surveys of both Chiefs of Anesthesia and Anesthesia Assistants (AA) from across Canada. The main goals of the project were to:
  - Obtain a "state of the union" with respect to AAs from both professions.
  - Obtain opinions from both professions about how the relationship should work.
  - Obtain opinions from both professions about what resources and support is needed to make the ideal situation work.
  - Compare the information from both professions to identify gaps, agreements and solutions.

- This report presents the results from the Anesthesia Assistant research. Specific research questions addressed by the AA research include:
  - What is the profile of AAs?
  - What training and resources are available to AAs and are these current standards adequate?
  - Is there adequate supervision for AAs?
  - What is the state of compliance with regulations?
  - What is the role of AAs?
  - How can the two professions most effectively work together?
  - What is working well and what is not under current conditions?

METHODOLOGY

- To address the research objectives, four different research components were undertaken. These include:
  - In-depth interviews with nine Chiefs of Anesthesiology
  - In-depth interviews with six Anesthesia Assistants
  - A 15 minute survey of 113 Chiefs of Anesthesiology. Chiefs were identified through CAS' member lists.
  - A 15 minute survey of 210 Anesthesia Assistants (AA). AAs were identified through CAS' member list and also through referral sampling where Chiefs and AAs were asked to forward survey invitations to AAs that they knew.

- This study is subject to the following limitations:
  - Ensuring results that are truly representative of the actual population is only possible through true random probability sampling. Given that no comprehensive "list" of AAs or Chiefs is available, random probability sampling was not possible for this study. Accordingly, no estimates of theoretical sampling error can be calculated and the results may or may not be an accurate representation of the total AA and Chief populations. The findings in this report represent the views of the AAs who were surveyed.
  - Results for subgroups should be interpreted with caution due to small sample sizes. They are presented and discussed for informational purposes only.
  - Given the small sample sizes among subgroups, the majority of differences between groups should be viewed as qualitative and not necessarily statistically significant.

- Result from the Chiefs of Anesthesiology research are presented under separate cover.

RESPONDENT PROFILE

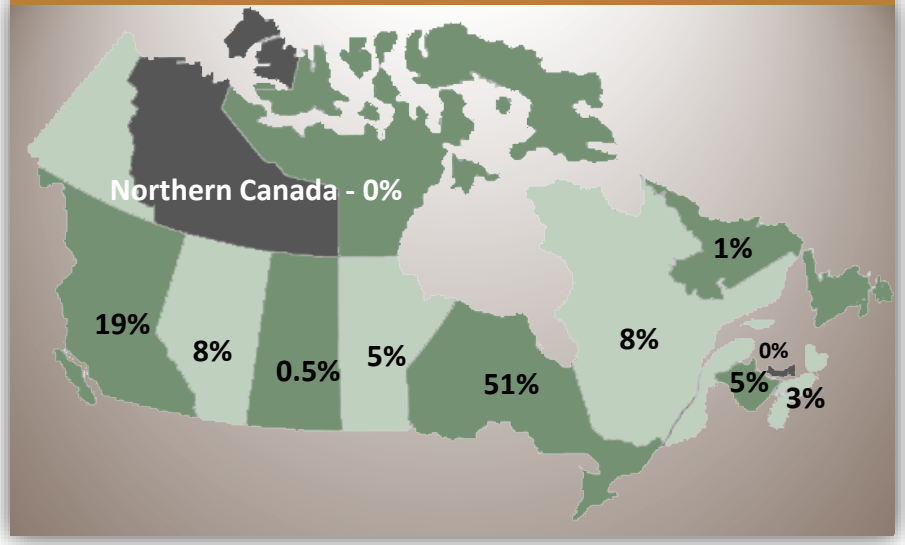
Respondent Profile

- The charts and tables on the following two pages provide an overview of the anesthesia assistants (AA) that participated in the survey. As noted in the Introduction, survey respondents were recruited through a referral sampling approach and from a list of AAs that are members of CAS. Accordingly, findings are only reflective this specific group only and may or may not be representative of the overall AA population in Canada overall.

- Following are some respondent profile highlights:
  - Ontario is the most well represented region accounting for roughly half (51%) of participating AAs. There was also significant representation from BC (19%), Alberta (8%) and Quebec (8%).
  - Respondents were slightly more likely to be female (55%).
  - Over two thirds (71%) of responding AAs are between the ages of 30 and 49 with the largest group (43%) being between 40 and 49.
  - There is no one graduation year that stands out significantly more than others. There is a fairly even distribution between 1984 and 2008.
  - With 94% holding a Registered Respiratory Therapist designation, it is far and away the most common professional designation held by AAs.
  - The vast majority of AAs (76%) are focused solely on their AA role and do not work in other areas.
  - Not surprisingly, AAs are more likely to work in larger hospitals with over 300 beds (74%) and over 10 operating rooms (73%) and located in large or major cities (74%).
  - Almost two thirds (64%) work in a teaching hospital.

Anesthesia Assistant Profile

Region (N=210)



Survey Questions

QS0. In which province do you work?

QF1. Are you…? (gender)

QF2. What is your age?

QA1. Which, if any, of the following professional qualifications do hold?

QA2. In what year did you graduate with your qualification?

QS1. Are you currently employed as an Anesthesia Assistant?

QS2. Are you trained as an Anesthesia Assistant, but not currently working in the field?

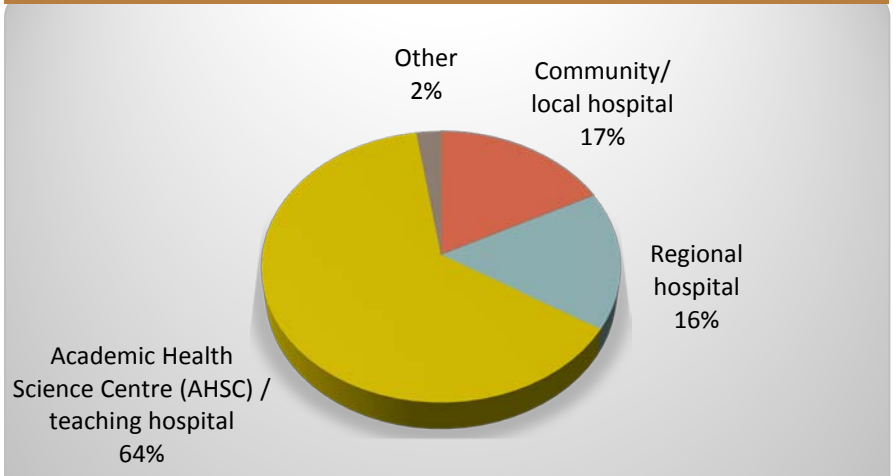
QS3. Do you work strictly as an Anesthesia Assistant?

Respondent Profile

Gender (N=204)	
Male	45%
Female	55%
Age (N=205)	
20 to 29	8%
30 to 39	28%
40 to 49	43%
50 to 59	18%
60 or older	3%
Professional Designations Held (N=209)	
RRT - Registered Respiratory Therapist	94%
RN - Registered Nurse	4%
IMG - International Medical Graduate	2%
Other	18%
Year of Graduation (N=210)	
2009 to 2013	7%
2004 to 2008	17%
1999 to 2003	21%
1994 to 1998	15%
1989 to 1993	16%
1984 to 1988	14%
Before 1984	11%
AA Employment Status (N=210)	
Currently employed as an AA, and only work as an AA	76%
Currently employed as an AA, but also work in other areas	17%
Trained as an AA, but not currently working in the field	7%

Hospital Profile

Type of Hospital (N=207)



Survey Questions

QE2. Is your hospital…? (type of hospital)

QE3. Which of the following best describes the size on the community in which your hospital is located?

QE4. How many beds does your hospital have?

QE5. How many Operating Rooms does your hospital have?

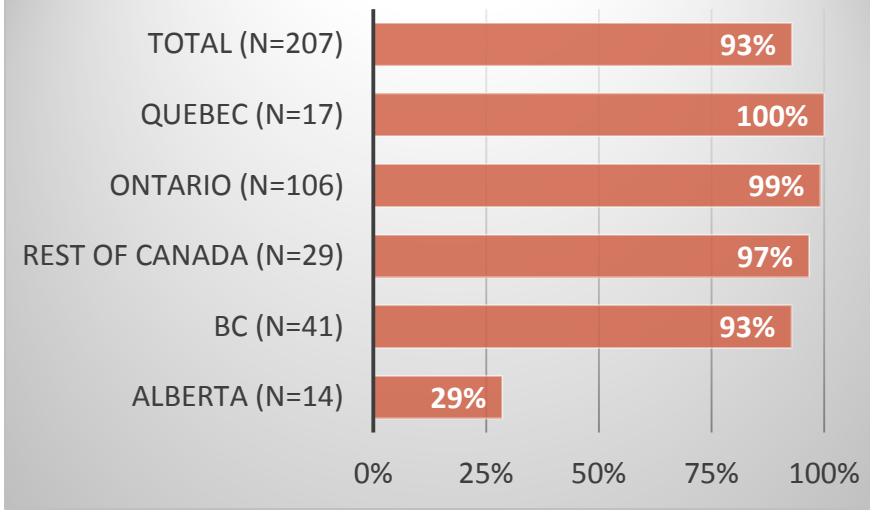
Respondent Profile

Community Size (N=206)	
Rural (population of less than 10,000)	1%
Small town (population of 10,000 to 49,999)	6%
Semi-urban (population of 50,000 to 99,999)	4%
Small city (population of 100,000 to 249,999)	16%
Large city (population of 250,000 to 999,999)	31%
Major city (population of 1,000,000 or more)	43%
Number of Beds (N=182)	
None	1%
1 to 50	1%
51 to 100	4%
101 to 300	19%
301 to 500	36%
More than 500	38%
Number of Operating Rooms (N=82)	
One or Two	2%
Three to Five	5%
Six to Ten	20%
Eleven to Twenty	47%
More than Twenty	26%

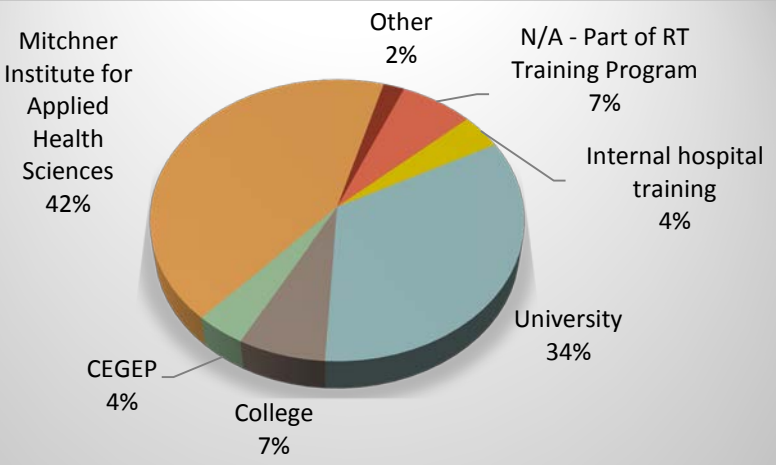
TRAINING FOR ANESTHESIA ASSISTANTS

Formal AA Training

Formal AA Training Received



Source of Formal AA Training (N=190)



Note: Base is those who received formal AA training.

- Formal AA training is the norm in Canada with 93% of all respondents indicating that they have received some. This holds true in almost all regions of the country. The exception is Alberta where only 29% of respondents indicated that they had received formal training. However, the Alberta results should be interpreted with caution as there were only 14 respondents.

- While the Mitchner Institute and universities are the most common sources of formal AA training overall, the specific source is not surprisingly dependent on the region in which the respondent is located. Specifically:

  - *Ontario:* 78% of Ontario AA's attended the Mitchner Institute.
  - *British Columbia:* Thompson Rivers University accounts for 87% of training programs among BC respondents.
  - *Quebec:* Three quarters (77%) of Quebec respondents received training through their RT program.

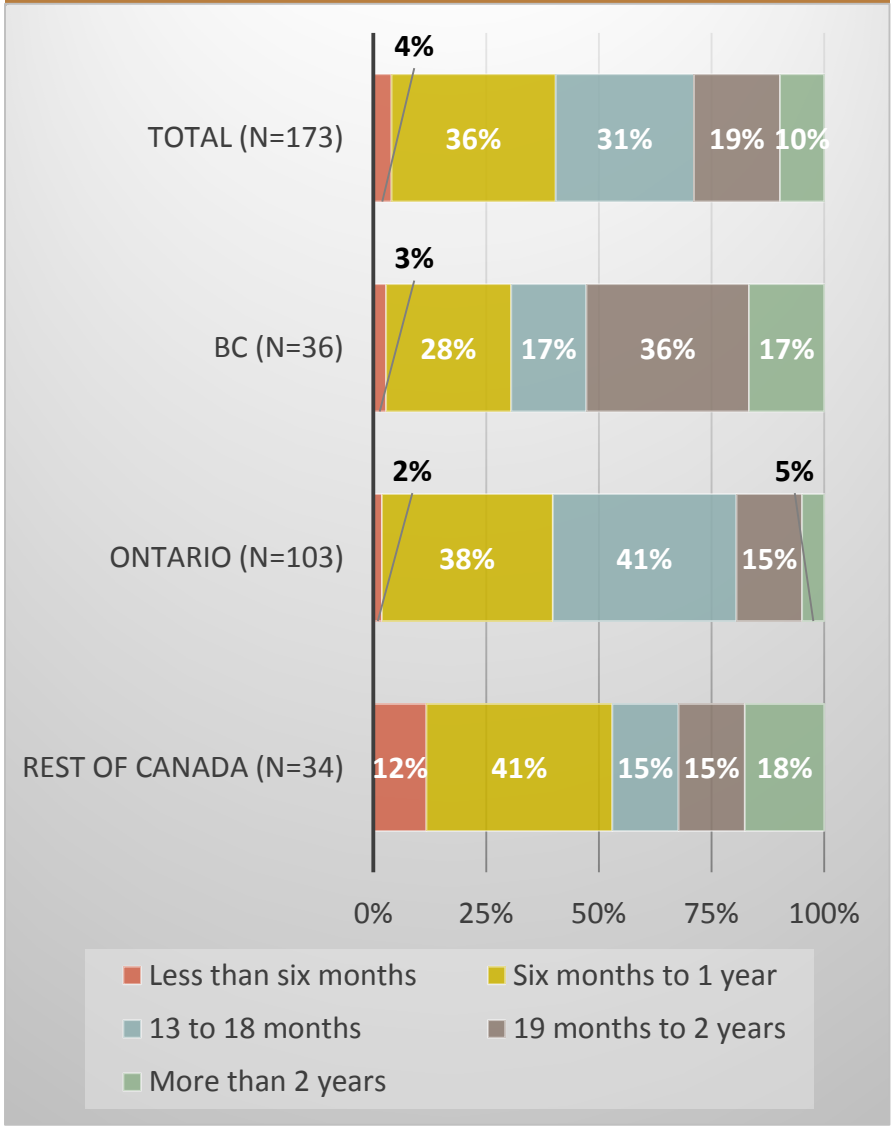
- A look at other subgroups reveals the following qualitative differences:

  - Interestingly, only 87% of respondents in major cities indicated that they had received formal training compared to 100% of those in communities of less than 250,000 people.
  - Similarly, respondents from the largest hospitals (over 500 beds or more than 20 ORs) were less likely to indicate that they had received formal training compared to those in smaller hospitals.

QA3. Have you received any formal Anesthesia Assistant training?
QA4. Where did you receive your Anesthesia Assistant training from?
NOTE: Interpret regions with caution due to small sample sizes.

Length of AA Training Program

Length of AA Training Program by Region

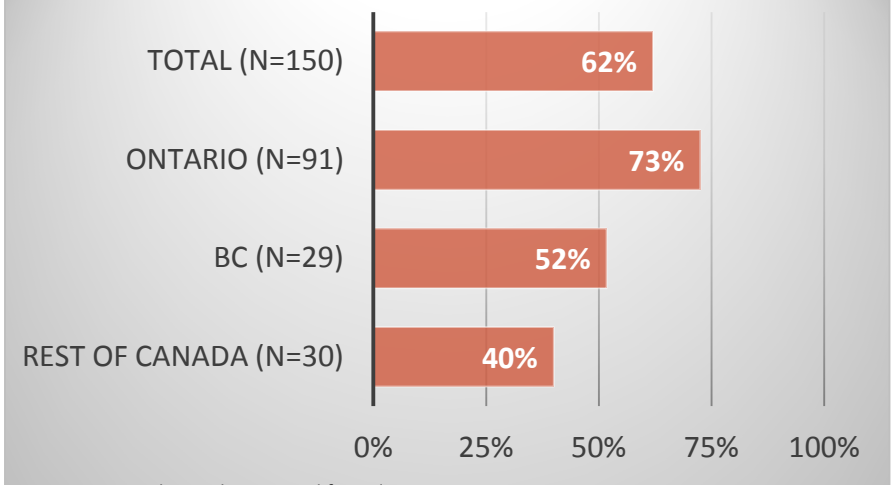


- While the significant majority took programs between six months and two years in length, the length of the AA training program was quite varied by region:
  - *Ontario:* In Ontario, programs of six months to one year or 13 to 18 months accounts for almost four out five respondents.
  - *British Columbia:* Programs in BC tend to be longer with just over half (53%) having taken a program of more than 18 months.
  - *Rest of Canada:* Elsewhere in Canada, the most common program length is between six and 12 months (41%). The remaining 59% are fairly evenly split among the other program lengths.
- Qualitative differences among other subgroups include:
  - Those who took their program at a university were more likely than others to have had a program of more than 18 months.
  - The results show an increasing trend toward programs that are 13 to 18 months in length. Specifically, the younger the respondent or the more recently they graduated, the more likely they are to have taken a program that was 13 to 18 months in length.

QA10. Does your hospital…?
NOTE: Interpret regions with caution due to small sample sizes.

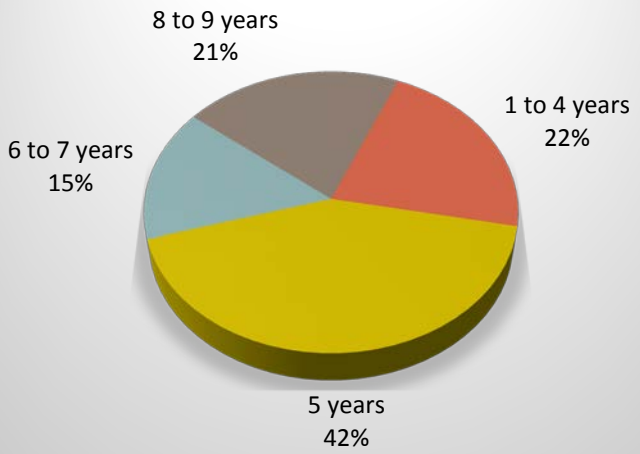
Training Program Waiting Period

Had a Waiting Period Before Taking AA Training



Note: Base is those who received formal AA training.

Length of Waiting Period (N=92)

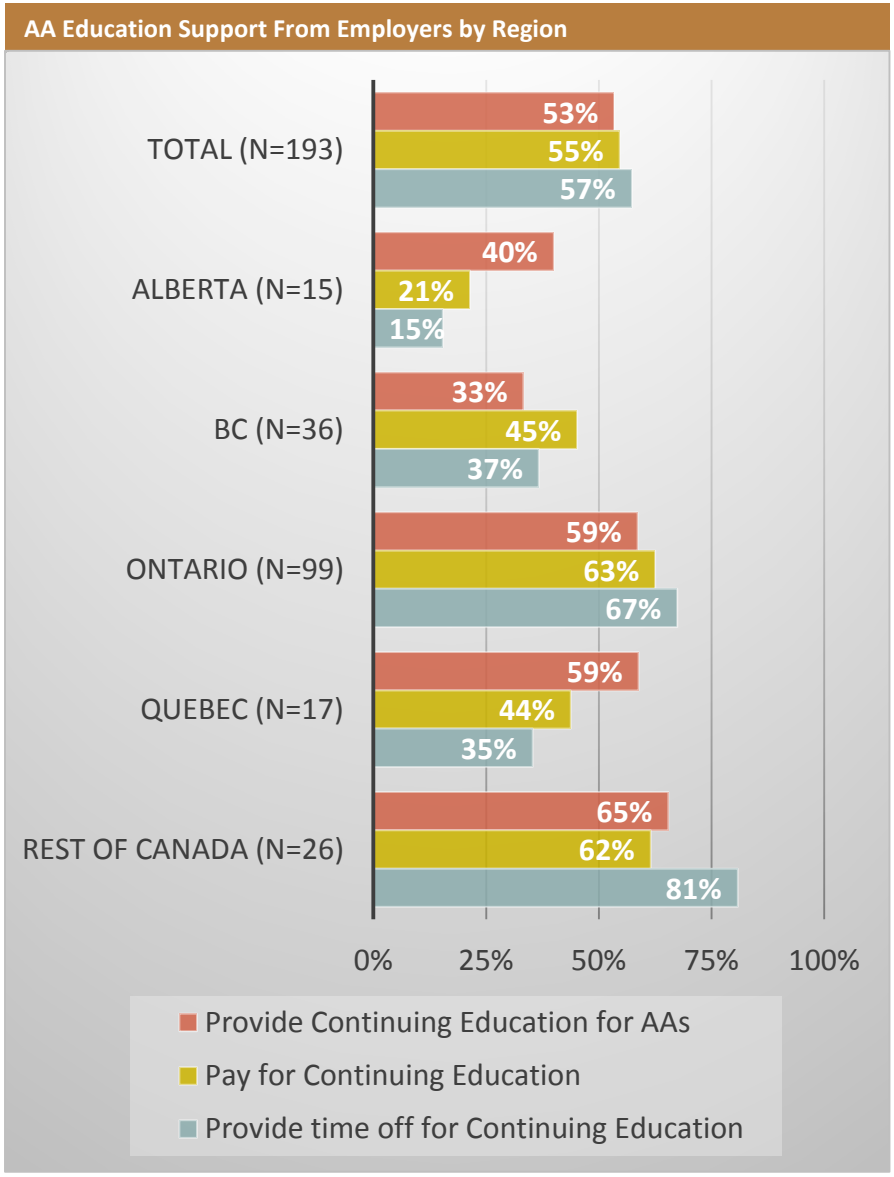


Note: Base is those who had a waiting period.

- A waiting period to take AA training (after receiving the professional qualification) is most common in Ontario. More specifically, the majority of respondents from Ontario (73%) indicated that there was a waiting period before they could take their AA training. In the rest of Canada, only 40% to 52% (in BC) indicated there was a waiting period.
- Based on the results of the survey, there does not appear to be a standard length for the waiting period as respondents were all over the map. Among those who had to wait, the most common waiting period was 5 years (42%). The remainder are fairly evenly split between 1 to 4 years (22%), 6 to 7 years (15%) and 8 to 9 years (21%).
- The only noteworthy qualitative subgroup difference is that those who attended the Mitchner Institute were more likely have experienced a waiting period with three quarters (75%) having done so.

QA5. Was there a waiting period after you received your professional qualification before you could take AA training?
QA6: How long was the waiting period?
NOTE: Interpret regions with caution due to small sample sizes.

Support for Continuing Education for Anesthesia Assistants



- According to AAs, while some receive support for continuing education, it is far from universal. Just over half of AAs indicated that their hospital supports professional development by providing continuing education for AAs (53%), paying for continuing education (55%) and/or providing time off for continuing education (57%).

- Based on the responses from those who participated, the level of support varies considerably across the country.

  - *Alberta:* The majority indicated that they do not receive continuing education support from employers in the three areas tested. The highest support level of support is for internally provided programming (40%).
  - *British Columbia:* Only one third of BC respondents reported support via internal education or providing time off. At 45%, slightly more reported that their employers pay for continuing education.
  - *Ontario:* Support for continuing education tends to be higher among Ontario respondents than in other regions with 59% to 67% reporting support in each of the three methods tested.
  - *Quebec:* While a slight majority (59%) of respondents from Quebec reported that their employers provide continuing education in-house, time off for continuing education is not common (35%).
  - *Rest of Canada:* Respondents in the rest of Canada were the most likely to report that their employer provide time of for continuing education.

- Other relevant qualitative differences among subgroups include:

  - The bigger the community, the greater the likelihood of having education provided or paid for. Being given time off for education is least likely among those in communities of less than 250,000.
  - The largest hospitals (over 500 beds or more than 20 ORs) are the most likely to provide CE or pay for it.

QA10. Does your hospital…?
NOTE: Interpret regions with caution due to small sample sizes.

Training for Anesthesia Assistants

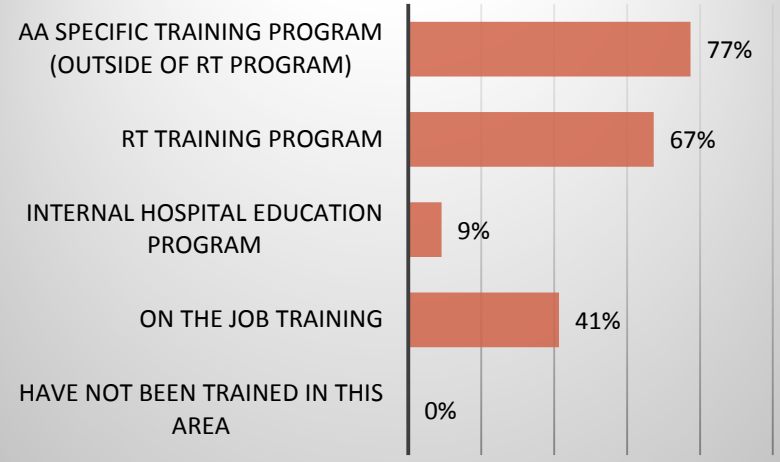
- When asked where they received their training in different anesthesiology areas or tasks, with few exceptions, the responses were remarkably consistent across all areas and tasks (see next three slides). Generally, about 70% to 80% received the training from an AA specific training program, 55% to 70% from an RT training program, 7% to 15% from an internal hospital program and 35% to 50% from on the job training.

- The few exceptions that are *significantly* outside these ranges are providing perioperative care (36% RT program and 55% on the job), assistance in the delivery of local / regional anesthesia (27% RT program and 59% on the job) and assist with pain management (14% RT program).

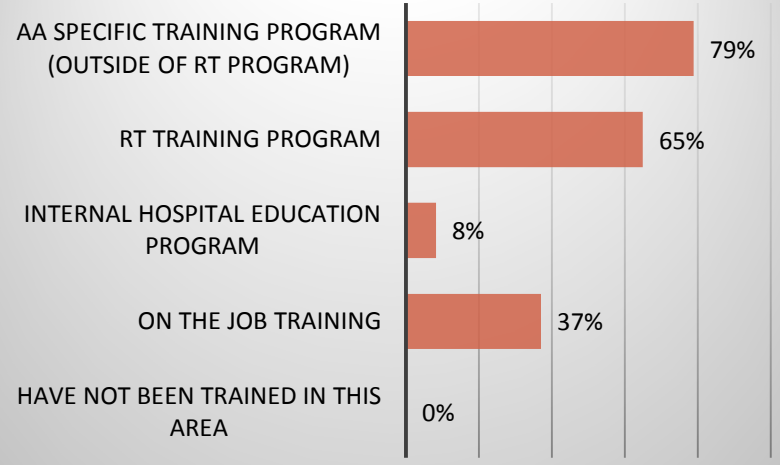
- The two slides that follow (pages 19 and 20) simply present the same data in a different way. They show the top training topics by training method.

Training for Anesthesia Assistants (cont'd)

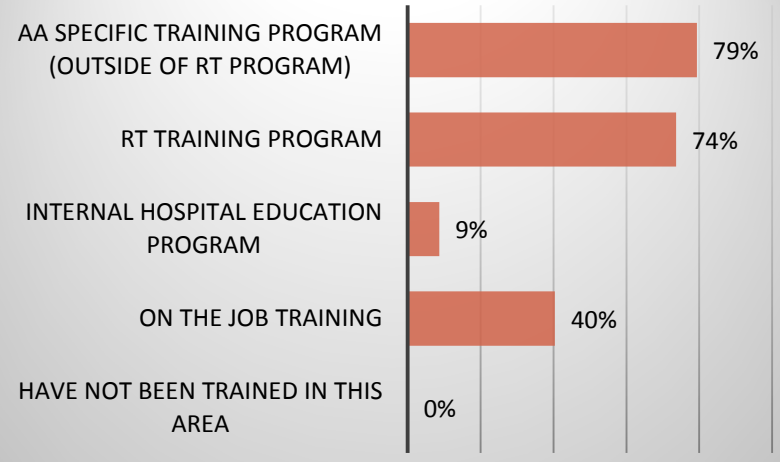
Pharmacology of Inhalation Anesthetics (N=208)



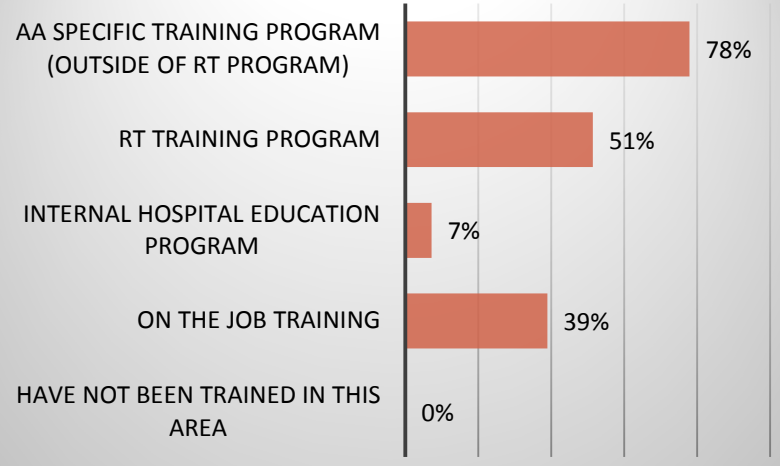
Pharmacokinetics of Drugs: Absorption, Distribution, Metabolism and Elimination (N=208)



Pharmacology of Muscle Relaxants, Depolarizing versus Non-Depolarizing Agents (N=208)



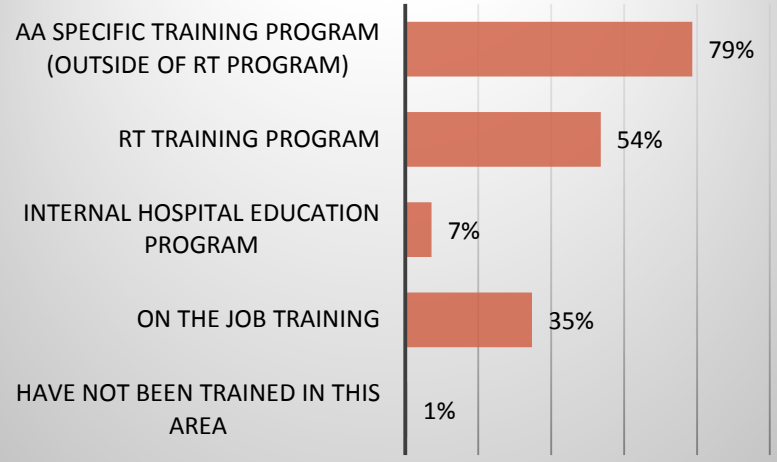
Pharmacology of Local Anesthetics (N=208)



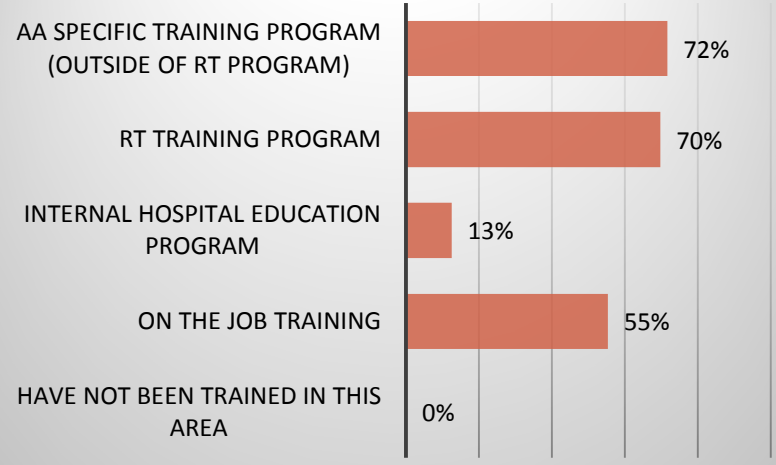
QA11. For each of the following, please indicate where (if at all) you have received training from.

Training for Anesthesia Assistants (Cont'd)

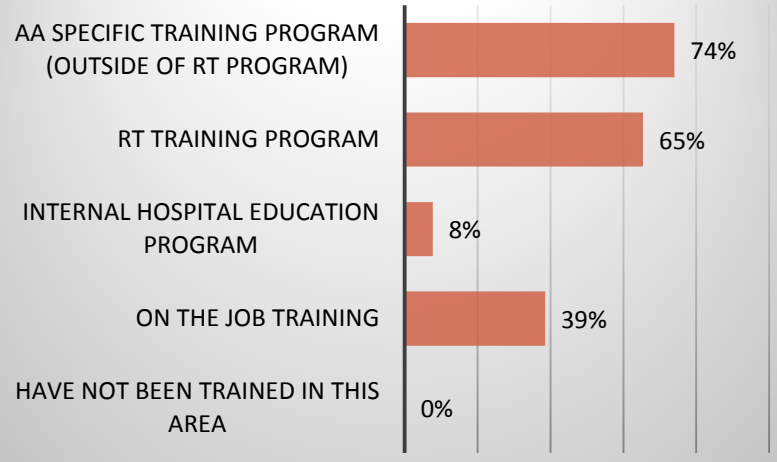
Pharmacology of Non-Barbiturate Anesthetic Agents (N=207)



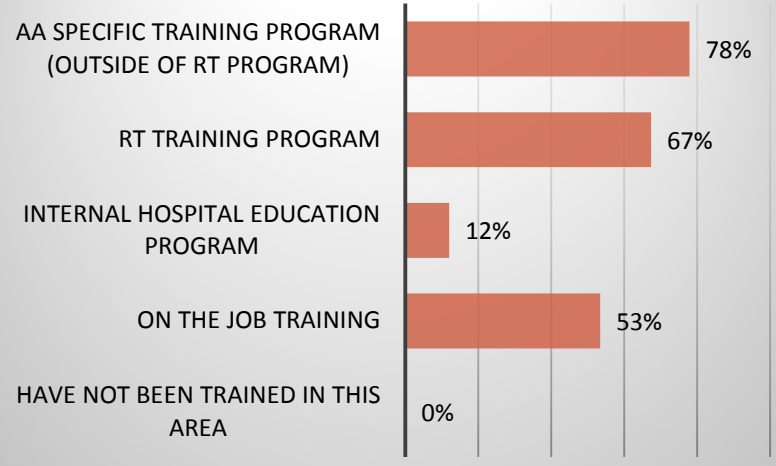
Understanding and Operating Anesthetic Equipment: Maintenance, Checking, and Trouble-Shooting (N=208)



Principles of Operation of Anesthetic Vaporizers (N=208)



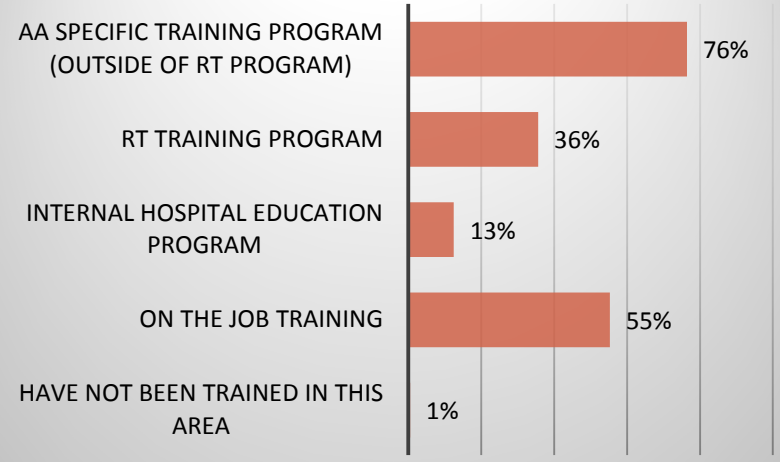
Monitoring Patient Physiological Status (N=208)



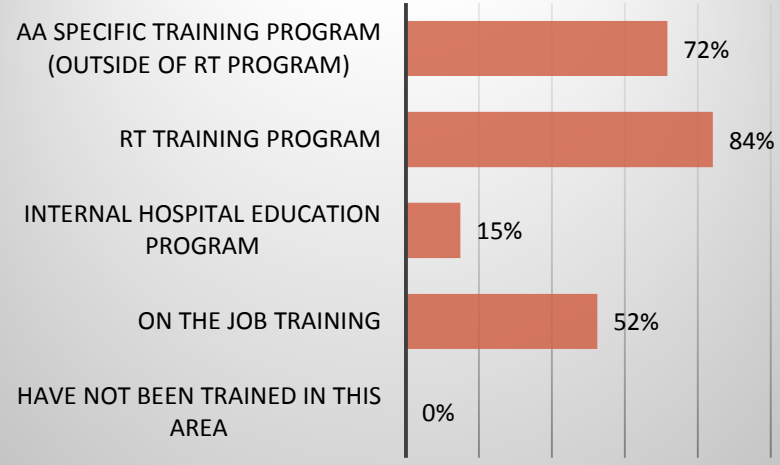
QA11. For each of the following, please indicate where (if at all) you have received training from.

Training for Anesthesia Assistants (Cont'd)

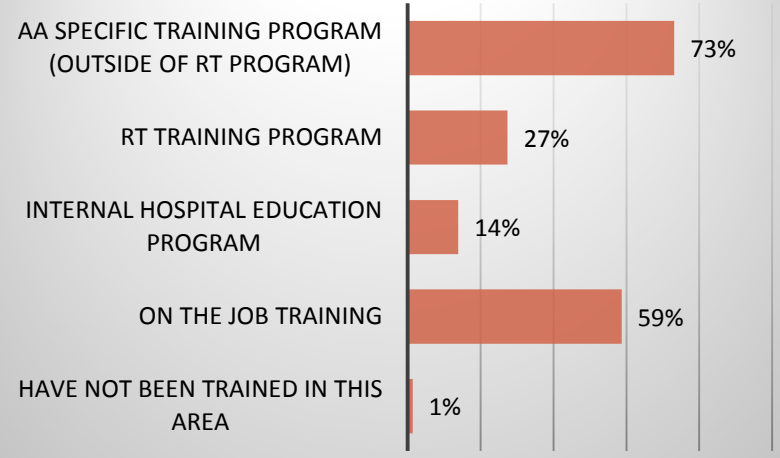
Providing Perioperative Care (N=208)



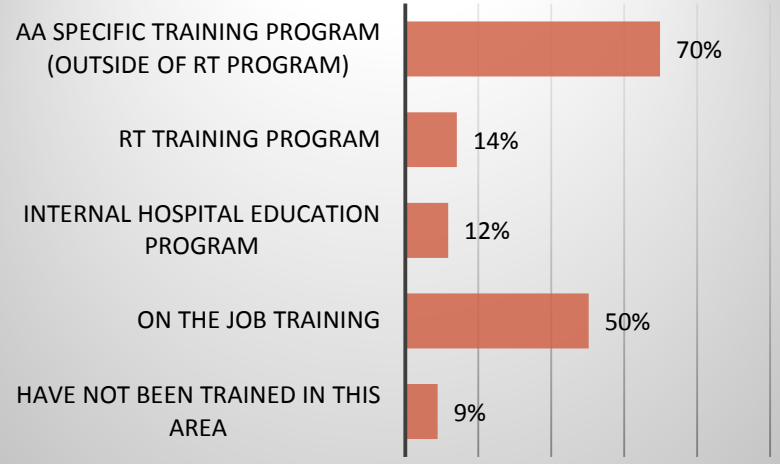
Airway Management Skills Including Mask Ventilation and Intubation (N=208)



Assistance in the Delivery of Local / Regional Anesthesia (N=208)

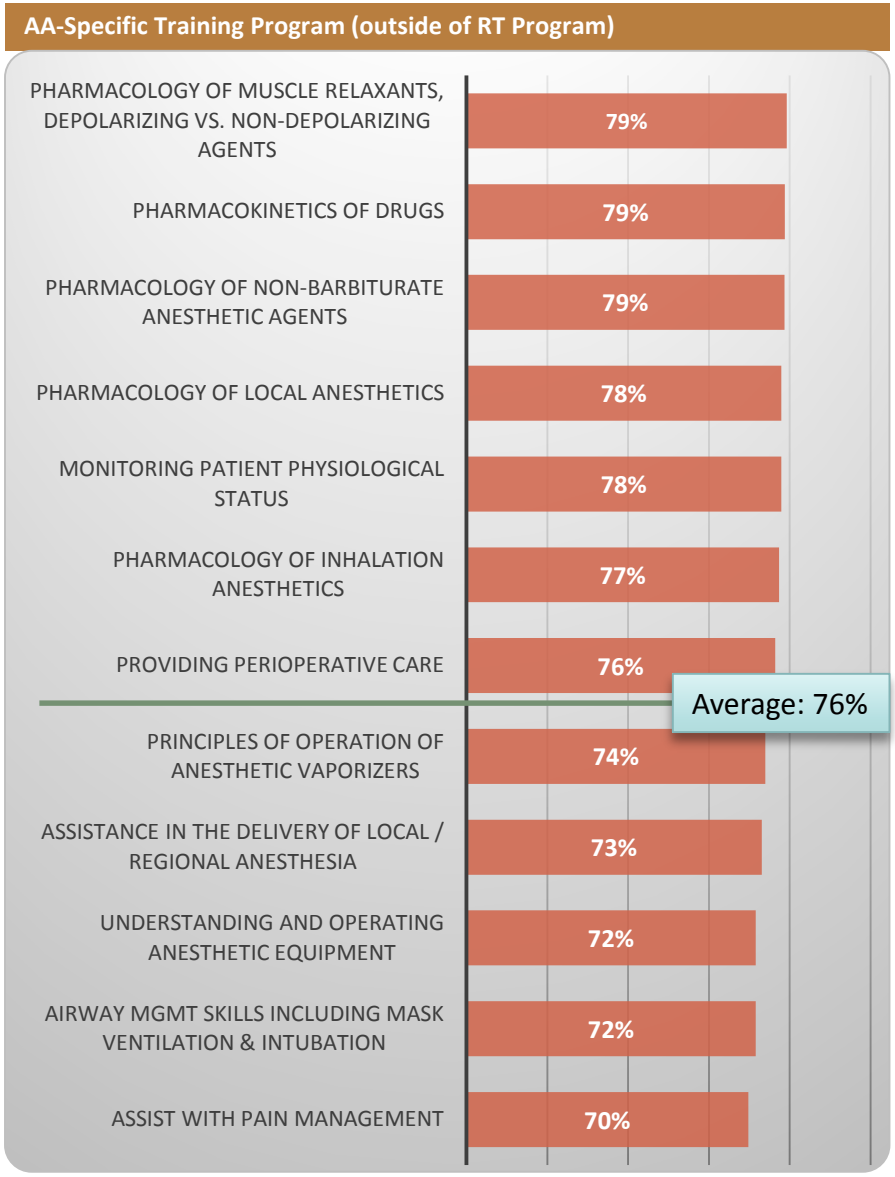


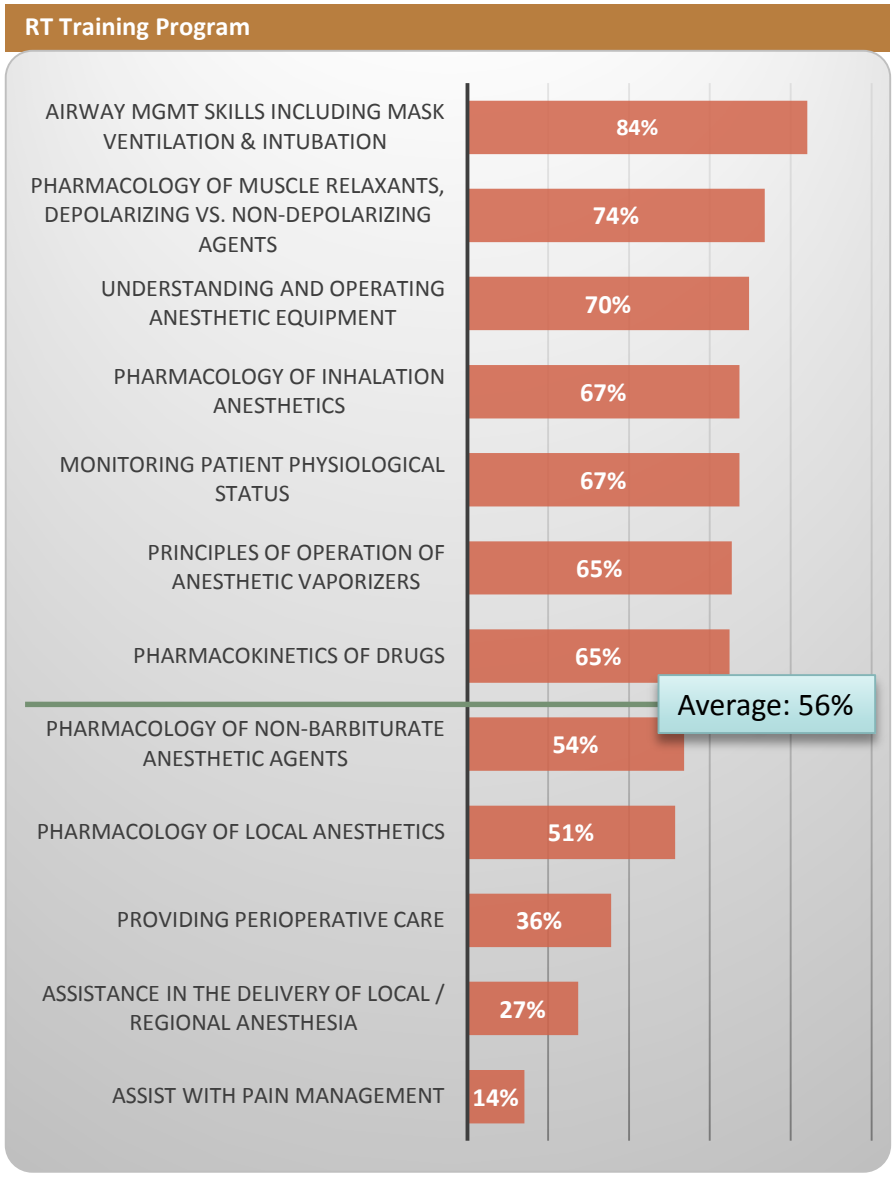
Assist with Pain Management (N=205)



QA11. For each of the following, please indicate where (if at all) you have received training from.

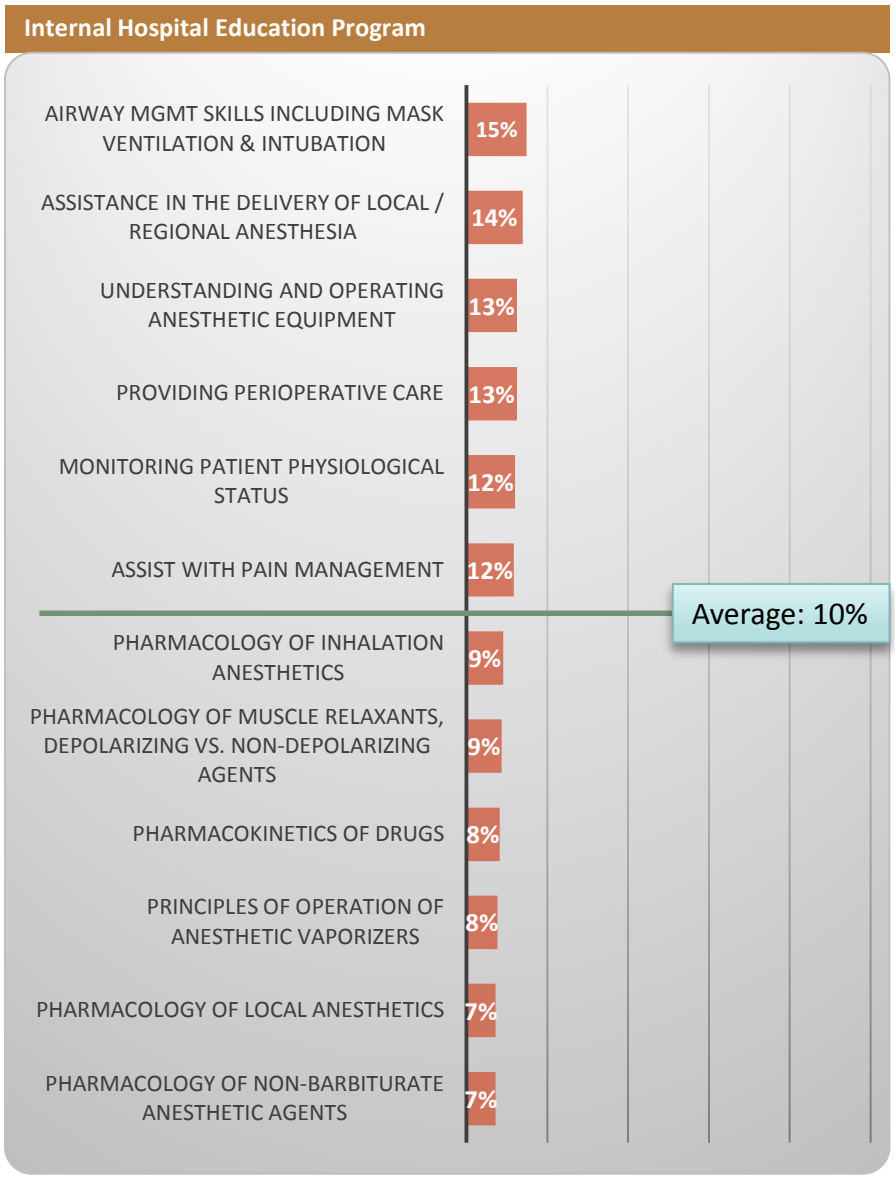
AA-Specific Training and RT Training for Anesthesia Assistants

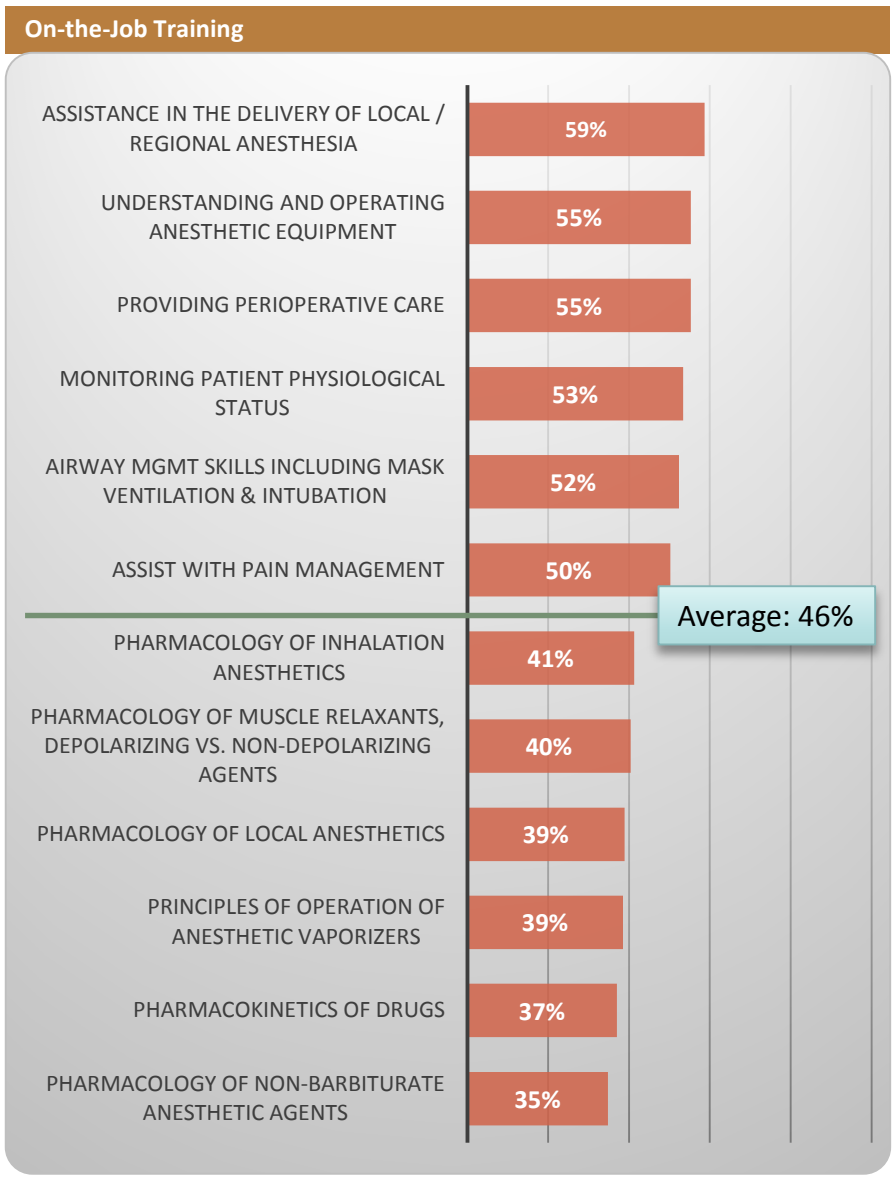




QA11. For each of the following, please indicate where (if at all) you have received training from.

Internal Hospital and On-the-Job Training for Anesthesia Assistants

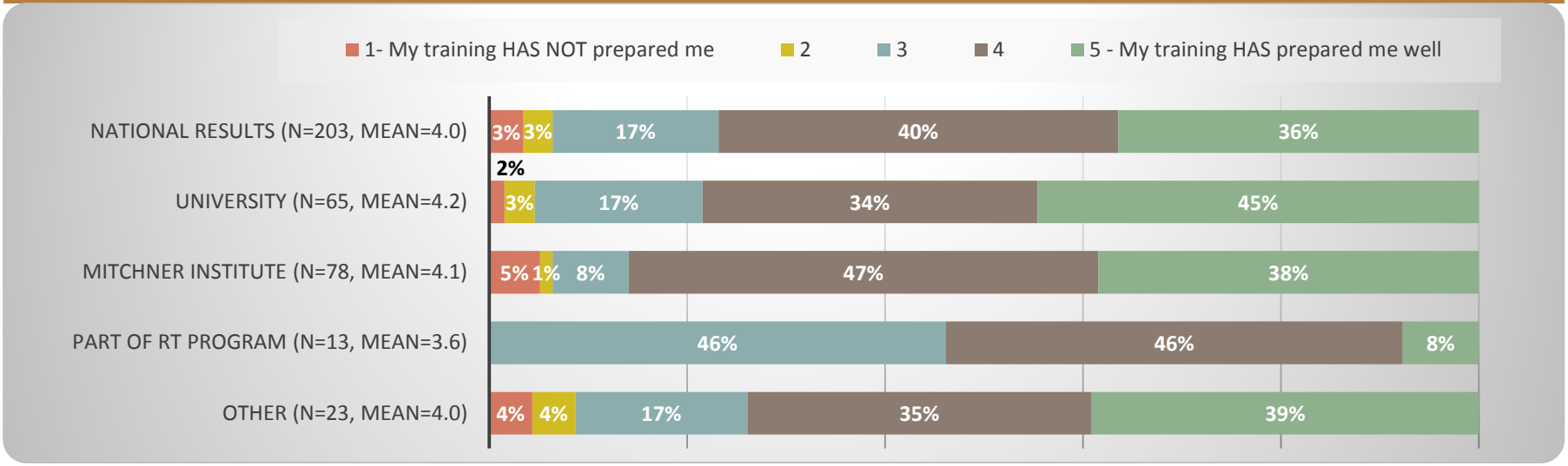




QA11. For each of the following, please indicate where (if at all) you have received training from.

Views Regarding Anesthesia Assistant Training

Level of Preparedness by Program Source



- Overall, AAs indicated that training is adequate but that there is considerable room for improvement with only one third (36%) rating their level of preparedness at 5 out of 5. Over half (57%) rated as a 3 or 4 out of 5 indicating that their training provided the essentials but could have gone further. In evaluating that state of AA training programs in terms of preparing AAs, it will be important to determine if it is truly an issue of training content or simply the challenge of taking one's learning and putting it into practice in real situations.

- The level of preparedness varies depending on the source of the program:

  - *Universities:* Generally speaking, preparedness is highest among those who received AA training from a university. Almost four in five AAs trained at a university rated their preparedness at 4 or 5 out of 5 with 45% giving full marks.
  - *Mitchner Institute:* Mitchner Institute is a close second with a slightly higher portion (85%) awarding a 4 or 5, but fewer (38%) awarding full marks.
  - *RT Program:* Interestingly, the level of preparedness is lowest among those who received their AA training as part of their RT training program. All these respondents are from Quebec. Only 8% indicated they were fully prepared and another 46% gave a rating of 4 out f 5. The result clearly highlights the value of a specialized training program.
  - *Other:* Other comprises college, CEGEP and in-house hospital training. Preparedness among these respondents is only slightly lower than university or Mitchner.

- One other interesting subgroup difference is that the more recently a respondent graduated, the less likely they were to feel prepared. This may however, be a reflection of the amount of time they have had to put their learning into practice.

QA12. Which statement best represents your views regarding your Anesthesia Assistant training?

Views on Anesthesia Assistants – Training / Certification

- Like Chiefs, AAs feel there is a great need for better standards and a certification program. The vast majority "strongly" or "somewhat" agree (84% and 83% respectively) with statements related to these items. These results clearly point to a gap in the training and certification of AAs in Canada that the profession and stakeholders would like to see addressed.

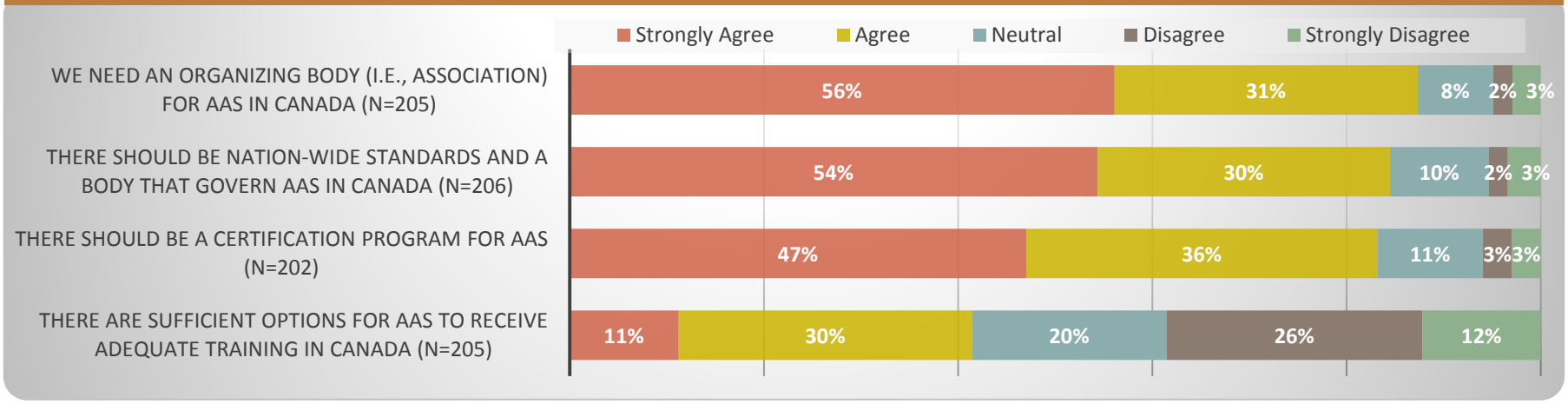
- Further, almost nine in ten (87%) also agreed that AAs need an organizing body for the profession. This report does not explore nor recommend which, if either, of these options are feasible for CAS.

- The lack of agreement (41% agree) that there are sufficient training options for AAs indicates that AAs are looking not just for more, but better quality options for training in their field.

- Relevant qualitative differences among subgroups include:

  - Support for national standards, certification and an organizing body is highest among those in BC and lowest in Quebec and Alberta.
  - Respondents from Quebec and, to a lesser extent, Ontario are most likely to agree that there are adequate education choices.
  - Support for an organizing body is highest among those who graduated in 2010 or later.
  - The greater the number of ORs, the higher the support for national standards.
  - Interestingly, the smaller the community respondents are in, the more likely they are to agree that there are adequate training options.
  - Support for certification is highest in mid-size hospitals (11 to 20 ORs or 301 to 500 beds).

National Results



QD1. To what extent do you agree with each of the following statements…?

SUPERVISION FOR ANESTHESIA ASSISTANTS

Views Regarding the Supervision of Anesthesia Assistants

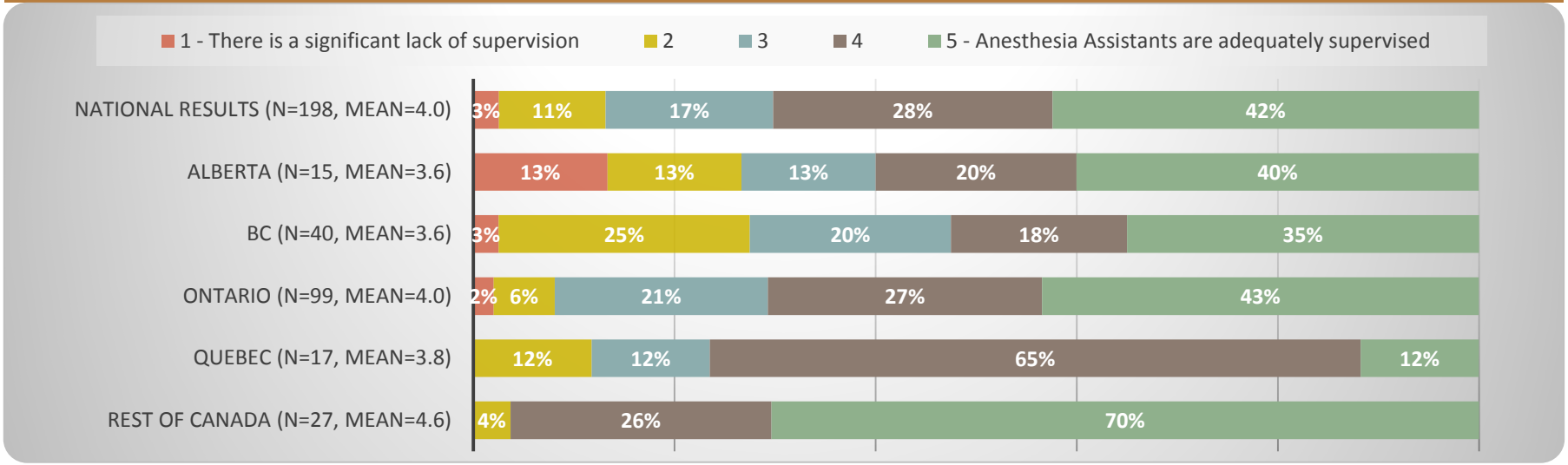
- AAs from across Canada generally feel that the level of supervision they receive is adequate, but that it could be better. Seven in ten (70%) awarded a rating of 4 or 5 out of 5 to the level of supervision for AAs in their hospital, but only 42% awarded full marks of 5. Interestingly, AAs ratings are similar to those of Chiefs. On the whole, results are fairly positive, but clearly both sides feel the need for adjustments.

- Regionally, ratings are strongest in the "rest of Canada" group where 70% rated the level of supervision at 5 out of 5. In Quebec, few AAs gave full marks, but instead were most likely to rate supervision at a 4. At the other end of the spectrum, AAs in the western provinces (Alberta and BC) are lower than other regions. Ontario is in par with the national average.

- Other relevant differences among subgroups include:

  - The older the respondent and the longer it has been since they graduated, the less likely they are to feel there is adequate supervision.
  - The bigger the hospital, the less adequate respondents feel the supervision is.

Perceived Level of Supervision by Region

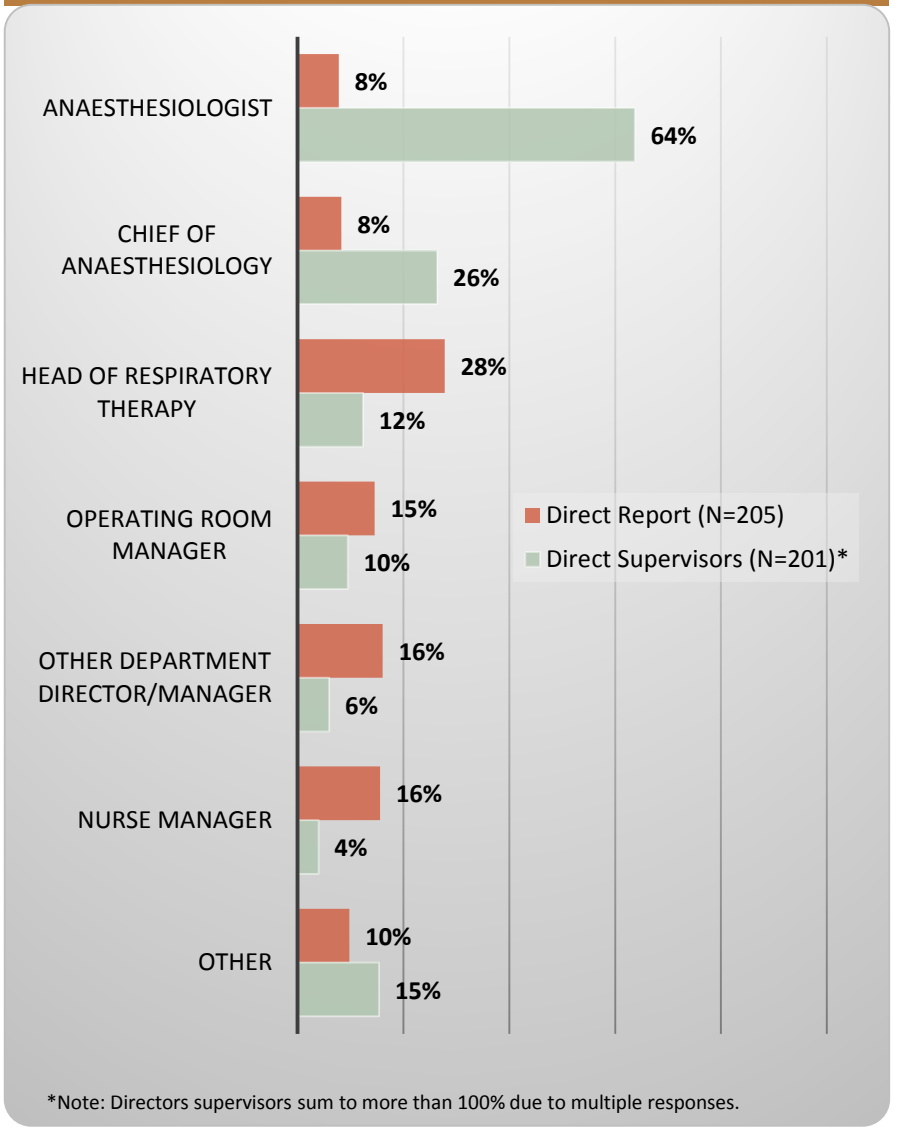


QB3. Which statement best represents your views regarding the supervision of Anesthesia Assistants at your hospital?

Responsibility for Supervision of Anesthesia Assistants

- Supervision and management of AAs are handled by different people.
- According to AAs, the most common direct supervisor is the anesthesiologist. Two thirds (64%) of AAs indicated that they receive direct supervision from an anesthesiologist. Chief Anesthesiologists are a distant second at 26%.
- When it comes to the management of AAs, it is most common for them to report to the Head of Respiratory Therapy (28%). Only 16% (combined) report directly to the most common supervisors – anesthesiologists and Chiefs of Anesthesiology.
- Key differences by region are as follows:
  - *Ontario:* The two most common AA managers in Ontario are the Head of Respiratory Therapy (36% and other department managers (25%).
  - *Quebec:* In Quebec, AAs are far more likely to report to (59%) and be supervised by (53%) the Head of Respiratory Therapy (59%) than in other regions. They are less likely to be supervised by anesthesiologists (35%).
  - *British Columbia:* Respondents from BC were more likely to report to the Nurse Manager (39%) or the Operating Room Manager (32%). They were also more likely to select the operating room manager and "others" as supervisors.
- Other relevant subgroup differences worth noting are:
  - Respondents from larger hospitals are more likely than others to report to "other" department managers while those in small hospitals are the most likely to report to the Head of Respiratory Therapy.
  - Those who graduated prior to 2005 are less far less likely than others to receive direct supervision from an anesthesiologist.
  - Anesthesiologist supervision is highest in mid-size hospitals.

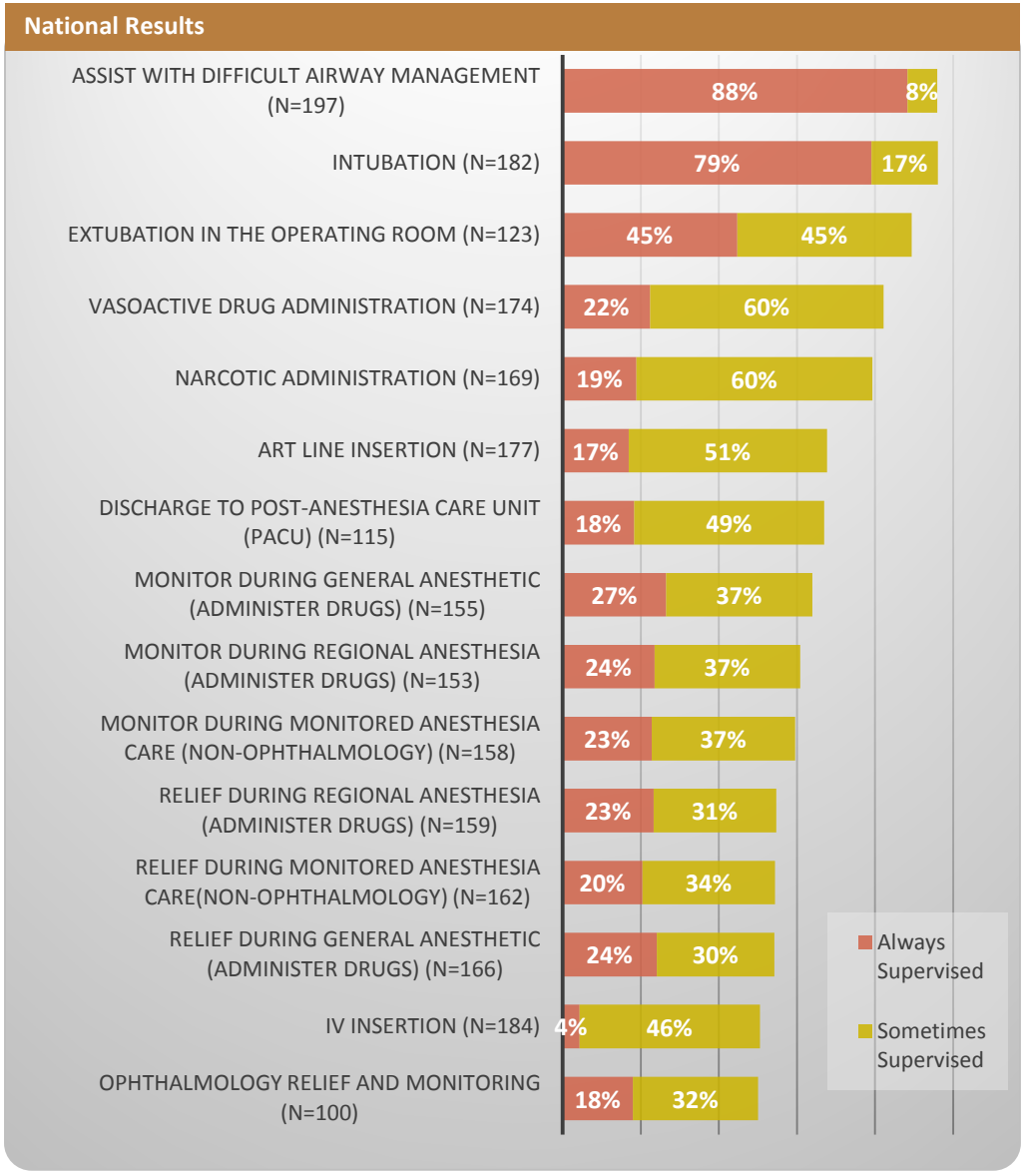
National Results (N=201)



*Note: Directors supervisors sum to more than 100% due to multiple responses.

QB2. Who is responsible for DIRECT SUPERVISION of Anesthesia Assistants in your hospital?

Supervision by Task



- The level of supervision varies greatly by task. Supervision levels among those who perform the tasks (discussed in the next section) can be divided into four groups:
  - *Supervised:* These activities are almost always supervised by an anesthesiologist. Only two tasks fall in this category - intubation and assisting with difficult airway management. In both cases, 96% indicated that the task is at least "sometimes" supervised with most indicating that it is "always" supervised.
  - *High Level Supervision:* Tasks in this group are at least "sometimes" supervised for over 79% of AAs. With 45% indicating it is "always" supervised, extubation in the operating room is the most highly supervised activity in this group. Vasoactive drug administration and narcotic administration are also in this category, but less than one fifth indicated that the activity is "always" supervised.
  - *Mid Level Supervision:* Between 60% and 70% of AAs indicated that these activities were supervised at least "sometimes" with up to a quarter indicating it is "always" supervised. Activities in this category include ART line insertion, discharge to PACU, monitoring during general and regional anesthetic, monitoring during monitored anesthesia care and relief during regional anesthesia.
  - *Low Level Supervision:* The remaining tasks supervised for less than 60% of AAs with only a quarter or less indicating that the activity is "always" supervised.

QC4. For each of the tasks that you indicated are part of your job description, please indicate if the task is supervised or unsupervised by an Anesthesiologist.

SUPERVISION BY TASK (CONT'D)

- Following is a summary of relevant qualitative differences between subgroups:
  - Respondents from Ontario were more likely to indicate that there is no supervision for several tasks including IV insertion, discharge to PACU, vasoactive drug administration and narcotic administration. On the other hand, relief during regional anesthesia is a task that is more likely to be supervised in Ontario than other regions.
  - BC respondents were less likely than others to indicate that they are always supervised for intubation or relief during general anesthetic.
  - For most tasks, AAs over 50 were less likely to indicate that they are always supervised.
  - With the exception of intubation and ophthalmology relief and monitoring, part time and contract AAs are more likely to be always supervised on tasks.
  - Respondents from large cities are generally more likely to be supervised on tasks than those in small communities (under 250,000) or major cities.
  - Respondents from smaller hospitals (300 or fewer beds or 10 or fewer ORs) are more likely to be always supervised for ART line insertion, relief during monitored anesthesia care, monitoring during monitored anesthesia care and monitoring during general anesthetic. They are also more likely to be supervised in general for vasoactive drug administration, narcotic administration, relief during regional anesthesia , relief during general anesthetic and monitor during regional anesthesia.

Views on Anesthesia Assistants – Supervision

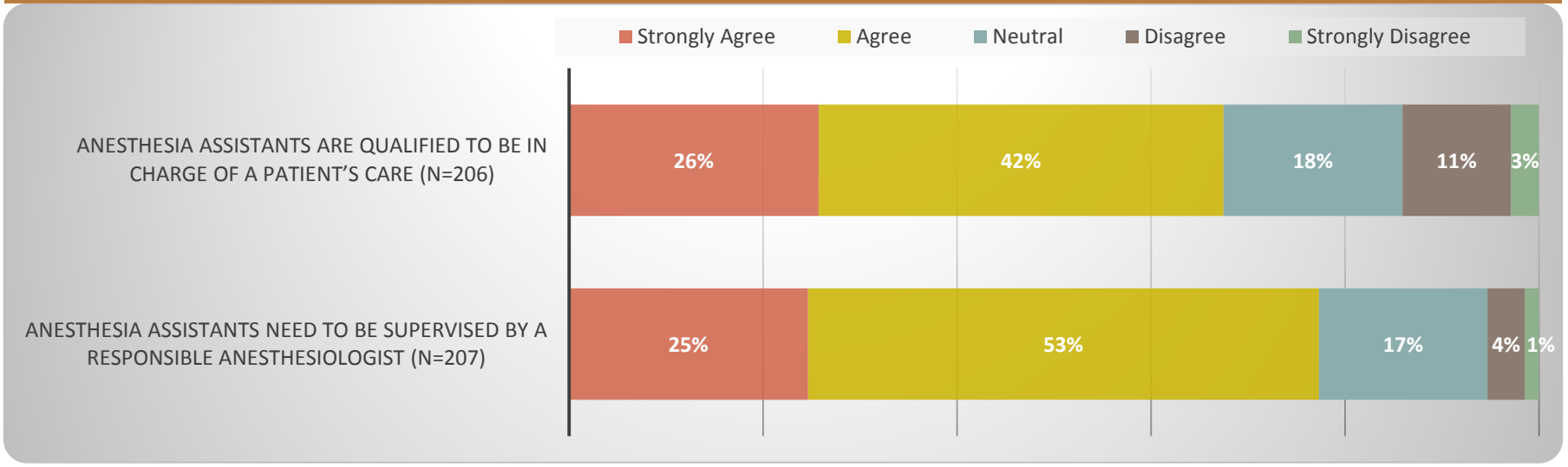
- Not surprisingly, AAs' opinions regarding required supervision are different than those of the Chiefs. While overall they agree (78% strongly or somewhat) that they require supervision from a responsible anesthesiologist, only 25% strongly agree (compared to 74% of Chiefs). AAs are also more likely to feel they are qualified to be in charge of a patient's care (68% agree vs. 31% of Chiefs). The results suggest that while AAs feel supervision is necessary, the degree need not be as strong as what Chiefs feel is required. In other words, a balance between supervision and independence.

- There are very few differences in opinions of AAs from across the country. One difference that does stand out is that those in Quebec are much more likely to agree that AAs need to be supervised by a responsible anesthesiologist.

- Other notable differences among subgroups include:

  - The younger the AA, the more likely they are to agree that AAs are qualified to be in charge of a patient's care.
  - The larger the city, the less likely AAs are to agree that supervision by an anesthesiologist is needed.
  - Similarly, those in the largest hospitals are the least likely to agree that anesthesiologist supervision is needed.

National Results



QD1. To what extent do you agree with each of the following statements…?

ROLE DEFINITION FOR ANESTHESIA ASSISTANTS

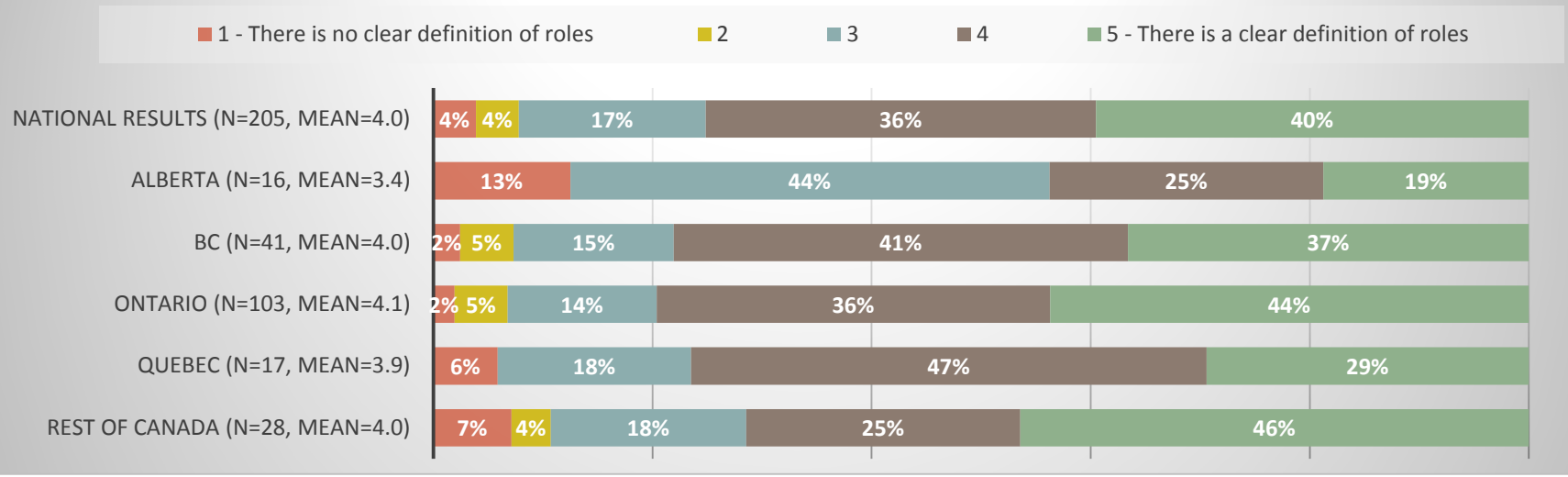
Views Regarding Role Definition for Anesthesiologists and AA's

- With three quarters (76%) awarding a rating of 4 or 5 out 5, AAs generally feel there is good definition of the roles of the AA and the anesthesiologist. While some comments in the in-depth interviews alluded to the blurring of the lines, the survey results suggest it is not a widespread issue. In fact, only 8% indicated that role definition is poor (rating of 2 or lower).

- Regionally, there are few major differences in the portion rating the role definition at a 4 or 5 out of 5. The one exception is Alberta where only 44% awarded these ratings.

- The only other relevant difference among subgroups is that respondents who graduated before 2005 are least likely to fee there is clear role definition.

Clear Definition of Roles

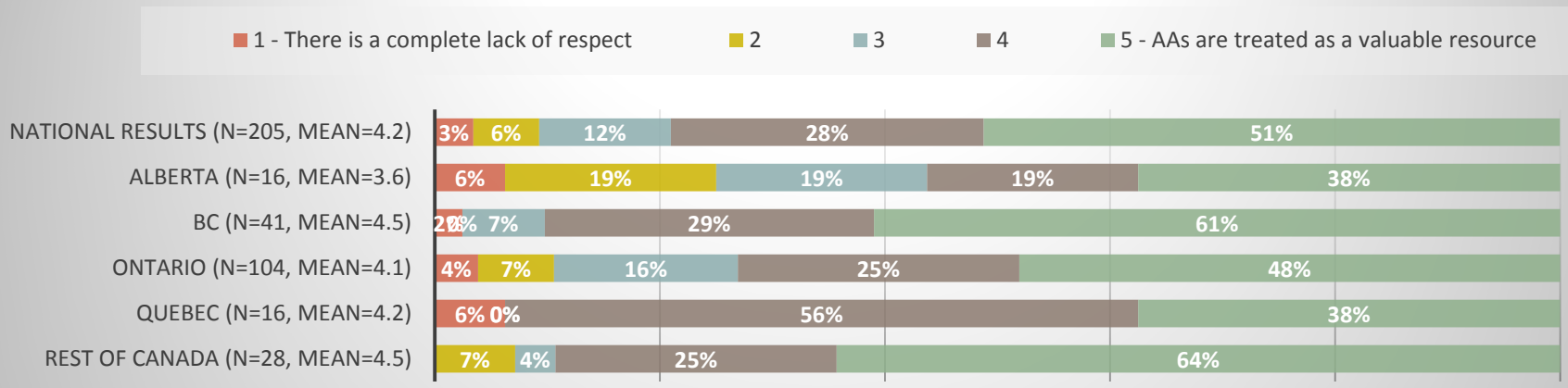


QC1. Which statement best represents your views regarding role definition for Anesthesia Assistants at your hospital?

Views Regarding Role Definition for AAs: Level of Respect

- The level of respect AAs feel they receive for their role is quite high on the whole. Over half (51%) of AAs awarded a 5 out of 5 and a further 28% awarded a grade of 4. Only 9% of AAs feel they are not really respected (rating of a or 2).
- A look at the various regions reveals that respondents from BC and "the rest of Canada" are the most likely to feel they are treated like a valuable resource. The reverse holds true in Alberta where only 57% awarded a rating of 4 or 5.
- Other relevant subgroup differences worth noting include:
  - AAs who graduated prior to 2005 awarded lower average scores to the level of respect.
  - Scores are lower in major cities.
  - Ratings are also lower in bigger hospitals.

Level of Respect



Views Regarding Role Definition for AAs: Clinical vs. Technical

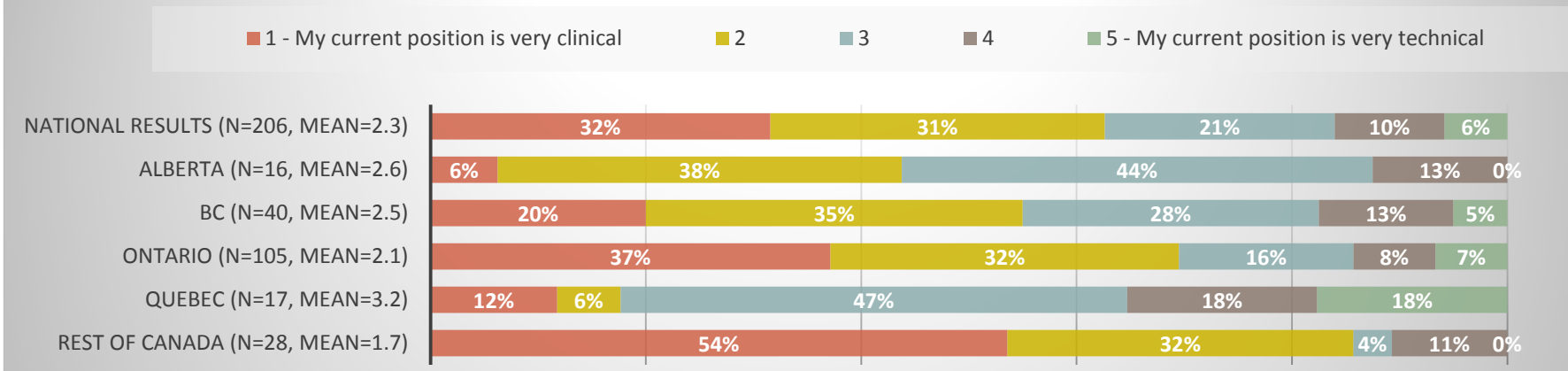
- Nationally, the AAs role tends to lean toward clinical instead of technical. On a 5 point scale where 1 equals very clinical and 5 equals very technical, 63% awarded a mark of 1 or 2 while a further 21% were in the middle at 3. In other words, more than 4 in 5 AAs would describe their position as very clinical.

- Regionally, respondents from Quebec are most likely indicate their role is more technical or balance with 79% rating at 3, 4 or 5 out of 5. The same holds true to a lesser extent among those from Alberta.

- Subgroup differences worth noting include:

  - Respondents over the age of 50 or who graduated prior to 2005 rated their positions as more technical than others.
  - Full time positions are more clinical than the part time or contract positions.
  - The bigger the city or hospital, the more clinical the position tends to be.

Position is Clinical or Technical



Task Responsibility

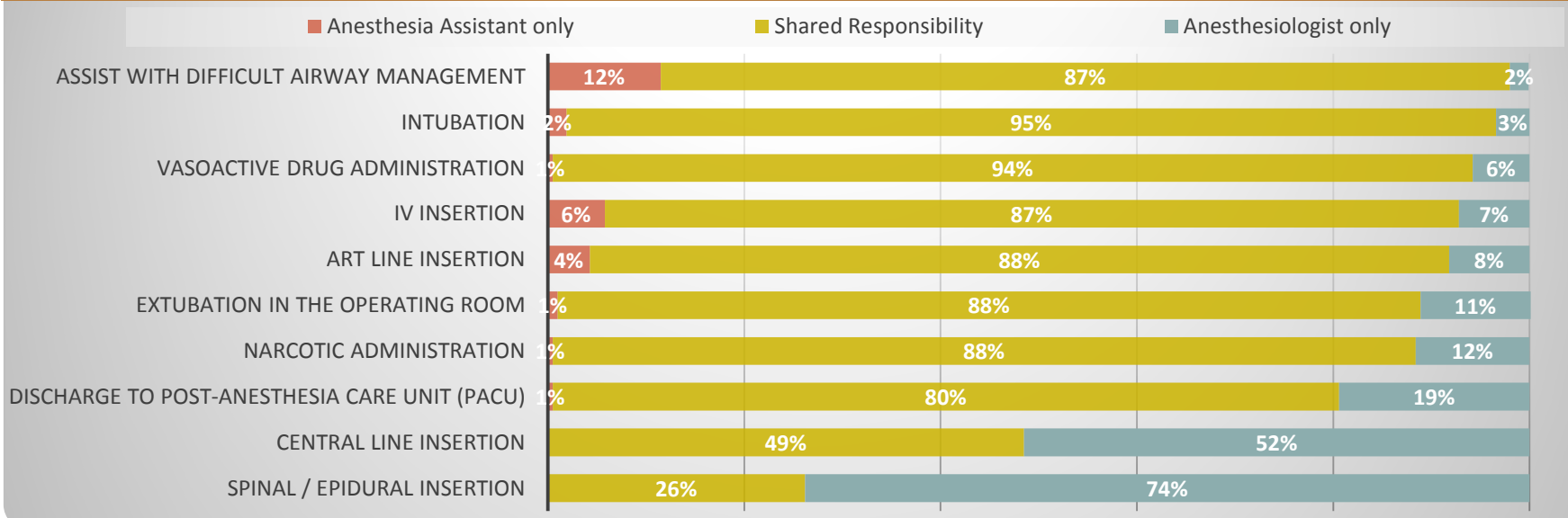
- When asked who was responsible for various tasks, very few AAs indicated that they had sole responsibility for any task. Of the ten tasks tested in the survey, seven were identified as a shared responsibility by 87% or more. Discharge to PACU is also primarily a shared role, but to a slightly lesser extent with 80% identifying it as such.

- At the other end of the spectrum, three quarter (74%) indicated that spinal/epidural insertion is responsibility of the anesthesiologist only. Central line insertion also leans to an anesthesiologist only responsibility. But with 49% identifying it as shared, it is common for AAs to play a role in this task.

- Subgroup differences include:

  - Respondents from Quebec are considerably more likely than others to indicate that a number of tasks are for the anesthesiologist only including central line insertion, ART line insertion, IV insertion, spinal / epidural insertion, extubation in the operating room and intubation.
  - ART line insertion and IV insertion are more likely to be shared responsibilities for full time AAs than part time and contract.
  - In hospitals with 10 or fewer ORs or in communities of less than 250,000, assisting with difficult airway management, IV insertion, ART line insertion, spinal / epidural insertion and central line insertion are less likely to be shared responsibilities.

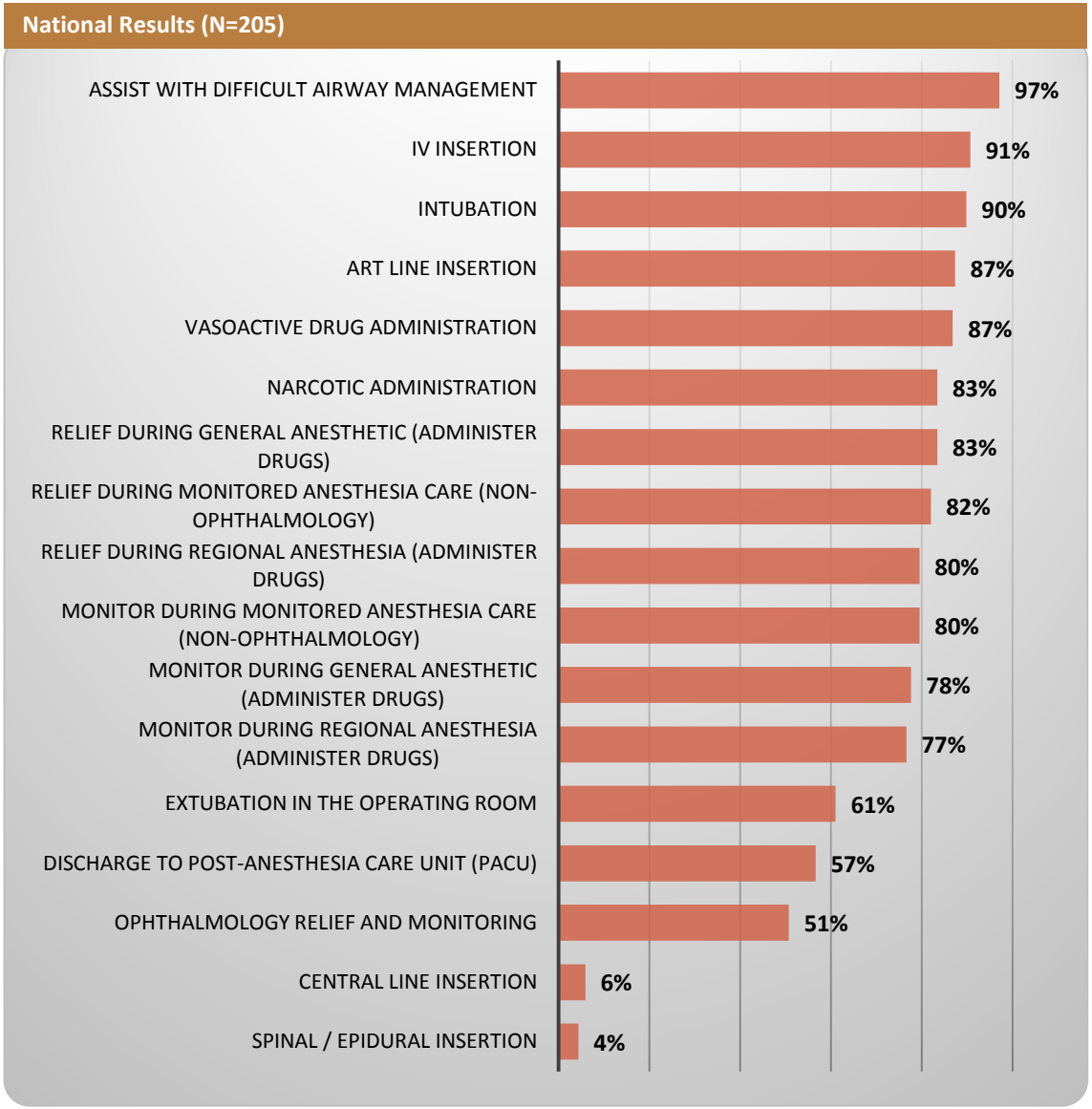
National Results (N=206)



QC2. For each of the following tasks, please indicate whether you feel that it should be done by an Anesthesiologist only, an Anesthesia Assistant only, or whether it should be a shared responsibility?

Tasks Performed by Anesthesia Assistants

- Respondents were given a list of 17 anesthesia tasks and asked to indicate which ones they were involved in. Task can be broken into four groups as follows:
  - *Primary Tasks:* These are tasks that are performed by almost all AAs (85% or more) across the country and include: assisting with difficult Airway Management, IV insertion, intubation, ART line insertion and vasoactive drug administration.
  - *Major Tasks:* Tasks in this group are performed by a significant majority of AAs (75% to 85%) and include narcotic administration, relief during general anesthetic, relief during monitored anesthesia care, relief during regional anesthesia, monitoring during monitored anesthesia care, monitoring during general anesthetic and monitoring during regional anesthesia.
  - *Minor Tasks:* These tasks are performed by a small majority of AAs (50% to 65%) and include extubation in the OR, discharge to PACU and ophthalmology relief and monitoring.
  - *Non-AA Tasks:* Given the results regarding task responsibility, it is no surprise that very few AAs perform central line insertion (6%) or spinal / epidural insertion (4%).



QC3. Which of the following tasks are part of your current job description?

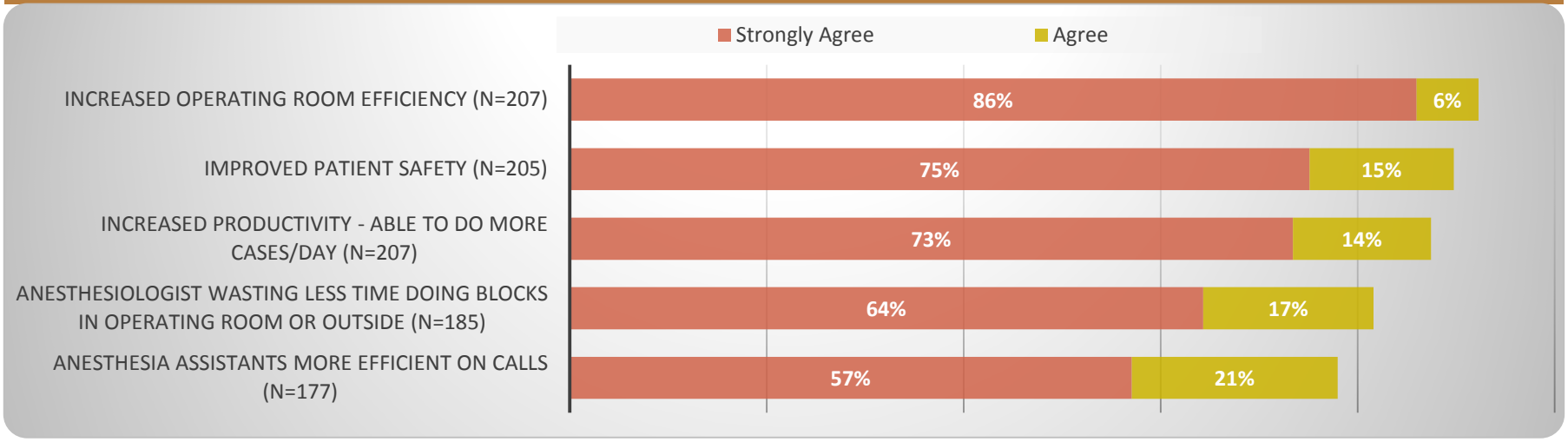
Tasks Performed by Anesthesia Assistants (cont'd)

- Subgroup differences worth noting include:
  - IV insertion, intubation and ART line insertion are less common tasks for AAs in Quebec. Several tasks are considerably more common in Ontario than in other regions including narcotic administration, relief during general anesthetic, relief during monitored anesthesia care, relief during regional anesthesia, monitoring during monitored anesthesia care, monitoring during regional anesthesia, discharge to (PACU) and ophthalmology relief and monitoring.
  - The likelihood of having monitoring during general anesthetic and monitoring during regional anesthesia as part of the job decreases with age. The reverse holds true for IV line insertion.
  - Relief during general anesthetic, relief during monitored anesthesia care, relief during regional anesthesia and monitoring during monitored anesthesia care are all more common tasks among those who graduated between 2005 ad 2009.
  - Full time staff are generally more likely to perform most of the tasks as part of their job.
  - IV insertion, intubation, ART line insertion and ophthalmology relief and monitoring are all less common in hospitals that are in communities of less the 250,000. On other other hand, relief during general anesthetic and relief during monitored anesthesia care are more common.
  - AAs in smaller hospitals (less than 300 beds or 10 or fewer ORs) are less likely to have IV insertion, ART line insertion or vasoactive drug administration as part of their role. On other other hand, relief during general anesthetic, monitor during monitored anesthesia care and monitor during general anesthetic are less common at hospitals with more than 20 ORs.

Views on the Benefits Anesthesia Assistants

- With 92% agreeing (86% strongly), increased operating room efficiency is clearly seen as the top benefit offered by AAs in their own mind. This is consistent with the views of Chiefs.
- With three quarters "strongly" agreeing, increased productivity (73%) and improved patient safety (75%) are also key benefits, followed by anesthesiologists wasting less time doing blocks at 64%.
- While most agreed that having AAs on calls is more efficient, only 57% strongly agreed placing it well behind the other benefits achieved from using AAs.
- Overall, AAs and Chiefs generally have similar views on the benefits of AAs. However, AAs more likely to view increased patient safety as a benefit.
- Differences among subgroups include:
  - Ratings on all items were slightly lower among respondents from Ontario.
  - Ratings are generally higher among AAs under the age of 40.
  - Stronger agreement was received from full time respondents compared to part time and contract.
  - Respondents in communities of less than 250,000 tended to have higher agreement with the statements

Benefits of Anesthesia Assistants



QC6. To what extent do you agree that Anesthesia Assistants lead to…?

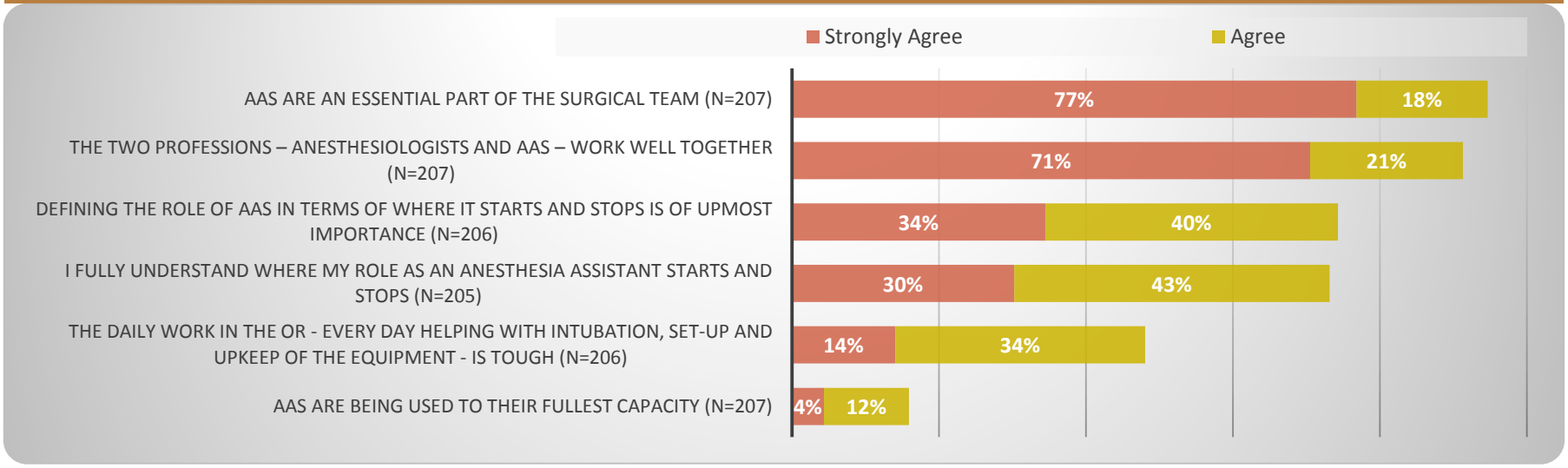
Views on Anesthesia Assistants – Role

- Like Chiefs, AAs generally agree that the two professions – Anesthesiologists and AAs – work well together (92% strongly or somewhat agree). However, they are considerably less likely to think defining the role of AAs in terms of where it starts and stops is of upmost importance (34% strongly agree vs. 57% for Chiefs).

- While AAs generally agree that they fully understand where their role starts and stops, only 34% strongly agree indicating some uncertainty. This result is consistent with findings presented earlier that indicated that respondents indicated that there is modest to good definition of the respective roles of AAs and anesthesiologists.

- Not surprisingly, AAs have stronger opinions than Chiefs that they an essential part of the surgical team (77% strongly agree vs. 46% for chiefs). This is a considerable gap that supports the need for a group to represent AAs and promote them to other stakeholders. Further evidence is the fact that like Chiefs, only 16% of AAs agree that they are being used to their fullest capacity.

Perceptions of the Role of AAs



QD1. To what extent do you agree with each of the following statements…?

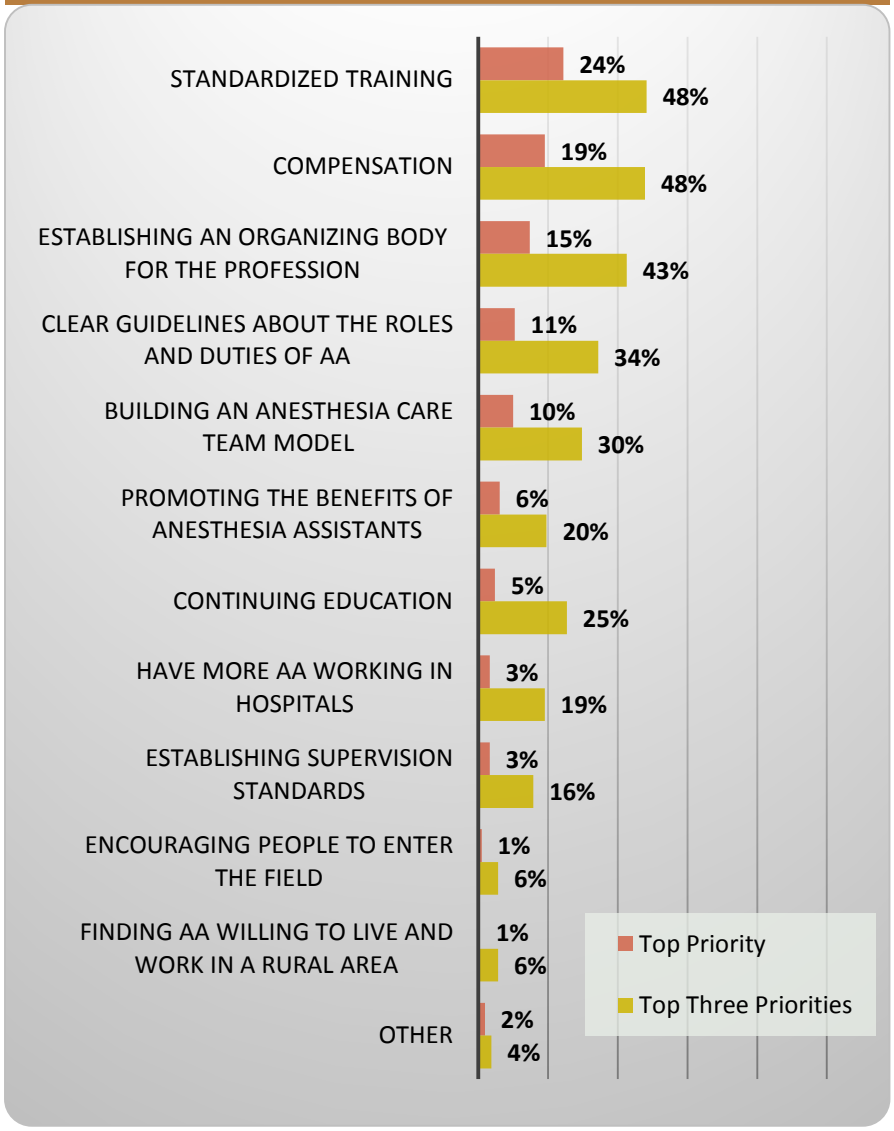
VIEWS ON ANESTHESIA ASSISTANTS – ROLE (CONT'D)

- Notable subgroup differences include:
  - Ratings among Alberta AAs tend to be lower than elsewhere. The exception is Anesthesia Assistants are an essential part of the surgical team where ratings were similar to other regions. Ratings are also lower in Ontario for Anesthesia Assistants are an essential part of the surgical team and the two professions work well together.
  - The older the AA or the longer it has been since graduation, the more likely they are to agree that Anesthesia Assistants are being used to their fullest capacity. The sense that they fully understand where their role as an Anesthesia Assistant starts and stops increases with age.
  - Understanding where their role as an Anesthesia Assistant starts and stops is higher among full time AAs.
  - Agreement with three statements is lowest in large hospitals and large cities including the two professions work well together, fully understanding where role as an Anesthesia Assistant starts and stops and AAs are being used to their fullest capacity.

PRIORITIES GOING FORWARD

Priorities With Respect to Anesthesia Assistants

National Results



- The top priorities with respect to AAs, according to AAs are standardized training (24% identified as the top priority and 48% as top three) and compensation (19% and 48%, respectively). Rounding out the top five priorities are establishing an organizing body for the profession (43%), clear guidelines about the roles and duties of AA (34%) and building an anesthesia care team model (30%).
- Regionally, the top priority for Ontario AAs is compensation while for Quebec, it is continuing education.
- Other notable differences in subgroups include:
  - Compensation is the top concern for those aged 40 to 49. It is also a stronger priority for the over 50 compare to those under 40.
  - Similarly, compensation is also the top priority for those who graduated betwee2005 and 2009.
  - The top issue for part time and contract AAs is establishing an organizing body for the profession.

QD2. In your opinion, what should the top three priorities be related to Anesthesia Assistants going forward?