University of Michigan Health System
Program and Operations Analysis

Utilization of Nurse Practitioners and Physician Assistants in Cardiac Surgery

Final Report

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EXECUTIVE SUMMARY

Nurse practitioners and physician assistants, or physician extenders, are advanced care providers that participate in direct and indirect patient care tasks alongside physicians. Previous studies conducted in the University of Michigan Hospital System (UMHS) have found that nurse practitioners and physician assistants are under-utilized, experiencing a high variation in their workload and lack of standard work expectations. Therefore, the health system would like to study the UMHS Cardiac Surgery physician extenders to discover if the same conclusions are true in the Cardiac Surgery department. With this information, a better understanding of physician extender workload and identifiable areas to improve their utilization will exist.

Goals and Objectives

The primary project goal is to:

- Document the current workload and utilization of nurse practitioners and physician assistants in Cardiac Surgery ICU, Step-Down Unit and Clinic

In addition, the team worked to:

- Understand causes of potential variation in the workload for physician extenders
- Develop a methodology for future physician extender workload analysis in the health system that can be applied to similar inpatient venues of care

With the results from the studies, the team provided recommendations for the nurse practitioners and physician assistants to:

- Balance and standardize workload
- Maximize utilization
- Increase satisfaction

Background

Cardiac Surgery at UMHS employs 9 physician assistants and 10 nurse practitioners across the units considered in this study. The team considered the inpatient unit, or ICU and 4C Step-Down units, and the outpatient unit, or the clinic. These positions provide direct and indirect patient care. Direct patient care tasks can involve rounding and procedures in inpatient units, as well as new patient or return patient visits in the outpatient unit. Indirect patient care for the inpatient units include writing order entry, admitting new patients, and coordinating diagnostic tests, whereas in the outpatient unit tasks involve writing dictation, reviewing labs, and preparing for clinic. Previous studies indicated that the majority of the physician extenders’ time was spent completing indirect patient care tasks and a variation in their workload distribution existed. This variation has been reported as a source of frustration amongst the nurse practitioners and physician assistants. This project furthered the understanding of physician extender workload and identified possible areas to improve utilization and job satisfaction.

Methodology

To achieve the project goal, the team conducted a literature search, performed preliminary observations, performed a workload data collection and analysis, and conducted a survey with the physician extenders in Cardiac Surgery. The workload data collection included the 19 physician extenders from the inpatient and outpatient units, with 100% participation from each physician extender.
For the survey, the outpatient physician extenders had a 100% response rate (N=4); ICU physician extenders 100% response rate (N=9); 4C Step-Down 67% response rate (N=4). Although there was not a 100% response rate for the 4C Step-Down, the team determined the amount of participation was representative. From this work, the team developed conclusions and recommendations for the hospital system.

Findings and Conclusions
The team considered the data with respect to each unit involved in the study. The summary of findings and conclusions for each unit are as follows:

Summary of Inpatient Workload Analysis Findings and Conclusions
- Inpatient physician extenders spend the most time on Indirect Patient Care tasks

Summary of ICU Workload Analysis and Survey Findings and Conclusions
- Physician extenders spend approximately the same amount of time on Indirect Patient Care tasks and Direct Patient Care tasks
- Rounding and Computer Tasks are important categories of the physician extenders’ workload
- Physician extenders activities vary by time of day
- Physician Extenders have an accurate understanding of their direct patient care, indirect patient care, and miscellaneous patient care tasks.
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload.
- Physician Extenders feel that there is room for improvement with their relationship to their physicians; but also feel that there is the right amount of overlap with physicians and residents.

Summary of 4C Step-Down Workload Analysis and Survey Findings and Conclusions
- Physician extenders spend the most amount of time on Indirect Patient Care tasks
- Rounding and Computer Tasks are important categories of the physician extenders’ workload
- Physician extenders activities vary by time of day
- Physician Extenders do not have an accurate understanding of their workload breakdown or their time spent rounding
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload
- Physician Extenders feel that they have a positive relationship with their physicians and that there is the right amount of overlap with physicians and residents

Summary of ICU and 4C Workload Analysis Comparison Findings and Conclusions
- ICU physician extenders spend more time on Direct Patient Care tasks; 4C Step-Down physician extenders spend more time on Indirect Patient Care tasks
- ICU physician extenders have a different workload than 4C Step-Down physician extenders
• ICU physician extenders and 4C Step-Down physician extenders spend different amounts of time on different Computer Tasks

**Summary of Outpatient Workload Analysis and Survey Findings and Conclusions**
- Physician extenders spend the most time on Indirect Patient Care tasks
- Physician extenders spend on average 5% of their time performing tasks at home
- Time of day does not affect physician extenders tasks
- Nurse Practitioners and Physician Assistants have similar workloads
- Cardiac Surgery physician extenders have similar workloads to Cancer Center physician extenders
- Physician Extenders do not have an accurate understanding of their workload breakdown
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload
- Physician Extenders feel that they have a positive relationship with their physicians and that there is the right amount of overlap with physicians and residents
- Physician Extenders feel comfortable seeing patients independently from their physicians

**Recommendations**
From the workload analysis and survey conclusions the team developed recommendations to maximize utilization, balance workload, and increase satisfaction. The summary of recommendations across the ICU, 4C Step-Down, and Outpatient unit are as follows:

- The department should explore ways to decrease the Indirect Patient Care tasks performed by physician extenders, to allow for more time allotted to Direct Patient Care tasks. These tasks include:
  - Administrative work
  - Clerical work
  - Computer based communication
  - Workflow tools
  - Phone Calls
  - Prescription Refills
  - Prior Authorizations

- Tasks that are considered at a lower-skill level should be delegated to another staff member. This will allow physician extenders to work at more appropriate skill level tasks.

- Physician Extenders reported acting as a scribe some of the time. Further investigation should be performed to determine why physician extenders are being used as scribes, or why physician extenders feel that they are being used as scribe. Ideally, tasks contributing to “being a scribe” should be completely eliminated, since a scribe only records the situation without any of their own observations or conclusions.

- The department leaders should continue researching other inpatient and outpatient areas of UMHS. By comparing more findings and conclusions to this project, more ideal improvements for physician extenders will be recognized.
INTRODUCTION

The University of Michigan Hospital System has conducted several studies analyzing the utilization of Nurse Practitioners and Physician Assistants (physician extenders). Results from these studies have determined that physician extenders are being under-utilized, experiencing a high variation in their workload, lacking standard work expectations. The health system has put forth an effort to study the UMHS Cardiac Surgery physician extenders to determine if the same conclusions hold true.

To accomplish this goal, the Chief Physician Assistant and Director of Advanced Practice Nurses would like to understand where the physician extenders spend their time, as well as how they are utilized. The clients have asked an IOE 481 team to study and document the current workload and utilization of these positions within Cardiac Surgery.

In response, the IOE 481 team conducted a literature search, performed preliminary observations, performed a workload data collection and analysis, and conducted a survey with the physician extenders in Cardiac Surgery. From this methodology, the team provided an understanding of physician extenders utilization, based on the findings, for possible improvements to the utilization of these positions. This report includes: project background, key issues, goals and objectives, project scope, methodology, findings and conclusions, and recommendations.

BACKGROUND

Cardiac Surgery at UMHS employs 9 physician assistants and 10 nurse practitioners across the units considered in this study. The team considered the inpatient unit, or ICU and 4C Step-Down units, and the outpatient unit, or the clinic. These positions provide direct and indirect patient care. Direct patient care tasks can involve rounding and procedures in inpatient units, as well as new patient or return patient visits in the outpatient unit. Indirect patient care for the inpatient units include writing order entry, admitting new patients, and coordinating diagnostic tests, whereas in the outpatient unit tasks involve writing dictation, reviewing labs, and preparing for clinic.

Other teams have conducted similar studies in the University of Michigan Hospital’s Cancer Center and Radiation Oncology Department. These teams applied a workload methodology to outpatient units, which used a workload analysis sheet and pagers. These pagers were carried by the physician extenders and were set to go off four times per hour, indicating that the physician extenders should record the current task on the sheet. The teams also collected data on work that was performed at the physician extenders’ homes. This information indicated that the majority of the physician extenders’ time was spent completing indirect patient care tasks and a variation in their workload distribution existed. This variation has been reported as a source of frustration amongst the nurse practitioners and physician assistants.

Therefore, based on these results, a study was conducted within Cardiac Surgery to determine how the physician extenders are being utilized and if the same conclusions from the previous studies hold true in this department.

KEY ISSUES
The following key issues are drove the need for this project.

- No existing data documenting the workload of physician extenders in Cardiac Surgery exists
- Physician extenders are not utilized correctly in many other UMHS settings

GOALS AND OBJECTIVES

The primary project goal is to:

- Document the current workload and utilization of nurse practitioners and physician assistants in Cardiac Surgery ICU, 4C Step-Down Unit and Clinic

In addition, the team worked to:

- Understand causes of variation in the workload for physician extenders
- Develop a methodology for future physician extender workload analysis in the health system that can be applied to similar inpatient venues of care

With the results from the studies, the team will provide recommendations for the nurse practitioners and physician assistants to:

- Balance and standardize workload
- Maximize utilization
- Increase satisfaction

PROJECT SCOPE

The scope of this project included studying the inpatient and outpatient areas in Cardiac Surgery. The outpatient area consisted of CVC floor 3, unit C clinic. The inpatient area was considered in two units: the intensive care (ICU) and the step-down (4C). All of the Cardiac Surgery nurse practitioners and physician assistants in these areas participated in the data collection process during on-location work hours. The participants who carried out work at home participated in an additional data collection process, which included work executed during these hours.

This project did not focus on the other health care providers within the Cardiovascular Center such as residents, attendings, interns or physician assistants on other CVC services. This project also excluded physician extenders from Cardiac Surgery who work in the operating rooms.

METHODOLOGY

The team performed the following steps to conduct this study:

- Observed physician extenders
- Performed a literature search
- Performed a workload collection study
- Collected survey data for physician extenders
- Analyzed data

Observations
The team observed the current state of the physician extenders within Cardiac Surgery for two weeks to better understand their tasks and responsibilities. Each member went into the clinic, 4C Step-Down, and the ICU at different times and days to shadow a physician extender. These observations gave the team a better understanding of the tasks performed by the physician extenders and were important when validating the data analysis.

**Literature Search**

The team conducted a literature search to examine academic work and provide an understanding about the utilization of physician extenders. In addition, previous IOE 481 studies were analyzed to help the team develop the methodology for each section of the project. See Appendix A for a reference list of the articles. A sample of the findings from the literature search is as follows:

- There are no significant differences between nurse practitioners, physician assistants, and residents in regards to management, outcome, or change variables.
- Physician extenders do 90% of the same work that primary care physicians do.
- Physician extenders are providing similar care to physicians.
- Based on patient volume, time in patient care, revenue generated and location, physician assistants are more productive than nurse practitioners.
- A positive experience existed when physician extenders conducted tasks previously performed by medical or surgical residents.
- Primary reasons for employing physician extenders was due to resident duty hour restrictions and:
  - Increasing patient throughput
  - Improving patient safety and quality of service
  - Increasing patient access
  - Reducing length of stay
  - Improving continuity of care

**Data Collection**

Data collection was comprised of two parts: workload data collection performed by the IOE 481 team and surveys completed by Cardiac Surgery physician extenders.

**Workload Data Collection**

The goal of the workload analysis was to quantify the amount of time physician extenders spend on various tasks, or physician extender utilization. The study was conducted with Cardiac Surgery physician extenders from the clinic, the ICU, and the 4C Step-Down unit. These units are subdivided into outpatient (clinic) and inpatient (ICU and 4C Step-Down) categories.

To record the workload in each area, the team created a data collection sheet, or tick sheet (Appendix B, C, and D). The team created two inpatient tick sheets with the assistance of the Chief Physician Assistant, Director of Advanced Practice Nurses, Nurse Practitioner Manager, and the project coordinator. The outpatient tick sheet was developed by the team in collaboration with the Chief Physician Assistant, Director of Advanced Practice Nurses, Administrative Manager, and the project coordinator. The sheets list the daily tasks of the physician extenders respective to each unit. A pilot study was conducted in each unit to verify that the daily tasks were valid and representative of the physician extenders work.
The data collection process required physician extenders to self-report their tasks using the tick sheets and beepers provided. Each participant carried a beeper that randomly alerted the physician extender to record his or her current task on the sheet. The beeper was programmed to sound on average four times per hour to ensure an accurate representation of the workload.

This data collection took place from February 20th to March 4th within each group from Cardiac Surgery. The study was conducted for a two-week period to ensure the statistical significance of the data. This study had 19 physician extender participants.

During the data collection period, the team maintained a physical presence to ensure the data was collected correctly. For the first week, the team was present at every shift change, for each unit, to personally explain how to correctly collect the data to each physician extender. Following these initial shift changes, the team was present at random times throughout the study to monitor the process, assist with questions, and observe activity to validate the findings. The second week of the study was the team’s spring break, thus the team was unavailable. Therefore, the Nurse Practitioner Manager and the project coordinator filled the team’s role.

At the end of the data collection phase, the team reviewed the tick sheets from each unit to determine the status of the collection. The team found that all 109 tick sheets (from the pilot and the data collection phase) were completed correctly, thus ending the data collection phase.

The team analyzed the collected data, determined the physician extenders utilization, and provided the foundation to make recommendations to balance the workload.

**Surveys**

The team received and used data collected through a survey conducted by an independent University of Michigan Business School project team. This independent team created and released an appropriate survey to all physician extenders in the UMHS. See Appendix E for the survey template and questions.

The outpatient physician extenders had a 100% response rate (N=4); ICU physician extenders 100% response rate (N=9); 4C Step-Down 67% response rate (N=4). Although there was not a 100% response rate for the 4C Step-Down, the team determined the amount of participation was representative. The team extracted the data from the survey via Qualtrics and analyzed the data for each area considered in the project. The survey helped the team determine the participants’ opinions of their current workload.

**Data Analysis**

The team used the workload analysis data to determine the current utilization of the physician extenders. The team looked at three major areas: direct patient care, indirect patient care and miscellaneous. From this analysis, the team isolated areas of interest and considered their relationship to the workload in more detail. These areas include: amount of time spent on Computer Tasks and Rounding, utilization by task, and utilization by time of day. The data was processed using Excel’s pivot tables. The data was visually displayed through charts created in Excel. The data was used to help develop recommendations to improve the workload balance.
WORKLOAD ANALYSIS FINDINGS AND CONCLUSIONS

The following sections present the findings and conclusions from the workload analysis. The team analyzed the workload data by the following units:

- Inpatient
- ICU
- 4C Step-Down
- ICU VS 4C Step-Down
- Outpatient

Inpatient Workload Analysis Findings

The following section presents the inpatient, ICU and 4C Step-Down units, workload analysis findings and conclusions. This unit has seven physician assistants and eight nurse practitioners. The categories and tasks relevant to this unit are defined in the inpatient workload analysis sheet, see Appendix B and C. For additional tables and graphs for inpatient workload analysis, see Appendix F.

Greatest Percentage of Time Spent on Indirect Patient Care

Across both inpatient units, the physician extenders allocate most of their time on Indirect Patient Care tasks. This category claims 23% more of the physician extenders’ time than Direct Patient Care tasks. Figure 1 illustrates how the physician extenders distribute their time across the Direct Patient Care, Indirect Patient Care and Miscellaneous Tasks categories.

Overall Most Frequently Performed Tasks are Indirect Patient Care Tasks

The top three most frequently performed tasks by the inpatient physician extenders are: Rounding with ICU Team, Sign Out at Shift Change and Computer – Order Entry. These tasks are defined as Indirect Patient Care tasks. Figure 2 displays what percentage of time the physician extenders spend on each respective task, which contributed to over 0.7% utilization. The left side of the dividing line on Figure 2 shows the tasks that comprise 81% of the inpatient physician extenders time.
Summary of Inpatient Conclusions

- Inpatient physician extenders spend the most time on Indirect Patient Care tasks

ICU Workload Analysis Findings

The following section presents the ICU workload analysis findings and conclusions. This unit has one physician assistant and eight nurse practitioners. The categories and tasks relevant to this unit are defined in the inpatient workload analysis sheet, Appendix B. For additional tables and graphs for ICU workload analysis, see Appendix G.

Greatest Percentage of Time Spent on Indirect Patient Care and Direct Patient Care

ICU physician extenders spend approximately equal amounts of time on Indirect Patient Care and Direct Patient Care. The two categories are separated by only 4% of the physician extenders’ time. Figure 3 demonstrates how the physician extenders distribute their time across the Direct Patient Care, Indirect Patient Care and Miscellaneous Tasks categories.
**Rounding and Computer Tasks Are the Largest Subcategories**

As previously mentioned, subcategories were defined to further breakdown the areas where physician extenders spend their time. *Rounding* is the largest subcategory present in the overall *Indirect Patient Care* category; *Computer Tasks* is the largest for *Direct Patient Care*. Figure 4 displays the overall breakdown of physician extenders time with respect to the subcategories.

![Pie chart showing subcategories]

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

**Figure 4: ICU Utilization by Subcategories**

**Greatest Percentage of Rounding Time Spent on Rounding with ICU**

Within the *Rounding* subcategory, *Rounding with the ICU Team* is the most prevalent task. Figure 5 shows the division of time within this subcategory.

![Bar chart showing time distribution]

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

**Figure 5: ICU Rounding by Task**

**Greatest Percentage of Computer Tasks Time Spent on Order Entry, Surveillance/Follow Up, and Update Work Flow Tools**

Within the *Computer Tasks* subcategory, *Order Entry, Surveillance/Follow Up, and Update Work Flow Tools* are the areas that the physician extenders allocate most of their time. Physician extenders spend approximately equal amounts of time on these top tasks. Figure 6 illustrates the percentage of time spent on each computer task in the *Computer Tasks* subcategory.

**Direct Pt Care:**
- Rounding
- Procedure

**Indirect Pt Care:**
- Computer
- Consults

**Miscellaneous**
- PA = Professional Activities
Overall Most Frequently Performed Tasks Are Direct Patient Care Tasks

The top three most frequently performed tasks by the ICU physician extenders are: Rounding with ICU Team, Acute Patient Problem Assessment, and Surveillance Rounding. All three of these tasks are defined as Direct Patient Care tasks. The next most frequent group of tasks performed is Indirect Patient Care tasks on the Computer: Order Entry, Surveillance/Follow-Up, and Update Work Flow Tools. Figure 7 displays what percentage of time the physician extenders spend on each respective task, which contributes to over 0.9% of the physician extenders’ time. The left side of the dividing line on Figure 7 shows the tasks that comprise 80% of the ICU physician extenders’ time.
Percentage of Direct Patient Care, Indirect Patient Care and Miscellaneous Tasks Vary by Time of Day

Physician extenders spend the largest percentage of Direct Patient Care time in the morning. The amount of time they spend on Indirect Patient Care is approximately equal across the time of day. Additionally, the amount of time physician extenders spend on Miscellaneous Tasks increases as the day goes on. Figure 8 shows the percentage of the Time of Day that is spent on each category.

Figure 8: ICU Utilization at each Time of Day by Category

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

Summary of ICU Conclusions

- Physician extenders spend approximately the same amount of time on Indirect Patient Care tasks and Direct Patient Care tasks
- Rounding and Computer Tasks are important categories of the physician extenders’ workload
- Physician extenders activities vary by time of day

4C Step-Down Workload Analysis Findings
The following section presents the 4C Step-Down workload analysis findings and conclusions. This unit has six physician assistants. The categories and tasks relevant to this unit are defined in the inpatient workload analysis sheet, see Appendix C. For additional tables and graphs for 4C Step-Down workload analysis, see Appendix H.

**Greatest Percentage of Time Spent on Indirect Patient Care**

4C physician extenders spend 72% of their time on *Indirect Patient Care*. This category represents 52% more of the physician extenders’ time than *Direct Patient Care*. Figure 9 exhibits how the physician extenders distribute their time across the *Direct Patient Care*, *Indirect Patient Care* and *Miscellaneous Tasks* categories.

**Rounding and Computer Tasks Are the Largest Subcategories**

As previously mentioned, subcategories were defined to further breakdown the areas where physician extenders spend their time. *Rounding* is the largest subcategory present in the overall *Indirect Patient Care* category; *Computer Tasks* is the largest for *Direct Patient Care*. Figure 10 displays the overall breakdown of physician extenders time with respect to the subcategories.

**Direct Pt Care:**
- Rounding
- Procedure

**Indirect Pt Care:**
- Computer
- Consults

**Miscellaneous**
- PA = Professional Activities

*Rounding is Half of Direct Patient Care Time*
The *Rounding* subcategory represents half of all the 4C physician extenders *Direct Patient Care* time. Of this subcategory, the most frequent task is *Rounding with the Surgeon*. However, this task is only slightly more frequent than *Rounding Individually*. Figure 11 shows the percentage of time that these tasks represent for the whole Rounding subcategory.

![Figure 11: 4C Step-Down Rounding by Task](image)

**Greatest Percentage of Computer Tasks Time Spent on Writing Progress Notes**

While performing *Computer Tasks*, 4C physician extenders spend the most time *Writing Progress Notes*. This task is the most frequent by approximately 16%. Figure 12 illustrates the percentage of time spent on each computer task in the *Computer Tasks* subcategory.

![Figure 12: 4C Step-Down Computer Tasks by Task](image)

**Most Frequently Performed Tasks Are Indirect Patient Care Tasks**
The top 4 tasks performed by 4C physician extenders are *Indirect Patient Care* tasks. These tasks are *Computer: Write Progress Notes, Sign Out at Shift Change, Admit New/Transfer Patient* and *Computer: Order Entry*. These tasks represent approximately 36% of the 4C physician extenders’ time. Figure 13 shows what percentage of time the physician extenders spend on each respective task. The left side of the dividing line on Figure 13 shows the tasks that comprise 80% of the 4C physician extenders’ time.

**Percentage of Direct Patient Care, Indirect Patient Care and Miscellaneous Tasks Vary by Time of Day**

Physician extenders spend the largest percentage of *Direct Patient Care* time in the morning and evening. The amount of time they spend on *Indirect Patient Care* is greatest in the afternoon. Additionally, the amount of time physician extenders spend on *Miscellaneous Tasks* varies as the day goes on. Figure 14 shows the percentage of the Time of Day that is spent on each category.
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

Figure 14: 4C Step-Down Utilization at each Time of Day by Category

**Summary of 4C Step-Down Conclusions**
- Physician extenders spend the most amount of time on Indirect Patient Care tasks
- Rounding and Computer Tasks are important categories of the physician extenders’ workload
- Physician extenders activities vary by time of day

**ICU Compared to 4C Step-Down Unit Workload Analysis Findings**
This section compares the inpatient units, ICU and 4C Step-Down, based on the individual units’ data mentioned above.

**ICU Physician Extenders Spend More Time on Direct Patient Care**
ICU physician extenders spent approximately 23% more time on Direct Patient Care tasks, whereas 4C physician extenders spent approximately 25% more time on Indirect Patient Care tasks. Both units spent approximately the same amount of time on Miscellaneous Tasks, 10%
and 8% respectively. Figure 15 compares overall how ICU physician extenders spent their time next to how 4C physician extenders spent their time.

**ICU and 4C Physician Extenders Most Frequent Tasks are Different**

ICU physician extenders top three tasks are *Rounding with ICU Team, Acute Patient Problem Assessment*, and *Surveillance Rounding*. These tasks are all categorized as *Direct Patient Care* tasks and differ from the top three 4C physician extender tasks. The top three 4C physician extender tasks are *Computer: Writing Progress Notes, Sign Out at Shift Change, and Admit New/Transfer Patient*. These tasks are all categorized as *Indirect Patient Care* tasks. These findings are consistent with the findings from the overall category comparisons above. Figure 16 compares the most frequent tasks performed by the ICU physician extenders with the 4C physician extenders’ tasks, respectively.
**ICU and 4C Physician Extenders Spend Different Amounts of Time on Different Computer Tasks**

The most prevalent 4C physician extender *Computer Task* is *Write Progress Note*. However, ICU physician extenders recorded little to no time on this task. This is due to the division of workload across the physician extenders in the ICU and the residents, who are mostly responsible for the progress notes. Therefore, ICU physician extenders spend their *Computer Tasks* time on other tasks. Figure 17 represents the comparison of 4C physician extenders *Computer Tasks* to the ICU physician extenders.

![Figure 17: ICU VS 4C Step-Down Comparison of Most Frequently Performed Tasks](image)

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

**Summary of ICU and 4C Comparison Conclusions**

- ICU physician extenders spend more time on *Direct Patient Care* tasks; 4C Step-Down physician extenders spend more time on *Indirect Patient Care* tasks
- ICU physician extenders have a different workload than 4C Step-Down physician extenders
- ICU physician extenders and 4C Step-Down physician extenders spend different amounts of time on different *Computer Tasks*

**Outpatient Findings**

The following section presents the outpatient workload analysis findings and conclusions. This unit has two physician assistants and two nurse practitioners. The categories and tasks relevant to this unit are defined in the outpatient workload analysis sheet, see Appendix D. For additional tables and graphs for outpatient workload analysis, see Appendix I.

**Greatest Percentage of Time Spent on Indirect Patient Care**

Over half of the outpatient physician extenders’ time is was spent performing *Indirect Patient Care* tasks. This category claims 25% more of the physician extenders’ time than *Direct Patient Care* tasks. Figure 18 illustrates how the physician extenders distribute their time across the *Direct Patient Care, Indirect Patient Care* and *Miscellaneous Tasks* categories. In this figure, *Phone Calls* is considered part of *Indirect Patient Care*. 

18
The top three most frequently performed tasks by the outpatient physician extenders are: Clinic Preparation, Return Patient Visit, and General Dictation. These tasks include both Direct Patient Care tasks and Indirect Patient Care tasks. However, the Indirect Patient Care tasks represent approximately 25% of physician extenders time. Figure 19 displays what percentage of time the physician extenders spend on each respective task. The dividing line on Figure 19 shows the tasks that comprise of 80% of outpatient physician extenders time.

Tasks Completed Outside of Work Setting Vary
Three of four physician extenders reported tasks that were performed at their home, for a total of 5% of their total task time. These tasks included: H&P Prep of Documents, Editing Diction, Checking Emails, Dictations, Discussing Clinic, Test Reviews, Review of Patients for the Next Work Day, Registering for a Conference, and Checking Schedules.

Percentage of Direct Patient Care, Indirect Patient Care and Miscellaneous Tasks are Similar at Each Time of Day
The percentage of time physician extenders spend on *Direct Patient Care, Indirect Patient Care* and *Miscellaneous Tasks* are approximately the same from morning to afternoon. Figure 20 shows the percentage of the Time of Day that is spent on each category. The team did not include evening by category because it was representative of only one physician extender, see Appendix I for the graph.

**Nurse Practitioners and Physician Assistants Have a Similar Overall Utilization**

Both nurse practitioners and physician assistants spent most of their overall time on *Indirect Patient Care* tasks. Figure 21 illustrates how the nurse practitioners and physician assistants respectively distribute their time across the *Direct Patient Care, Indirect Patient Care* and *Miscellaneous Tasks* categories.

**Nurse Practitioners and Physician Assistants Most Frequently Performed Tasks are Similar**

Both nurse practitioners and physician assistants spent most of their time on *Clinic Preparation* in *Indirect Patient Care* and *Misc Other* in *Miscellaneous Tasks*. However, nurse practitioners spent most of their time on *New Patient Visit* in *Direct Patient Care*, while physician assistants spent most of their time on *Return Patient Visit*. Figure 22 displays what percentage of time the nurse practitioners and physician assistants respectively spend on each task. Figure 22 shows that 50% of both nurse practitioners’ and physician assistants’ tasks include: *Clinic Preparation, Return Patient Visit, and General Dictation*. Figure 23 compares the most frequent tasks performed by the nurse practitioners with the physician assistants’ tasks, respectively.
Figure 22: Nurse Practitioner VS Physician Assistant Overall Utilization by Task
Cardiac Surgery and Cancer Center Outpatient Units Have a Similar Overall Utilization

Across both outpatient units, Cardiac Surgery and Cancer Center’s Outpatient Clinics, the physician extenders spend most of their time on Indirect Patient Care tasks. However, Cancer Center physician extenders spent more time on Miscellaneous Tasks than Cardiac Surgery physician extenders. Figure 24 displays how the physician extenders distributed their time across the Direct Patient Care, Indirect Patient Care, and Miscellaneous Tasks categories for each unit respectively. In this figure, Phone Calls is considered Indirect Patient Care.

Cardiac Surgery and Cancer Center Outpatient Units Have Similar Most Frequent Tasks

Both Cardiac Surgery and Cancer Center’s physician extenders spent majority of their time on Return Patient Visits. Dictations were the second highest task amongst these two units’ physician extenders, which represented approximately the same amount of time. However, Cardiac Surgery physician extenders spend twice as much time on Clinic Preparation than
Cancer Center physician extenders. Figure 25 and 26 percentage of time the physician extenders spend on each task for the Cancer Center and Cardiac Surgery, respectively. Figure 27 compares the most frequent tasks performed by the Cardiac Surgery physician extenders with the Cancer Center physician extenders’ tasks, respectively.

**Cardiac Surgery**

![Cardiac Surgery Overall Utilization by Task](image)

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N=4 Participants

Figure 25: Cardiac Surgery Overall Utilization by Task

**Cancer Center**

![Cancer Center Overall Utilization by Task](image)

Team 7: Physician Extender Workload Analysis Study 10/17/11 – 11/4/11, N = 82 Forms

Figure 26: Cancer Center Overall Utilization by Task
Summary of Outpatient Conclusions

- Physician extenders spend the most time on Indirect Patient Care tasks
- Physician extenders spend on average 5% of their time performing tasks at home
- Time of day does not affect physician extenders tasks
- Nurse Practitioners and Physician Assistants have similar workloads
- Cardiac Surgery physician extenders have similar workloads to Cancer Center physician extenders

Survey Findings and Conclusions

The following sections present the findings and conclusions from the workload analysis. The team analyzed the survey data by the following units:

- ICU
- 4C Step-Down
- Outpatient

ICU Survey Findings and Conclusions

The following section presents the ICU survey findings and conclusions. This unit has nine physician extenders. For the complete results of survey responses, see Appendix J.

Physician Extenders Have an Accurate Understanding of Their Workload Breakdown

The following survey responses show that the overall utilization breakdown calculated by the team is similar to the physician extenders’ opinion of their workload breakdown. The team found that Direct Patient Care was 47% of the time, Indirect Patient Care was 43% of the time, and Miscellaneous Tasks were 10% of the time.
QD2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care, and other tasks?

- Direct Patient Care 39.23% (N=9)
- Indirect Patient Care 52.31% (N=9)
- Other Tasks 8.46% (N=9)

Total N=9

**Physician Extenders are Overall Satisfied with Their Work Community and Job Responsibilities**

The following survey responses show that physician extenders feel valued in the Hospital System. They also reported satisfaction with their job responsibilities.

QF1 How valued and respected do you feel as a member of your hospital system? (On a scale of 1 (not valued at all) to 10 (very valued))

- Average: 7.11

Total N=9

QF2 How satisfied are you as a PA/NP with the type of work that you do? (On a scale of 1 (very dissatisfied) to 10 (very satisfied))

- Average: 6.88

Total N=9

QF3 Please think about how often you perform each tasks that are lower, at, or higher than your skill level. Indicate what percentage of the time you perform roles at each level.

- Lower than your skill level 38.54% (N=9)
- At your skill level 56.62% (N=9)
- Higher than your skill level 4.85% (N=9)

Total N=9

**Physician Extenders feel there are Areas for Improvement in Their Workload**

The following survey responses show that physician extenders feel that improvements can be made to their workload.

QB9 How often are you used as a scribe?

- Average: 23.96% of the time

Total N=9

QD5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? Please check all that apply.

- Clerical work 62.5% (N=5)
- Administrative work 37.5% (N=3)
- Other 25% (N=2)
  - Workflow tools
  - Computer based communication w/ care

Total N=8
QD6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?

- Standardization of role
- More hands on patient care and less time trying to know everything about 24 patients. Might be better served to only take 8 and REALLY TAKE CARE OF THEM
- I need to be in the rooms more and less time updating work tools and other people should be able to enter orders if I am away
- PAs/NPs should have more time allotted for clinical direct patient care, as on this service the midlevel providers are the constant presence as opposed to monthly influx and exit of residents
- Less direction from attending (less micromanagement), more freedom to solve problems independently, with the understanding that feedback would be forthcoming and incorporated into future care
  - Give the PA/NP their own patient load

Total N=6

**Physician Extenders See Room for Improvement with Their Relationship to Their Physicians**

The following survey responses show that, overall, physician extenders feel that they have a positive relationship with their physicians. However, physician extenders are divided about whether or not the physicians understand their capabilities. Physician extenders’ provided opinions on why physicians do not utilize their position.

QD4 How would you describe your level of independence?

- My level of independence varies greatly between all the physicians I work with 77.78% (N=7)
- My level of independence is consistently under optimized across all of my physicians 22.22% (N=2)

Total N=9

QE3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?

- Most 44.44% (N=4)
- All 33.33% (N=3)
- Some 11.11% (N=1)
- Few 11.11% (N=1)

Total N=9

QE4 Based upon the physician you work with most often, are you comfortable seeking/asking for supervision from the physicians?

- Always 44.44% (N=4)
- Usually 44.44% (N=4)
- Sometimes 11.11% (N=1)

Total N=9

QE6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
• Yes 44.44% (N=4)
• No 44.44% (N=4)
• Unsure 11.11% (N=1)
Total N=9

QE7 You selected “No” or “Unsure” to “My primary physician that I work with fully understands my qualifications and the types of medical tasks and procedures that I am capable of performing?” Please Explain.
• Our new Anesthesia Critical Care MDs are often unaware of our role
• I believe that the physicians value us, but don’t utilize us to our full potential
• There seem to be varying levels of understanding the types of medical tasks and procedures that I am capable of performing
• They don’t understand because we don’t perform procedures in this role

**Physician Extenders feel that there is the Right Amount of Overlap with Physicians/ Residents**
The following survey responses show that physician extenders feel that the existing overlap in their tasks with the physicians/residents tasks is appropriate.

QE8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians? (On a scale of 1 (too little), 3 (just right), 5 (too much))
• Average: 3.33
Total N=9

QE9 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and residents/interns? (On a scale of 1 (too little), 3 (just right), 5 (too much))
• Average: 3.44
Total N=9

**Physician Extenders are Interested in Performing First Assist**
The following survey responses show that while physician extenders do not currently provide First Assist services but some would be interested in participating in the role.

QD7 Do you provide First Assist services?
• No 100% (N=8)

QD9 You responded “No” to “Do you provide First Assist Services?” Please elaborate. Check all that apply.
• Not applicable to my role 75% (N=6)
• I would if I could 37.5% (N=3)
• Residents assist in surgery 25% (N=2)
• Physician doesn’t allow me to 12.5% (N=1)
• All other reasons 12.5% (N=1)
Total N=8
Summary of ICU Conclusions
- Physician Extenders have an accurate understanding of their direct patient care, indirect patient care, and miscellaneous patient care tasks.
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload.
- Physician Extenders feel that there is room for improvement with their relationship to their physicians; but also feel that there is the right amount of overlap with physicians and residents.

4C Step-Down Survey Findings
The following section presents the 4C Step-Down survey findings and conclusions. This unit has six physician extenders. For the complete results of survey responses, see Appendix K.

Physician Extenders Do Not Have an Accurate Understanding of Their Workload Breakdown
The following survey responses show that the overall utilization breakdown calculated by the team is not similar to the physician extenders’ opinion of their workload breakdown. The team found that Direct Patient Care was 20% of the time, Indirect Patient Care was 72% of the time, and Miscellaneous Tasks were 8% of the time.

QD2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care, and other tasks?
- Direct Patient Care 31.75% (N=4)
- Indirect Patient Care 49.75% (N=4)
- Other Tasks 18.5% (N=4)
Total N=4

Physician Extenders Do Not Have an Accurate Understanding of Their Time Spent Rounding
The following survey responses show that the overall utilization breakdown calculated by the team is not similar to the physician extenders’ opinion of their workload breakdown. The team found that Rounding Autonomously was 40% of the time and Rounding with the Supervising Physician was 60% of the time.

QC2 Of the time you spend rounding, what percent of the time is with:
- Round Autonomously 67.50% (N=4)
- The supervising physician 31.25% (N=4)
- Intern, Residents, and/or Fellows 0.25% (N=4)
- Supervising physician and Interns, Residents, and/or Fellows 1% (N=4)
Total N=4

Physician Extenders are Overall Satisfied with Their Work Community and Job Responsibilities
The following survey responses show that physician extenders feel valued in the Hospital System. They also reported satisfaction with their job responsibilities.
QF1 How valued and respected do you feel as a member of your hospital system? (On a scale of 1 (not valued at all) to 10 (very valued))
- Average: 6.75
  Total N=4

QF2 How satisfied are you as a PA/NP with the type of work that you do? (On a scale of 1 (very dissatisfied) to 10 (very satisfied))
- Average: 6.75
  Total N=4

QF3 Please think about how often you perform each task that is lower, at, or higher than your skill level. Indicate what percentage of the time you perform roles at each level.
- Lower than your skill level 28.50% (N=4)
- At your skill level 65.25% (N=4)
- Higher than your skill level 6.25% (N=4)
  Total N=4

**Physician Extenders feel there are Areas for Improvement in Their Workload**
The following survey responses show that physician extenders feel that improvements can be made to their workload.

QD5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? Please check all that apply.
- Administrative work 100% (N=4)
- Clerical work 75% (N=3)
- Phone Calls 75% (N=3)
- Prescription Refills 75% (N=3)
- Prior authorizations 75% (N=3)
  Total N=4

QD6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?
- Spend most of our time writing progress notes, cleaning up orders in Carelink, documenting to Careweb, updating workflow tools instead of direct patient care. Can't even get off the floor to attend noon conferences and such. Also competent nursing, nursing management and nurse education would go a long way
- I think PA's should be assigned to surgeons for a certain amount of weeks consistently because it provides better patient management and continuity of care
- Increase direct patient care
  Total N=3

**Physician Extenders Have a Positive Relationship with Their Physicians**
The following survey responses show that, overall, physician extenders feel that they have a positive relationship with their physicians. Physician extenders feel comfortable seeking
supervision from their physicians and believe that their physicians understand their qualifications.

QD4 How would you describe your level of independence?
- My level of independence is consistently maximized across all of my physicians 75% (N=3)
- My level of independence varies greatly between all the physicians I work with 25% (N=1)
Total N=4

QE3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?
- All 50% (N=2)
- Most 50% (N=2)
Total N=4

QE4 Based upon the physician you work with most often, are you comfortable seeking/asking for supervision from the physicians?
- Always 25% (N=1)
- Usually 50% (N=2)
- Sometimes 25% (N=1)
Total N=4

QE6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
- Yes 100% (N=4)
Total N=4

*Physician Extenders feel that there is the Right Amount of Overlap with Physicians*

The following survey responses show that physician extenders feel that the existing overlap in their tasks with the physicians is appropriate.

QE8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians? (On a scale of 1 (too little), 3 (just right), 5 (too much))
- Average: 3
Total N=4

*Physician Extenders Roles Does Not Entail Performing First Assist*

The following survey responses show that while physician extenders do not currently provide First Assist services because it is not applicable to their role.

QD7 Do you provide First Assist services?
- No 100% (N=4)
Total N=4
QD9 You responded “No” to “Do you provide First Assist Services?” Please elaborate. Check all that apply.
- Not applicable to my role 100% (N=3)
  Total N=3

**Summary of 4C Step-Down Conclusions**
- Physician Extenders do not have an accurate understanding of their workload breakdown or their time spent rounding
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload
- Physician Extenders feel that they have a positive relationship with their physicians and that there is the right amount of overlap with physicians and residents

**Outpatient Survey Findings and Conclusions**
The following section presents the outpatient survey findings and conclusions. This unit has four physician extenders. For the complete results of survey responses, see Appendix L.

**Physician Extenders Do Not Have an Accurate Understanding of Their Workload Breakdown**
The following survey responses show that the overall utilization breakdown calculated by the team is different than the physician extenders’ opinion of their workload breakdown. The team found that Direct Patient Care was 31% of the time, Indirect Patient Care was 56% of the time, and Miscellaneous Tasks were 13% of the time.

QD2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care and other tasks?
- Direct Patient Care Tasks 59.75% (N=4)
- Indirect Patient Care Tasks 32.5% (N=4)
- Other tasks 7.75% (N=4)
  Total N=4

**Physician Extenders are Overall Satisfied with Their Work Community and Job Responsibilities**
The following survey responses show that physician extenders feel valued in the Hospital System. They also reported satisfaction with their job responsibilities.

QF1 How valued and respected do you feel as a member of your hospital system? (On a scale of 1 (not valued at all) to 10 (very valued))
- Average: 6.25
  Total N=4

QF2 How satisfied are you as a PA/NP with the type of work that you do? (On a scale of 1 (very dissatisfied) to 10 (very satisfied))
- Average: 6.25
  Total N=4
QF3 Please think about how often you perform each tasks that are lower, at, or higher than your skill level. Indicate what percentage of the time you perform roles at each level.

- Lower than your skill level 45% (N=4)
- At your skill level 51.75% (N=4)
- Higher than your skill level 6.5% (N=4)

Total N=4

**Physician Extenders feel there are Areas for Improvement in Their Workload**

The following survey responses show that physician extenders feel that improvements can be made to their workload.

QB9 How often are you used as a scribe?
- Average: 25% of the time

Total N=4

QD5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? Please check all that apply.

- Clerical work 75% (N=3)
- Phone calls 75% (N=3)
- Prior authorizations 50% (N=2)
- Administrative work 25% (N=1)
- Email patients 25% (N=1)
- Prescription refills 25% (N=1)

Total N=4

QD6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?

- Provide CCC support as occurs with physicians
- Work in tandem on the same patient, the NP prepping for the actual visit with the surgeon. Alter the way patients are scheduled so the NP does not have to wait (and keep the patient waiting) to confer with the surgeon
- The patients seem to be very satisfied. I'm pretty sure that the physicians are satisfied too.

Total N=3

**Physician Extenders are Comfortable Seeing Patients Independently from their Physicians**

The following survey responses shows that overall, physician extenders are comfortable seeing patients independently from their physicians. However, physician extenders reported that physicians still see the same patients as themselves.

QB1 Do you have your own patient visits appointment schedule (separate from the physician)?

- Yes 75% (N=3)
- No 25% (N=1)

Total N=4

QB4 I am/would be comfortable having my own patient appointment schedule.
• Yes, regardless of on-site availability of the physician 100% (N=3)

Total N=3

QB6 How often (% of patients) does your supervising physician also see patients that you see in clinic?
• Average: 49.5 %

Total N=4

QB7 How often are you in the clinic/office seeing patients when no physician is physically present in the office/clinic?
• Average: 40.25 %

Total N=4

QB8 Who sees post-op global visits?
• PA/NP with MD 75% (N=3)
• PA/NP with MD available by phone if needed 50% (N=2)
• PA/NP with MD available in clinic if needed 50% (N=2)
• MD only 25% (N=1)

Total N=4

QD4 How would you describe your level of independence?
• My level of independence varies greatly between all the physicians I work with 50% (N=2)
• My level of independence is consistently under optimized across all of my physicians 50% (N=2)

Total N=4

Physician Extenders Feel that They Have a Positive Relationship with Their Physicians
The following survey responses show that, overall, physician extenders feel that they have a positive relationship with their physicians. However, physician extenders reported that their utilization is not consistent amongst all of their physicians or that they were underutilized.

QD4 How would you describe your level of independence?
• My level of independence varies greatly between all the physicians I work with 50% (N=2)
• My level of independence is consistently under optimized across all of my physicians 50% (N=2)

Total N=4

QE3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?
• All 50% (N=2)
• Most 25% (N=1)
• Few 25% (N=1)

Total N=4
QE4 Based upon the physician you work with most often, are you comfortable seeking/asking for supervision from the physicians?
- Always 75% (N=3)
- Sometimes 25% (N=1)
Total N=4

QE6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
- Yes 75% (N=3)
- No 25% (N=1)
Total N=4

Physician Extenders feel that there is the Right Amount of Overlap with Physicians
The following survey responses show that physician extenders feel that the existing overlap in their tasks with the physicians/residents tasks is appropriate.

QE8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians? (On a scale of 1 (too little), 3 (just right), 5 (too much))
- Average: 3.25
Total N=4

Physician Extenders Roles Does Not Entail Performing First Assist
The following survey responses show that while physician extenders do not currently provide First Assist services because they are not applicable to their role.

QD7 Do you provide First Assist services?
- No 100% (N=4)
Total N=4

QD9 You responded “No” to “Do you provide First Assist Services?” Please elaborate. Check all that apply.
- Not applicable to my role 100% (N=4)
Total N=4

Summary of Outpatient Conclusions
- Physician Extenders do not have an accurate understanding of their workload breakdown
- Physician Extenders are overall satisfied with their work; but also feel that there are areas for improvement in their workload
- Physician Extenders feel that they have a positive relationship with their physicians and that there is the right amount of overlap with physicians and residents
- Physician Extenders feel comfortable seeing patients independently from their physicians

RECOMMENDATIONS
From the workload analysis and survey conclusions the team developed recommendations to maximize utilization, balance workload, and increase satisfaction, in order to enable the Cardiac Surgery Department achieve its goals.

**Recommendations for ICU**

- The department should explore ways to decrease the *Indirect Patient Care* tasks performed by physician extenders, to allow for more time allotted to *Direct Patient Care* tasks. These tasks include:
  - Administrative work
  - Clerical work
  - Computer based communication
  - Workflow tools

- Physician Extenders reported acting as a scribe 24% of the time. Further investigation should be performed to determine why physician extenders are being used as scribes, or why physician extenders feel that they are being used as scribe. Ideally, tasks contributing to “being a scribe” should be completely eliminated, since a scribe only records the situation without any of their own observations or conclusions.

- Tasks that are considered at a lower-skill level should be delegated to another staff member. This will allow physician extenders to work at more appropriate skill level tasks.

**Recommendations for 4C Step-Down**

- The department should explore ways to decrease the *Indirect Patient Care* tasks performed by physician extenders, to allow for more time allotted to *Direct Patient Care* tasks. These tasks include:
  - Administrative work
  - Clerical work
  - Phone calls
  - Prescription refills
  - Prior authorizations

- Tasks that are considered at a lower-skill level should be delegated to another staff member. This will allow physician extenders to work at more appropriate skill level tasks.

- The department should explore ways to decrease the amount of time writing progress notes on the computer.

**Recommendations for Outpatient**

- The department should explore ways to decrease the *Indirect Patient Care* tasks performed by physician extenders, to allow for more time allotted to *Direct Patient Care* tasks. These tasks include:
  - Administrative work
  - Clerical work
  - Emailing patients
Phone calls
- Prescription refills.
- Prior authorizations

- Physician Extenders reported acting as a scribe 25% of the time. Further investigation should be performed to determine why physician extenders are being used as scribes, or why physician extenders feel that they are being used as scribe. Ideally, tasks contributing to “being a scribe” should be completely eliminated, since a scribe only records the situation without any of their own observations or conclusions.

- Tasks that are considered at a lower-skill level should be delegated to another staff member. This will allow physician extenders to work at more appropriate skill level tasks.

- Physician extenders should receive more training on how to dictate more concisely. This could cut down on the amount of time spent on Indirect Patient Care, and allow them to take on more Direct Patient Care.

Future Steps
- The department leaders should further investigate and develop a plan to carry out level work loading suggestions across physician extenders, through the use of concrete and measurable goals, that will provide improvement.

- The department leaders should continue researching other inpatient and outpatient areas of UMHS. By comparing more findings and conclusions to this project, more ideal improvements for physician extenders will be recognized.
Appendix A: Literature Search


Appendix B: Inpatient ICU Physician Extender Workload Analysis Form

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<thead>
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<th>Name:</th>
<th>Date:</th>
<th>Work Done Outside Hospital:</th>
</tr>
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<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>10 AM - 12 PM</td>
<td></td>
<td></td>
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<tr>
<td>12 PM - 2 PM</td>
<td></td>
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<td>2 PM - 4 PM</td>
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<tr>
<td>4 PM - 6 PM</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8 PM - 10 PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions:
- Please complete the entire top portion of the sheet, otherwise the data collected cannot be used.
- Keep the beepers provided to you for the duration of the shift, please turn them off at the beginning of your work day and turn them on at the end of your work day.
- If you break the beeper, please notify the nurse immediately.
- If you notice the beeper has not activated in the past couple hours, notify the nurse immediately.
- When finished place the sheet in the folder located in the workroom. Please pass your beeper to the next person, or place in the box in the workroom.

Definitions of Tasks:
- Direct Care
  - Surveillance: observing data individually, either proactively or to detect active problem identified on computer surveillance.
  - Patient Care: includes completion of data card.
- Indirect Care
  - Consults: Initial medical consultation or consultant regarding a patient problem.
  - Consults: including VAD team discussion other than rounds.
  - Consults: including surgeon discussion other than rounds.
  - Admit New/Transfer Patient: includes review of OSH medical records and other communication to gather history and develop plan care.
- Miscellaneous
  - Update Guidelines: for example CVC, protocol for patient care problems.
  - Preparing Ext Presentations: for example, I & O, presentation, presentation for conferences.

Description of Tasks Marked in Other:

Additional Comments:

*Please see FLYERS located for definitions of tasks and instructions*
## Appendix C: Inpatient 4C Step-Down Physician Extender Workload Analysis Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Work Done Outside Hospital</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td>Time spent on work since you last left the office? YES: 30</td>
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<tr>
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<td></td>
<td>No: 00</td>
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<tr>
<td></td>
<td></td>
<td>Breakdown of tasks:</td>
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<td></td>
<td></td>
<td>UO / PA</td>
</tr>
</tbody>
</table>

### Direct Contact with Patient:

- Individual
- With Surgeon
- Acute PI Problem Assessment
- Transfer/ New PI Assessment
- Client/ Visit
- Face/ Nose
- Other |

### Communications with Patient or Family:

- Communicates with Patient or Family
- Other

### Inpatient Care:

- Inpatient Care
- Order Entry
- Order Maintenance
- Update Work Flow Tools
- Notes/ Progress Notes
- Surveillance/ Follow-Up
- Prep for Ordering
- Prep for Op Patient
- Initiate Consult
- Consult with DC Planning
- Consult Follow-Up
- Consult with Surgeons
- Consult with Neuro |

### Inpatient Care

- Admit New/ Transfer Patient
- Coordination of Diagnostic Tests
- Patient Discharge
- Sign Out at Shift Change
- Radiology to ICU
- ICU Communication
- Other

### Miscellaneous:

- Maintaining Training
- Basic Life Support
- Work Email
- Other
- QC Data Collection
- Update Guidelines
- Prep Standard Presentations
- Prep Internal Presentations
- Update M/Learning
- CRF
- Coaching Related Work |

### Instructions:

- Please complete the entire top portion of the sheet, otherwise the data collected cannot be used.
- Keep the beeper powered on the side of the patient and turn the beeps on or off at the end of your shift. NO ON. Please keep the beeper on silent, the beeps are not auditory.
- When the beeper vibrates normally, respond as quickly and as appropriate as you can. When the beeper emits a long tone, please read the sheet's activity.
- Beepers will vibrate an average of 1-2 times per hour. Beepers may be used in the past couple hours your battery may be low. Please let the supervisor know that this is an issue so the battery can be replaced.

### Definition of Tasks:

- Inpatient Care
- Order Entry
- Provided feedback on orders received
- Surveillance/ Follow-Up
- Surveillance/ Follow-Up
- Prep for Ordering
- Prep for Op Patient
- Initiate Consult
- Consult with DC Planning
- Consult Follow-Up
- Consult with Surgeons
- Consult with Neuro
- Admit New/ Transfer Patient
- Review of COT's medical records and other communication together history and development of plan care.

### Description of Tasks Marked in Others:

- Miscellaneous:
- Update Guidelines for example, CVC manual, protocol for patient care.
- Preparing for Presentations/ examples, A.O.A., presentation, presentation for conference

### Additional Comments:

- Contact Information:
  - If there is a problem with the study or the beeper, please contact:
  - Tracey Bresson
  - Rachel Williams (313) 355-8716
  - Kristin Ramsey (313) 355-8705
  - Dustin Swoboda (313) 355-8744
# Appendix D: Outpatient Physician Extender Workload Analysis Form

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date</th>
<th>Total # of Pts</th>
<th>Work Done Outside Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Direct Patient Care:**
- New Patient Visit
- Return Pk Visit
- Post-Op Visit
- H&P Visit
- Other

**Indirect Patient Care:**
- Dispensation (General)
- Dispensation - Editing
- Review Test/Lab Results
- Notification
- Prescription
- Clinic Preparation
- Order Entry, maintenance
- Discuss Patient Care
- Review of CT
- Medical/Surgical (not multi-tasking)

**Phone Calls:**
- Calling in a prescription
- Medication adjustment
- Tech results
- Intake New patient
- Prior Authorization (GT)
- Miscellaneous/Other

**Miscellaneous:**
- Checking appointment schedule
- Adjusting patient schedule
- Checking email
- Continuing Medical Education
- Weekly Case Conference
- Meetings
- Research
- Personal/In-service
- Training
- Other

*Please see REVERSE side for instructions

---

**Instructions:**

1. Please complete the entire top portion of the sheet, otherwise the data collected cannot be used.
2. Please keep the beeper on silent, the beep volume should be set to the lowest setting.
3. If you start your work day before 8:00 AM, please fill in the appropriate time column.
4. If you notice the beeper is not working, please replace the battery.
5. When finished, place completed sheet in the folder located in the Room 3164A. Please turn in your beeper to the next person or place on the bench in the workroom.

**Description of Tasks Marked in Other:**

**Additional Comments:**

---

**Contact Information:**

Carrie McFarland
Kathy Wilson (614) 995-6716
Jocie Samuel (315) 237-4633
Dakota Ford (646) 462-4460
Appendix E: Survey Questions
Physician Assistant (PA) and Advanced Practice Nurse (NP, CNM) Utilization Survey
This survey is part of a project to better understand the work life of physician assistants and nurse practitioners, who are an increasingly important part of our care giving teams. Your participation is valuable and greatly appreciated. Your answers will be kept completely confidential. Thank you for your participation.

A1 I am a:
- Nurse Practitioner (NP/DNP) (1)
- Physician Assistant (PA-C) (2)

A2 This section contains questions about your primary clinical job/specialty. Your primary clinical job/specialty is the clinical job where you spend most of your time in clinical practice. If your time is split evenly between two settings or specialties, choose the specialty designated as your primary department for your credentialing and privileging. For the purposes of this survey, my primary clinical job/specialty is in: (answer the survey questions based off the area you chose)
- Addiction Medicine (1)
- Diagnostic Radiology (2)
- Surg: Orthopedics (3)
- Surg: Plastic (4)
- Allergy (5)
- Pathology (6)
- Surg: Cardiovascular/Cardiothoracic (7)
- Surg: Neurological (8)
- Surg: Otorhinolaryngology (9)
- Surg: Spine (10)
- Ped: Critical Care (11)
- Ped: Hematology (12)
- Ped: Rheumatology (13)
- IM: Critical Care (14)
- IM: Nephrology (15)
- Anesthesiology (16)
- IM: Rheumatology (17)
- Radiation Oncology (19)
- Ped: Endocrinology (20)
- Dermatology (21)
- Pain Management (22)
- General Surgery (23)
- Surg: Bariatric (24)
- General Pediatrics (25)
- Ped: Emergency Medicine (26)
- Ped: Cardiology (34)
- IM: Cardiology (35)
- Surg: Thoracic (36)
- Surg: Urology (37)
- Ped: Adolescent Medicine (38)
- Ped: Other (39)
A3 I work in the following clinical setting(s):
- Exclusively outpatient (1)
- Exclusively inpatient (2)
- Both outpatient and inpatient (3)

A4 Which types of non-physician providers work in your department? (Please check all that apply)
- Nurse Practitioner (NP/DNP) (1)
- Nurse Midwife (CNM) (2)
- Nurse Anesthetist (CRNA) (4)
- Physician Assistant (PA-C) (5)
- Anesthesia Assistant (6)
S2 FOR THE REMAINDER OF THIS SURVEY, ANSWER QUESTIONS FROM THE PERSPECTIVE OF YOUR WORK IN THE DEPARTMENT YOU IDENTIFIED IN QUESTION 3 AS BEING YOUR PRIMARY CLINICAL JOB/ SPECIALTY.

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B1 Do you have your own patient visits appointment schedule (separate from the physician)?
- Yes (1)
- No (2)
- Sometimes (3)

Answer If Do you have your own patient visits appointment schedule ... Sometimes Is Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B2 "Do you have your own patient visits appointment schedule (separate from the physician)?". You answered "Sometimes" for this, please explain why:
- Only if asked (1)
- All new patients (2)
- Pre-identified patients (by complexity, diagnosis, presenting problems) (3)
- Other (4) ____________________

Answer If Do you have your own patient visits appointment schedule ... Yes Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B3 What are the barriers to you having an independent clinic schedule?
- RVU Structure (1)
- Physicians asking midlevels to perform the jobs of nurses and MAs (2)
- Acuity of patient needs (3)
- Physicians are unwilling to let go oversight of patients not needing high levels of care (4)
- There is no barrier (5)
- Other: (6) ____________________

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B4 I am/would be comfortable having my own patient appointment schedule.
- Yes, regardless of on-site availability of the physician (1)
- Yes, only when a physician is also on-site (2)
- No, why? (3) ____________________

Answer If Do you have your own patient visits appointment schedule ... No Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B5 Which types of visits are scheduled with you independently? (Please check all that apply)
- New Patients (1)
- Routine Annual Physicals (2)
- Post-op Global Visits (3)
Procedures (4)
Established Patients/ Follow-up (5)
Urgent Visits (6)
Pre-op H+Ps (7)
Established Patients/New-problems (8)
Consultations (9)
Independent Medical Exam (IME) (10)
Other (11) ____________________

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B6 How often (% of patients) does your supervising physician also see patients that you see in clinic?
______ % (1)

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B7 How often are you in the clinic/office seeing patients when no physician is physically present in the office/clinic?
______ % (1)

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B8 Who sees post-op global visits? (Please check all that apply)
☐ MD only (1)
☐ PA/NP with MD available by phone if needed (2)
☐ PA/NP with MD (3)
☐ Does not apply (4)
☐ PA/NP with MD available in clinic if needed (5)
☐ I don't know (6)

B9 How often are you used as a scribe? (Definition: A scribe is present during the clinical encounter to record the actions and the words of the physician in real time. Scribes MAY NOT interject or provide their own observations or impressions into the medical record. Thus, scribes may not provide any portion of the E+M service)
______ % of time used as scribe (11)

Answer If I work in the following clinical setting(s): Exclusively outpatient Is Not Selected

C1 Do you participate in hospital rounds?
☐ Yes (1)
☐ No (2)

If No IsSelected, Then Skip To End of Block

Answer If Do you participate in hospital rounds? Yes Is Selected

C2 Of the time you spend rounding, what percent of the time is with:(answers should total to 100)
______ The supervising physician (1)
______ Intern, Residents, and/or Fellows (2)
______ Supervising physician and Interns, Residents, and/or Fellows (3)
Round Autonomously (with general physician supervision*) General supervision means the procedure/task is furnished under the physician’s overall direction and control, but the physician’s presence is not required during the performance of the procedure/task (4)

D1 Do you perform procedures?
- Only after checking with the physician (1)
- Delegated to PA/NP per delegation agreement; PA/NP sees and treats accordingly (2)
- The physician and I see patients together: we each do procedures (3)
- The physician and I see patients together: physician performs all procedures (4)
- No (10)

D2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care and other tasks. Using the slider bars below, indicate what percentage of the time you perform each task. If you don’t perform a certain task, leave the slider at 0. Your total must equal 100%.
- Direct Patient Care Tasks (i.e. “touch time” and face-to-face time with patient such as time spent with patient during rounds or time directly with patient in clinic) (1)
- Indirect Patient Care Tasks (Activities that are clinical in nature but not performed while touching the patient, e.g. Carelink orders, dictations, clinic preparation, answering pages, etc.) (2)
- Other tasks (non-clinical tasks or non-PA/NP tasks that would be better performed by other staff) (3)

D3 How many physicians do you work with?
- 1-2 (1)
- 3-4 (2)
- 5-6 (3)
- 7-8 (4)
- 9-10 (5)
- 10+ (6)

D4 How would you describe your level of independence?
- My level of independence is consistently maximized across all of my physicians (1)
- My level of independence varies greatly between all the physicians I work with (2)
- My level of independence is consistently underoptimized across all of my physicians (3)

D5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? (Please check all that apply)
- Administrative work (1)
- Email patients (2)
- Clerical Work (3)
- Insurance and disability paper work (4)
- Prior authorizations (5)
- Phone calls (6)
- Prescription Refills (7)
- Other (8) ____________________
D6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?

D7 Do you provide First Assist services?
- Yes (1)
- No (6)

Answer If Do you provide First Assist services? Yes Is Selected

D8 You responded "Yes" to "Do you provide First Assist services?". Please elaborate:
- All of my surgeon's cases (1)
- Only when there is no resident available (2)
- Residents and I both perform services (3)
- Only for emergency cases (4)
- All other reasons (5)

Answer If Do you provide First Assist services? No Is Selected

D9 You responded "No" to "Do you provide First Assist services?" Please elaborate. (Please check all that apply)
- Residents assist in surgery (1)
- I would if I could (2)
- Physician doesn't allow me to (3)
- Not applicable to my role (4)
- All other reasons (5)

D10 Which of the following team members are providing surgical First Assist services in your department/specialty? (Please check all that apply)
- NP (1)
- Certified First Assistant (CST/CFA) (2)
- PA (3)
- Registered Nurse First Assistant (RNFA) (4)
- Both NP's and PA's (5)
- Other (6) ______________
- Not Applicable (7)
- I Don't Know (8)
- Residents (9)

E1 How long have you been working with your current physician(s)/group?
- Less than 6 months (1)
- Between 6 months and 1 year (2)
- Between 1 year and 3 years (3)
- Between 3 years and 5 years (4)
- More than 5 years (5)

E2 How long have you been working in your current specialty?
- Less than 6 months (1)
- Between 6 months and 1 year (2)
- Between 1 year and 3 years (3)
- Between 3 years and 5 years (4)
More than 5 years (5)

E3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?
- All (1)
- Most (2)
- Some (3)
- Few (4)
- None (5)

E4 Based upon the physicians you work with most often, are you comfortable seeking/asking for supervision from the physicians?
- Never (1)
- Sometimes (5)
- Usually (6)
- Always (7)

Answer If Based upon the physicians you work with most often, are y... Sometimes Is Selected
Or Based upon the physicians you work with most often, are y... Never Is Selected

E5 Please explain why you are not or unsure of "I am comfortable seeking/asking for supervision from the physicians that I work with."

E6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
- Yes (1)
- No (2)
- Unsure (3)

Answer If I believe the attending physicians I work with fully unde... Yes Is Not Selected

E7 You selected "No" or "Unsure" to "My primary physician that I work with fully understands my qualifications and the types of medical tasks and procedures that I am capable of performing?". Please explain:

E8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians?
- 5 (Too much) (1)
- 4 (3)
- 3 (Just right) (4)
- 2 (5)
- 1 (Too little) (6)

E9 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and residents/interns?
- 5 (Too much) (1)
- 4 (3)
- 3 (Just right) (4)
- 2 (5)
- 1 (Too little) (6)
Answer If Acknowledging that there is overlap in clinical duties, w... 5 (Too much) Is Selected

E10 How much of this duplication is necessary?
- 0% (1)
- 20% (2)
- 40% (3)
- 60% (4)
- 80% (5)
- 100% (6)

F1 How valued and respected do you feel as a member of your hospital system?
- 1 (Not valued at all) (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (Very valued) (10)

F2 How satisfied are you as a PA/NP with the type of work that you do?
- 1 (Very dissatisfied) (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (Very satisfied) (10)

F3 Please think about how often you perform each tasks that are lower, at, or higher than your skill level. Using the slider bars below, indicate what percentage of the time you perform roles at each level. If you never perform tasks at a certain level, leave the slider at 0. Your total must equal 100%.
   _____ is lower than your skill level? (1)
   _____ is at your skill level? (2)
   _____ higher than your skill level? (3)

F4 Although you have identified your primary service, many staff work with multiple departments. Please identify all of the Departments/Specialties/Divisions where you practice (including your primary service). Check all that apply.
- Addiction Medicine (1)
- Diagnostic Radiology (2)
- Surg: Orthopedics (3)
- Surg: Plastic (4)
☐ Allergy (5)
☐ Pathology (6)
☐ Surg: Cardiovascular/ Cardiothoracic (7)
☐ Surg: Neurological (8)
☐ Surg: Otorhinolaryngology (9)
☐ Surg: Spine (10)
☐ Ped: Critical Care (11)
☐ Ped: Hematology (12)
☐ Ped: Rheumatology (13)
☐ IM: Critical Care (14)
☐ IM: Nephrology (15)
☐ Anesthesiology (16)
☐ IM: Rheumatology (17)
☐ Radiation Oncology (19)
☐ Ped: Endocrinology (20)
☐ Dermatology (21)
☐ Pain Management (22)
☐ General Surgery (23)
☐ Surg: Bariatric (24)
☐ General Pediatrics (25)
☐ Ped: Emergency Medicine (26)
☐ IM: Gastroenterology (27)
☐ IM: Infectious Disease (28)
☐ IM: Other (29)
☐ Occupational Medicine (30)
☐ Surg: Hand (32)
☐ Surg: Trauma (33)
☐ Ped: Cardiology (34)
☐ IM: Cardiology (35)
☐ Surg: Thoracic (36)
☐ Surg: Urology (37)
☐ Ped: Adolescent Medicine (38)
☐ Ped: Other (39)
☐ Family Medicine (40)
☐ Psychiatry (41)
☐ Ped: Neonatal-Perinatal (42)
☐ Genetics (44)
☐ Emergency Medicine (45)
☐ Public Health (47)
☐ Family Medicine with Urgent Care (48)
☐ Obstetrics/Gynecology (49)
☐ Ped: Pulmonology (50)
☐ Ped: Nephrology (51)
☐ Ped: Neurology (52)
☐ Geriatrics (53)
☐ Ophthalmology (54)
☐ Physical Medicine/Rehab (55)
☐ Hospital Medicine (56)
☐ Surg: Colon & Rectal (58)
☐ Surg: Oncology (59)
☐ Surg: Pediatric (60)
☐ Surg: Transplant (61)
☐ Surg: Vascular (62)
☐ Surg: Other (63)
☐ Ped: Allergy (64)
☐ Ped: Gastroenterology (65)
☐ IM: Hematology (66)
☐ Ped: Infectious Disease (68)
☐ Ped: Oncology (69)
☐ General Internal Medicine (70)
☐ IM: Pulmonology (71)
☐ IM: Endocrinology (73)
☐ IM: Immunology (74)
☐ Other (75) ______________________________________
☐ IM: Neurology (76)
☐ IM: Oncology (79)
☐ Interventional Radiology (80)

G1 Please share any additional feedback:
S3 Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve how your skills and expertise can be better utilized moving forward. Your input is greatly appreciated.
### Overall Utilization

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Patient Care</td>
<td>34.24%</td>
</tr>
<tr>
<td>Indirect Patient Care</td>
<td>56.46%</td>
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<tr>
<td>Miscellaneous</td>
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</tbody>
</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

### Overall Utilization by Subcategories

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Direct Patient Care</td>
<td>11.41%</td>
</tr>
<tr>
<td>Procedure</td>
<td>1.26%</td>
</tr>
<tr>
<td>Rounding</td>
<td>21.57%</td>
</tr>
<tr>
<td>Indirect Patient Care</td>
<td>22.49%</td>
</tr>
<tr>
<td>Computer</td>
<td>29.06%</td>
</tr>
<tr>
<td>Consultation</td>
<td>4.91%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7.79%</td>
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<tr>
<td>PA</td>
<td>1.50%</td>
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</tbody>
</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

### Overall Utilization by Task

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Rounding- with ICU Team</td>
<td>10.37%</td>
</tr>
<tr>
<td>Sign Out at Shift Change</td>
<td>7.27%</td>
</tr>
<tr>
<td>Computer-Order Entry</td>
<td>6.78%</td>
</tr>
<tr>
<td>Computer-Surveillance/Follow-Up</td>
<td>6.54%</td>
</tr>
<tr>
<td>Acute Pt Problem Assessment</td>
<td>6.14%</td>
</tr>
<tr>
<td>Computer-Update Work Flow Tools</td>
<td>5.65%</td>
</tr>
<tr>
<td>Computer-Write Progress Notes</td>
<td>4.88%</td>
</tr>
<tr>
<td>Rounding with Surgeon</td>
<td>4.85%</td>
</tr>
<tr>
<td>Rounding-Surveillance</td>
<td>4.79%</td>
</tr>
<tr>
<td>Admit New/Transfer Patient</td>
<td>4.14%</td>
</tr>
<tr>
<td>Communicate w/ Patient or Family</td>
<td>3.84%</td>
</tr>
<tr>
<td>Patient Discharge</td>
<td>2.61%</td>
</tr>
<tr>
<td>Computer-Order Maintenance</td>
<td>2.52%</td>
</tr>
<tr>
<td>Break/Lunch</td>
<td>2.39%</td>
</tr>
<tr>
<td>Computer-Prep for Rounding</td>
<td>2.21%</td>
</tr>
<tr>
<td>Misc Other</td>
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<tr>
<td>Consultations-Consult Follow-Up</td>
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<tr>
<td>Mentoring/Training</td>
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<tr>
<td>Rounding-Individual</td>
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</tr>
<tr>
<td>Work Email</td>
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<tr>
<td>Coordination of Diagnostic Testing</td>
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</tr>
<tr>
<td>Indirect Pt Care Other</td>
<td>1.53%</td>
</tr>
<tr>
<td>ICU Team Updates</td>
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</tr>
<tr>
<td>Consultations-Consult w/ Surgeon</td>
<td>1.32%</td>
</tr>
<tr>
<td>RN Communication</td>
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<tr>
<td>Accept OR Patient</td>
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<td>Task Description</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
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<tr>
<td>Handoff to 4C</td>
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</tr>
<tr>
<td>Consultations-Initiate Consult</td>
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<tr>
<td>Consultations-Consult w/ D/C Planning</td>
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<tr>
<td>Surgical Team Updates</td>
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<tr>
<td>Consenting</td>
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</tr>
<tr>
<td>Procedure-Other</td>
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</tr>
<tr>
<td>PA-QI Data Collection</td>
<td>0.55%</td>
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<tr>
<td>Computer-Prep Pre-Op Patient</td>
<td>0.49%</td>
</tr>
<tr>
<td>Procedure-Pace Wire</td>
<td>0.46%</td>
</tr>
<tr>
<td>Transfer/New Pt Assessment</td>
<td>0.43%</td>
</tr>
<tr>
<td>Direct Pt Care Other</td>
<td>0.43%</td>
</tr>
<tr>
<td>PA-Coaching Related Work</td>
<td>0.37%</td>
</tr>
<tr>
<td>PA- Update Guidelines</td>
<td>0.31%</td>
</tr>
<tr>
<td>Handoff to ICU</td>
<td>0.25%</td>
</tr>
<tr>
<td>Procedure-Chest Tube</td>
<td>0.25%</td>
</tr>
<tr>
<td>Consultations-Consult with VAD Team</td>
<td>0.18%</td>
</tr>
<tr>
<td>PA-Prep Internal Presentations</td>
<td>0.18%</td>
</tr>
<tr>
<td>PA- Update M-Learning</td>
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</tr>
<tr>
<td>PA-CME</td>
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</tr>
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</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

### Category by Task

<table>
<thead>
<tr>
<th>Category by Task</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Pt Care</td>
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</tr>
<tr>
<td>Rounding- with ICU Team</td>
<td>10.37%</td>
</tr>
<tr>
<td>Acute Pt Problem Assessment</td>
<td>6.14%</td>
</tr>
<tr>
<td>Rounding with Surgeon</td>
<td>4.85%</td>
</tr>
<tr>
<td>Rounding-Surveillance</td>
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</tr>
<tr>
<td>Communicate w/ Patient or Family</td>
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<tr>
<td>Rounding-Individual</td>
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</tr>
<tr>
<td>Consenting</td>
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</tr>
<tr>
<td>Procedure-Other</td>
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<td>Procedure-Pace Wire</td>
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<tr>
<td>Direct Pt Care Other</td>
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<td>Transfer/New Pt Assessment</td>
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<tr>
<td>Procedure-Chest Tube</td>
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</tr>
<tr>
<td>Indirect Pt Care</td>
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<tr>
<td>Sign Out at Shift Change</td>
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</tr>
<tr>
<td>Computer-Order Entry</td>
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</tr>
<tr>
<td>Computer-Surveillance/Follow-Up</td>
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<tr>
<td>Computer-Update Work Flow Tools</td>
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<tr>
<td>Admit New/Transfer Patient</td>
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</tr>
<tr>
<td>Patient Discharge</td>
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<td>Task</td>
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<tr>
<td>-------------------------------------------</td>
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<tr>
<td>Computer-Order Maintenance</td>
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<td>Indirect Pt Care Other</td>
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<td>Coordination of Diagnostic Testing</td>
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</tr>
<tr>
<td>ICU Team Updates</td>
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<td>Consultations-Consult w/ Surgeon</td>
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<td>Handoff to 4C</td>
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<tr>
<td>Consultations-Initiate Consult</td>
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<td>Consultations-Consult w/ D/C Planning</td>
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<td>Surgical Team Updates</td>
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<td>Computer-Prep Pre-Op Patient</td>
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<td>Handoff to ICU</td>
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<tr>
<td>Break/Lunch</td>
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<td>Misc Other</td>
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<td>Mentoring/Training</td>
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<td>PA-Coaching Related Work</td>
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<td>PA-Prep Internal Presentations</td>
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<td>PA- CME</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

![Direct Care by Task](image_url)
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants

Morning by Category
- Misc: 25%
- Direct: 45%
- Indirect: 32%

Afternoon by Category
- Misc: 35%
- Direct: 28%
- Indirect: 37%

Evening by Category
- Misc: 41%
- Direct: 24%
- Indirect: 35%

Night by Category
- Misc: 50%
- Direct: 29%
- Indirect: 21%

Direct Patient Care by Time of Day
- Morning: 38%
- Evening: 22%
- Afternoon: 32%
- Night: 8%

Indirect Patient Care by Time of Day
- Morning: 26%
- Evening: 25%
- Night: 6%

Miscellaneous by Time of Day
- Morning: 18%
- Evening: 26%
- Afternoon: 43%
- Night: 14%

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 15 Participants
Appendix G: ICU Additional Data

Overall Utilization

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Direct Patient Care</td>
<td>43.31%</td>
</tr>
<tr>
<td>Indirect Patient Care</td>
<td>46.86%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>9.83%</td>
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</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

Overall Utilization by Subcategories

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<thead>
<tr>
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<th>Percentage</th>
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<td>Rounding</td>
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<td>Indirect Pt Care</td>
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<tr>
<td>Computer</td>
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<tr>
<td>Consultation</td>
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<td>Miscellaneous</td>
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<tr>
<td>Professional Activities</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

Overall Utilization by Task

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<thead>
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<th>Task</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Rounding- with ICU Team</td>
<td>16.87%</td>
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<td>Acute Pt Problem Assessment</td>
<td>8.38%</td>
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<tr>
<td>Rounding-Surveillance</td>
<td>7.78%</td>
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<tr>
<td>Computer-Order Entry</td>
<td>7.09%</td>
</tr>
<tr>
<td>Computer-Surveillance/Follow-Up</td>
<td>6.99%</td>
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<tr>
<td>Computer-Update Work Flow Tools</td>
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<tr>
<td>Sign Out at Shift Change</td>
<td>5.99%</td>
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<tr>
<td>Rounding with Surgeon</td>
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<tr>
<td>Communicate w/ Patient or Family</td>
<td>3.59%</td>
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<tr>
<td>Misc Other</td>
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<tr>
<td>ICU Team Updates</td>
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</tr>
<tr>
<td>Computer-Order Maintenance</td>
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</tr>
<tr>
<td>Break/Lunch</td>
<td>2.30%</td>
</tr>
<tr>
<td>Coordination of Diagnostic Testing</td>
<td>1.75%</td>
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<tr>
<td>Computer-Prep for Rounding</td>
<td>1.70%</td>
</tr>
<tr>
<td>Handoff to 4C</td>
<td>1.60%</td>
</tr>
<tr>
<td>Accept OR Patient</td>
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</tr>
<tr>
<td>Admit New/Transfer Patient</td>
<td>1.55%</td>
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<tr>
<td>Work Email</td>
<td>1.50%</td>
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<tr>
<td>Consultations-Consult Follow-Up</td>
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<tr>
<td>Mentoring/Training</td>
<td>1.35%</td>
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<tr>
<td>Consultations-Initiate Consult</td>
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<tr>
<td>Consultations-Consult w/ Surgeon</td>
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<tr>
<td>Surgical Team Updates</td>
<td>1.00%</td>
</tr>
<tr>
<td>Indirect Pt Care Other</td>
<td>1.00%</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

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<td>Direct Pt Care Other</td>
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<tr>
<td>Consultations-Consult w/ D/C Planning</td>
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<tr>
<td>PA- Update Guidelines</td>
<td>0.50%</td>
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<tr>
<td>Consenting</td>
<td>0.45%</td>
</tr>
<tr>
<td>Patient Discharge</td>
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<tr>
<td>Transfer/New Pt Assessment</td>
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<tr>
<td>PA-Coaching Related Work</td>
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<tr>
<td>Procedure-Pace Wire</td>
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<tr>
<td>Computer-Write Progress Notes</td>
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<tr>
<td>PA- Prep Internal Presentations</td>
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<tr>
<td>Procedure-Chest Tube</td>
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<tr>
<td>PA- Update M-Learning</td>
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<tr>
<td>Computer-Prep Pre-Op Patient</td>
<td>0.10%</td>
</tr>
<tr>
<td>PA- CME</td>
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### Category by Task

<table>
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<tr>
<th>Category</th>
<th>Time Percentage</th>
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<tbody>
<tr>
<td>Direct Pt Care</td>
<td>43.31%</td>
</tr>
<tr>
<td>Rounding- with ICU Team</td>
<td>16.87%</td>
</tr>
<tr>
<td>Acute Pt Problem Assessment</td>
<td>8.38%</td>
</tr>
<tr>
<td>Rounding with Surgeon</td>
<td>4.04%</td>
</tr>
<tr>
<td>Rounding-Surveillance</td>
<td>7.78%</td>
</tr>
<tr>
<td>Communicate w/ Patient or Family</td>
<td>3.59%</td>
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<tr>
<td>Consenting</td>
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<tr>
<td>Procedure-Other</td>
<td>0.70%</td>
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<tr>
<td>Procedure-Pace Wire</td>
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<tr>
<td>Direct Pt Care Other</td>
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</tr>
<tr>
<td>Transfer/New Pt Assessment</td>
<td>0.40%</td>
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<tr>
<td>Procedure-Chest Tube</td>
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<tr>
<td>Indirect Pt Care</td>
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<tr>
<td>Sign Out at Shift Change</td>
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<tr>
<td>Computer-Order Entry</td>
<td>7.09%</td>
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<tr>
<td>Computer-Surveillance/Follow-Up</td>
<td>6.99%</td>
</tr>
<tr>
<td>Computer-Update Work Flow Tools</td>
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</tr>
<tr>
<td>Computer-Write Progress Notes</td>
<td>0.35%</td>
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<tr>
<td>Admit New/Transfer Patient</td>
<td>1.55%</td>
</tr>
<tr>
<td>Patient Discharge</td>
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<tr>
<td>Computer-Order Maintenance</td>
<td>2.40%</td>
</tr>
<tr>
<td>Indirect Pt Care Other</td>
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<tr>
<td>Computer-Prep for Rounding</td>
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</tr>
<tr>
<td>Consultations-Consult Follow-Up</td>
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</tr>
<tr>
<td>Coordination of Diagnostic Testing</td>
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<td>Task Description</td>
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<tr>
<td>Handoff to 4C</td>
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<tr>
<td>Consultations-Initiate Consult</td>
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<tr>
<td>Consultations-Consult w/ D/C Planning</td>
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</tr>
<tr>
<td>Surgical Team Updates</td>
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</tr>
<tr>
<td>Computer-Prep Pre-Op Patient</td>
<td>0.10%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>9.83%</td>
</tr>
<tr>
<td>Break/Lunch</td>
<td>2.30%</td>
</tr>
<tr>
<td>Misc Other</td>
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<tr>
<td>Mentoring/Training</td>
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</tr>
<tr>
<td>Work Email</td>
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<td>PA-QI Data Collection</td>
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<td>PA-Coaching Related Work</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants

Indirect Patient Care by Task

Miscellaneous by Task

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 9 Participants
Appendix H: 4C Step-Down Additional Data

### Overall Utilization

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<td>Indirect Patient Care</td>
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<td>Miscellaneous</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

### Overall Utilization by Subcategories

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<th>Subcategory</th>
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<tr>
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<td>Miscellaneous</td>
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<td>PA</td>
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Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

### Overall Utilization by Task

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<th>Utilization</th>
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<tr>
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</tr>
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<td>6.29%</td>
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<tr>
<td>Rounding with Surgeon</td>
<td>6.14%</td>
</tr>
<tr>
<td>Patient Discharge</td>
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<tr>
<td>Computer-Surveillance/Follow-Up</td>
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<tr>
<td>Rounding-Individual</td>
<td>4.06%</td>
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<tr>
<td>Computer-Update Work Flow Tools</td>
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<tr>
<td>Computer-Prep for Rounding</td>
<td>3.03%</td>
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<tr>
<td>Computer-Order Maintenance</td>
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<tr>
<td>RN Communication</td>
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<tr>
<td>Acute Pt Problem Assessment</td>
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</tr>
<tr>
<td>Break/Lunch</td>
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<tr>
<td>Indirect Pt Care Other</td>
<td>2.39%</td>
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<tr>
<td>Consultations-Consult Follow-Up</td>
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<tr>
<td>Mentoring/Training</td>
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<tr>
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<tr>
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<tr>
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<tr>
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</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

### Category by Task

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<th>Direct Pt Care</th>
<th>34.24%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rounding- with ICU Team</td>
<td>10.37%</td>
</tr>
<tr>
<td>Acute Pt Problem Assessment</td>
<td>6.14%</td>
</tr>
<tr>
<td>Rounding with Surgeon</td>
<td>4.85%</td>
</tr>
<tr>
<td>Rounding-Surveillance</td>
<td>4.79%</td>
</tr>
<tr>
<td>Communicate w/ Patient or Family</td>
<td>3.84%</td>
</tr>
<tr>
<td>Rounding-Individual</td>
<td>1.56%</td>
</tr>
<tr>
<td>Consenting</td>
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</tr>
<tr>
<td>Procedure-Other</td>
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</tr>
<tr>
<td>Procedure-Pace Wire</td>
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</tr>
<tr>
<td>Direct Pt Care Other</td>
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<tr>
<td>Transfer/New Pt Assessment</td>
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<tr>
<td>Procedure-Chest Tube</td>
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<table>
<thead>
<tr>
<th>Indirect Pt Care</th>
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<tr>
<td>Sign Out at Shift Change</td>
<td>7.27%</td>
</tr>
<tr>
<td>Computer-Order Entry</td>
<td>6.78%</td>
</tr>
<tr>
<td>Computer-Surveillance/Follow-Up</td>
<td>6.54%</td>
</tr>
<tr>
<td>Computer-Update Work Flow Tools</td>
<td>5.65%</td>
</tr>
<tr>
<td>Computer-Write Progress Notes</td>
<td>4.88%</td>
</tr>
<tr>
<td>Admit New/Transfer Patient</td>
<td>4.14%</td>
</tr>
<tr>
<td>Patient Discharge</td>
<td>2.61%</td>
</tr>
<tr>
<td>Computer-Order Maintenance</td>
<td>2.52%</td>
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<tr>
<td>Indirect Pt Care Other</td>
<td>1.53%</td>
</tr>
<tr>
<td>Computer-Prep for Rounding</td>
<td>2.21%</td>
</tr>
<tr>
<td>Consultations-Consult Follow-Up</td>
<td>1.69%</td>
</tr>
<tr>
<td>Coordination of Diagnostic Testing</td>
<td>1.56%</td>
</tr>
<tr>
<td>ICU Team Updates</td>
<td>1.53%</td>
</tr>
<tr>
<td>Consultations-Consult w/ Surgeon</td>
<td>1.32%</td>
</tr>
<tr>
<td>RN Communication</td>
<td>1.01%</td>
</tr>
<tr>
<td>Accept OR Patient</td>
<td>0.98%</td>
</tr>
<tr>
<td>Handoff to 4C</td>
<td>0.98%</td>
</tr>
<tr>
<td>Task</td>
<td>Time</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Consultations-Initiate Consult</td>
<td>0.95%</td>
</tr>
<tr>
<td>Consultations-Consult w/ D/C Planning</td>
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</tr>
<tr>
<td>Surgical Team Updates</td>
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</tr>
<tr>
<td>Computer-Prep Pre-Op Patient</td>
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<tr>
<td>Handoff to ICU</td>
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</tr>
<tr>
<td>Consultations-Consult with VAD Team</td>
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</tr>
<tr>
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<td>Break/Lunch</td>
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</tr>
<tr>
<td>Misc Other</td>
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</tr>
<tr>
<td>Mentoring/Training</td>
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</tr>
<tr>
<td>Work Email</td>
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</tr>
<tr>
<td>PA-QI Data Collection</td>
<td>0.55%</td>
</tr>
<tr>
<td>PA-Coaching Related Work</td>
<td>0.37%</td>
</tr>
<tr>
<td>PA- Update Guidelines</td>
<td>0.31%</td>
</tr>
<tr>
<td>PA-Prep Internal Presentations</td>
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</tr>
<tr>
<td>PA- Update M-Learning</td>
<td>0.06%</td>
</tr>
<tr>
<td>PA- CME</td>
<td>0.03%</td>
</tr>
</tbody>
</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

### Direct Patient Care by Task

![Bar chart showing Direct Patient Care by Task](chart.png)

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants
**Indirect Patient Care by Task**

- Computer-Writing Progress
- Sign Out at Shift Change
- Admit New/Transfer
- Computer-Order Entry
- Patient Discharge/Readmit
- Computer-Update Work
- Computer-Order Prep
- RN Communication
- Indirect Patient Care Other
- Consultations-Consult w/ Coordination of Diagnostic
- Consultations-Consult w/ Pre-Op
- Consultations-Initiate
- Handoff to ICU
- Consultations-Consult with

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants

**Miscellaneous by Task**

- Break/Lunch
- Mentoring
- Work Email
- Misc Other
- PA-Coaching
- PA-Prep

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 6 Participants
Appendix I: Outpatient Additional Data

### Overall Utilization

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Direct Patient Care</td>
<td>31.21%</td>
</tr>
<tr>
<td>Indirect Patient Care</td>
<td>50.21%</td>
</tr>
<tr>
<td>Phone Call</td>
<td>5.27%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>13.31%</td>
</tr>
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</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 4 Participants

### Overall Utilization by Task

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Clinic Preparation</td>
<td>13.64%</td>
</tr>
<tr>
<td>Return Pt Visit</td>
<td>11.82%</td>
</tr>
<tr>
<td>Dictation (General)</td>
<td>10.91%</td>
</tr>
<tr>
<td>Review Test/Lab Result</td>
<td>6.36%</td>
</tr>
<tr>
<td>Dictation - Editing</td>
<td>6.14%</td>
</tr>
<tr>
<td>New Patient Visit</td>
<td>6.14%</td>
</tr>
<tr>
<td>H &amp; P Visit</td>
<td>4.09%</td>
</tr>
<tr>
<td>Misc Other</td>
<td>4.09%</td>
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<tr>
<td>Personal break</td>
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<tr>
<td>Discuss Patient Care</td>
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<tr>
<td>Indirect Pt Care Other</td>
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</tr>
<tr>
<td>Review of CT</td>
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<td>Test results</td>
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<tr>
<td>Checking email</td>
<td>2.73%</td>
</tr>
<tr>
<td>Direct Care Other</td>
<td>2.73%</td>
</tr>
<tr>
<td>Order testing, make referrals</td>
<td>2.73%</td>
</tr>
<tr>
<td>Waiting to Staff (not multitasking)</td>
<td>2.73%</td>
</tr>
<tr>
<td>Phone Call Other</td>
<td>1.82%</td>
</tr>
<tr>
<td>Post-Op Visit</td>
<td>1.36%</td>
</tr>
<tr>
<td>Checking appointment schedule</td>
<td>1.14%</td>
</tr>
<tr>
<td>Walking</td>
<td>1.14%</td>
</tr>
<tr>
<td>Meetings</td>
<td>0.91%</td>
</tr>
<tr>
<td>Adjusting patient schedule</td>
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<tr>
<td>E-prescribe</td>
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<tr>
<td>Prior Authorization (CT)</td>
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<td>Calling in a prescription</td>
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<td>Notification</td>
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<tr>
<td>Triage new problem</td>
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</tr>
<tr>
<td>Category by Tasks</td>
<td>Percent</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Direct Pt Care</td>
<td>31.21%</td>
</tr>
<tr>
<td>Return Pt Visit</td>
<td>14.29%</td>
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<td>New Patient Visit</td>
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<tr>
<td>H &amp; P Visit</td>
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<tr>
<td>Indirect Pt Care Other</td>
<td>4.16%</td>
</tr>
<tr>
<td>Dictation - Editing</td>
<td>5.96%</td>
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</tr>
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<td>Review of CT</td>
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</tr>
<tr>
<td>Test results</td>
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</tr>
<tr>
<td>Discuss Patient Care</td>
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</tr>
<tr>
<td>Order testing, make referrals</td>
<td>2.08%</td>
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<tr>
<td>Waiting to Staff (not multitasking)</td>
<td>2.08%</td>
</tr>
<tr>
<td>Phone Call Other</td>
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<td>E-prescribe</td>
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<td>Prior Authorization (CT)</td>
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</tr>
<tr>
<td>Calling in a prescription</td>
<td>0.14%</td>
</tr>
<tr>
<td>Notification</td>
<td>0.14%</td>
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<tr>
<td>Triage new problem</td>
<td>0.14%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>13.31%</td>
</tr>
<tr>
<td>Misc Other</td>
<td>4.99%</td>
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<td>Personal break</td>
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<td>Checking email</td>
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<td>Meetings</td>
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<tr>
<td>Walking</td>
<td>0.83%</td>
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<td>Checking appointment schedule</td>
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<td>Adjusting patient schedule</td>
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</table>

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 4 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 4 Participants

Direct Patient Care by Tasks

Indirect Patient Care by Tasks

Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 4 Participants
Team 9: Workload Analysis Study 2/20/2012-3/4/2012, N = 4 Participants

**Miscellaneous by Task**

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Misc Other</td>
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<tr>
<td>Personal break</td>
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<td>Meetings</td>
<td>5.00%</td>
</tr>
<tr>
<td>Adjusting patient</td>
<td>5.00%</td>
</tr>
<tr>
<td>Research</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Direct Patient Care by Time of Day**

- **Evening**: 2%
- **Morning**: 58%
- **Afternoon**: 40%

**Indirect Patient Care by Time of Day**

- **Evening**: 4%
- **Morning**: 56%
- **Afternoon**: 40%

**Miscellaneous by Time of Day**

- **Evening**: 0%
- **Morning**: 40%
- **Afternoon**: 60%
Appendix J: ICU Survey Results

Physician Assistant (PA) and Advanced Practice Nurse (NP, CNM) Utilization Survey

This survey is part of a project to better understand the work life of physician assistants and nurse practitioners, who are an increasingly important part of our care giving teams. Your participation is valuable and greatly appreciated. Your answers will be kept completely confidential. Thank you for your participation.

A1 I am a:

- Nurse Practitioner (NP/DNP) 88.89%, N=8
- Physician Assistant (PA-C) 11.11%, N=1

Total N= 9

A2 This section contains questions about your primary clinical job/specialty. Your primary clinical job/specialty is the clinical job where you spend most of your time in clinical practice. If your time is split evenly between two settings or specialties, choose the specialty designated as your primary department for your credentialing and privileging. For the purposes of this survey, my primary clinical job/ specialty is in: (answer the survey questions based off the area you chose)

- Surg: Cardiovascular/ Cardiothoracic 66.67%, N=6
- Other 2.22%, N=2, Cardiac Surgery, nondisclosed
- Surg: Other 11.11%, N=1
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
- Surg: Neurological
- Surg: Otorhinolaryngology
- Surg: Spine
- Ped: Critical Care
- Ped: Hematology
- Ped: Rheumatology
- IM: Critical Care
- IM: Nephrology
- Anesthesiology
- IM: Rheumatology
- Radiation Oncology
- Ped: Endocrinology
- Dermatology
- Pain Management
- General Surgery
- Surg: Bariatric
- General Pediatrics
- Ped: Emergency Medicine
Ped: Cardiology
IM: Cardiology
Surg: Thoracic
Surg: Urology
Ped: Adolescent Medicine
Ped: Other
Family Medicine
Psychiatry
Ped: Neonatal-Perinatal
Genetics
Emergency Medicine
Public Health
Family Medicine with Urgent Care
Obstetrics/Gynecology
Ped: Pulmonology
Ped: Nephrology
Ped: Neurology
Geriatrics
Ophthalmology
Physical Medicine/Rehab
Hospital Medicine
Surg: Colon & Rectal
Surg: Oncology
Surg: Pediatric
Surg: Transplant
Surg: Vascular
Ped: Allergy
Ped: Gastroenterology
IM: Hematology
Ped: Infectious Disease
Ped: Oncology
General Internal Medicine
IM: Pulmonology
IM: Endocrinology
IM: Immunology
IM: Neurology
IM: Oncology
Interventional Radiology

Total N=9
A3 I work in the following clinical setting(s):
- Exclusively inpatient 100%, N=9
- Exclusively outpatient
- Both outpatient and inpatient
  **Total N=9**

A4 Which types of non-physician providers work in your department? (Please check all that apply)
- Nurse Practitioner (NP/DNP) 100%, N=9
- Physician Assistant (PA-C) 77.78%, N=7
- Nurse Midwife (CNM)
- Nurse Anesthetist (CRNA)
- Anesthesia Assistant
- Other
  **Total N=9**

S2 FOR THE REMAINDER OF THIS SURVEY, ANSWER QUESTIONS FROM THE PERSPECTIVE OF YOUR WORK IN THE DEPARTMENT YOU IDENTIFIED IN QUESTION 3 AS BEING YOUR PRIMARY CLINICAL JOB/ SPECIALTY.

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B1 Do you have your own patient visits appointment schedule (separate from the physician)?
- Yes
- No
- Sometimes
  **Total N=0**

Answer If Do you have your own patient visits appointment schedule ... Sometimes Is Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B2 "Do you have your own patient visits appointment schedule (separate from the physician)?". You answered "Sometimes" for this, please explain why:
- Only if asked
- All new patients
- Pre-identified patients (by complexity, diagnosis, presenting problems)
- Other
  **Total N=0**

Answer If Do you have your own patient visits appointment schedule ... Yes Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B3 What are the barriers to you having an independent clinic schedule?
- RVU Structure
- Physicians asking midlevels to perform the jobs of nurses and MAs
- Acuity of patient needs
- Physicians are unwilling to let go oversight of patients not needing high levels of care
- There is no barrier
- Other
  **Total N=0**
B4 I am/would be comfortable having my own patient appointment schedule.
☐ Yes, regardless of on-site availability of the physician
☐ Yes, only when a physician is also on-site
☐ No, why?
Total N= 0

B5 Which types of visits are scheduled with you independently? (Please check all that apply)
☐ New Patients
☐ Routine Annual Physicals
☐ Post-op Global Visits
☐ Procedures
☐ Established Patients/ Follow-up
☐ Urgent Visits
☐ Pre-op H+Ps
☐ Established Patients/New-problems
☐ Consultations
☐ Independent Medical Exam (IME)
☐ Other
Total N= 0

B6 How often (% of patients) does your supervising physician also see patients that you see in clinic?
________ %
Total N= 0

B7 How often are you in the clinic/office seeing patients when no physician is physically present in the office/clinic?
________ %
Total N= 0

B8 Who sees post-op global visits? (Please check all that apply)
☐ MD only
☐ PA/NP with MD available by phone if needed
☐ PA/NP with MD
☐ Does not apply
☐ PA/NP with MD available in clinic if needed
I don't know
Total N= 0

B9 How often are you used as a scribe? (Definition: A scribe is present during the clinical encounter to record the actions and the words of the physician in real time. Scribes MAY NOT interject or provide their own observations or impressions into the medical record. Thus, scribes may not provide any portion of the E+M service)

23.69%, N=9
Total N=9

Answer If I work in the following clinical setting(s): Exclusively outpatient Is Not Selected

C1 Do you participate in hospital rounds?
☐ Yes 100%, N=9
☐ No
Total N=9

If No Is Selected, Then Skip To End of Block

Answer If Do you participate in hospital rounds? Yes Is Selected

C2 Of the time you spend rounding, what percent of the time is with:(answers should total to 100)

24.38%, N= 8 ___ The supervising physician
15.11%, N= 9 ___ Intern, Residents, and/or Fellows
31.78%, N= 9 ___ Supervising physician and Interns, Residents, and/or Fellows
31.44%, N= 9 ___ Round Autonomously (with general physician supervision*)* General supervision means the procedure/task is furnished under the physician’s overall direction and control, but the physician’s presence is not required during the performance of the procedure/task
Total N= 9

D1 Do you perform procedures?
☐ Delegated to PA/NP per delegation agreement; PA/NP sees and treats accordingly 44.44%, N=4
☐ Only after checking with the physician 22.22%, N=2
☐ No 22.22%, N=2
☐ The physician and I see patients together: physician performs all procedures 11.11%, N=1
☐ The physician and I see patients together: we each do procedures
Total N=9

D2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care and other tasks Using the slider bars below, indicate what percentage of the time you perform each task. If you don't perform a certain task, leave the slider at 0. Your total must equal 100%.

39.23%, N=9 Direct Patient Care Tasks (i.e. “touch time” and face-to-face time with patient such as time spent with patient during rounds or time directly with patient in clinic)
52.31%, N=9 Indirect Patient Care Tasks (Activities that are clinical in nature but not performed while touching the patient, e.g. Carelink orders, dictations, clinic preparation, answering pages, etc.)
8.46%, N=9 Other tasks (non-clinical tasks or non-PA/NP tasks that would be better performed by other staff)

Total N= 9

D3 How many physicians do you work with?
- 1-2
- 3-4
- 5-6
- 7-8
- 9-10
- 10+ 100%, N=9

Total N=9

D4 How would you describe your level of independence?
- My level of independence varies greatly between all the physicians I work with 77.78%, N=7
- My level of independence is consistently underoptimized across all of my physicians 22.22%, N=2
- My level of independence is consistently maximized across all of my physicians Total N=9

D5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? (Please check all that apply)
- Clerical Work 62.5%, N=5
- Administrative work 37.5%, N=3
- Other 25%, N=2, workflow tools, computer based communication w/ care team
- Email patients
- Insurance and disability paper work
- Prior authorizations
- Phone calls
- Prescription Refils

Total N=8

D6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?
- Standardization of role
- more hands on patient care and less time trying to know everything about 24 patients. Might be better served to only take 8 and REALLY TAKE CARE OF THEM
- I need to be in the rooms more and less time updating work tools and other people should be able to enter orders if I am away
• PAs/NPs should have more time allotted for clinical direct patient care, as on this service the midlevel providers are the constant presence as opposed to monthly influx and exit of residents.
• Less direction from attendings (less micromanagement), more freedom to solve problems independently, with the understanding that feedback would be forthcoming and incorporated into future care.
• give the PA/NP their own patient load

Total N= 6

D7 Do you provide First Assist services?
☐ Yes
☐ No 100%, N=8

Total N=8

Answer If Do you provide First Assist services? Yes Is Selected

D8 You responded "Yes" to "Do you provide First Assist services?". Please elaborate:
☐ All of my surgeon's cases
☐ Only when there is no resident available
☐ Residents and I both perform services
☐ Only for emergency cases
☐ All other reasons

Total N= 0

Answer If Do you provide First Assist services? No Is Selected

D9 You responded "No" to "Do you provide First Assist services?" Please elaborate. (Please check all that apply)
☐ Not applicable to my role 75%, N=6
☐ I would if I could 37.5%, N=3
☐ Residents assist in surgery 25%, N=2
☐ Physician doesn't allow me to 12.5%, N=1
☐ All other reasons 12.5%, N=1

Total N=8

D10 Which of the following team members are providing surgical First Assist services in your department/specialty? (Please check all that apply)
☐ PA 77.78%, N=7
☐ Residents 77.78%, N=7
☐ Other 22.22%, N=2, unrelated to role I perform, fellow
☐ Certified First Assistant (CST/CFA) 11.11%, N=1
☐ Registered Nurse First Assistant (RNFA)
☐ NP
☐ Both NP's and PA's
E1 How long have you been working with your current physician(s)/group?
- Less than 6 months
- Between 6 months and 1 year 11.11%, N=1
- Between 1 year and 3 years 11.11%, N=1
- Between 3 years and 5 years 11.11%, N=1
- More than 5 years 66.67%, N=6

Total N=9

E2 How long have you been working in your current specialty?
- Less than 6 months
- Between 6 months and 1 year 11.11%, N=1
- Between 1 year and 3 years 11.11%, N=1
- Between 3 years and 5 years
- More than 5 years 7.78%, N=7

Total N=9

E3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?
- All 33.33%, N=3
- Most 44.44%, N=4
- Some 11.11%, N=1
- Few 11.11%, N=1
- None

Total N=9

E4 Based upon the physicians you work with most often, are you comfortable seeking/asking for supervision from the physicians?
- Never
- Sometimes 11.11%, N=1
- Usually 44.44%, N=4
- Always 44.44%, N=4

Total N=9

Answer If Based upon the physicians you work with most often, are you... Sometimes Is Selected
Or Based upon the physicians you work with most often, are you... Never Is Selected

E5 Please explain why you are not or unsure of "I am comfortable seeking/asking for supervision from the physicians that I work with."

Total N= 0

E6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
- Yes 44.44%, N=4
- No 44.44%, N=4
Answer If I believe the attending physicians I work with fully unde... Yes Is Not Selected

E7 You selected "No" or "Unsure" to "My primary physician that I work with fully understands my qualifications and the types of medical tasks and procedures that I am capable of performing?". Please explain:

• Our new Anesthesia Critical care MDs are often unaware of our role
• I believe that the physicians value us, but don't utilize us to our full potential
• There seem to be varying levels of understanding the types of medical tasks and procedures that I am capable of performing.
• They don't understand because we don perform procedures in this role

Total N= 4

E8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians?

• 5 (Too much)
• 4 33.33%, N=3
• 3 (Just right) 66.67%, N=6
• 2
• 1 (Too little)

Total N=9

E9 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and residents/interns?

• 5 (Too much) 22.22%, N=2
• 4 33.33%, N=3
• 3 (Just right) 22.22%, N=2
• 2 11.11%, N=1
• 1 (Too little) 11.11%, N=1

Total N=9

Answer If Acknowledging that there is overlap in clinical duties, w... 5 (Too much) Is Selected

E10 How much of this duplication is necessary?

• 0%
• 20%
• 40%
• 60%
• 80%
• 100%

Total N= 0

F1 How valued and respected do you feel as a member of your hospital system?

• 1 (Not valued at all)
• 2
• 3
F2 How satisfied are you as a PA/NP with the type of work that you do?

- 1 (Very dissatisfied)
- 2
- 3
- 4
- 5 33.33%, N=3
- 6
- 7 22.22%, N=2
- 8 33.33%, N=3
- 9 11.11%, N=1
- 10 (Very satisfied)

Total N=9

F3 Please think about how often you perform each tasks that are lower, at, or higher than your skill level. Using the slider bars below, indicate what percentage of the time you perform roles at each level. If you never perform tasks at a certain level, leave the slider at 0. Your total must equal 100%.

- 38.54%, N=9 is lower than your skill level?
- 56.62%, N=9 is at your skill level?
- 4.85%, N=9 higher than your skill level?

Total N=9

F4 Although you have identified your primary service, many staff work with multiple departments. Please identify all of the Departments/Specialties/Divisions where you practice (including your primary service). Check all that apply.

- Surg: Cardiovascular/ Cardiothoracic 50%, N=3
- IM: Critical Care 33%, N=2
- Anesthesiology 33%, N=2
- Surg: Vascular 33%, N=2
- Other 33%, N=2, Cardiac surg, icu critical care
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
With the amount of concern for the pa/np role and job satisfaction that seems to be circulating in the form of studies/surveys that all seem inadequate to capture full picture-conducting focus groups to illicit feedback would seem the most appropriate response.

this survey was hard for me because i work w/ two different physician groups and i could not differentiate them in the questions

This position is markedly improved from a previous position in the UM Cancer Center.

I really love UMHS and my department. I have been treated very well for the duration of my career here. I generally feel free to solve problems that are within my scope and have access to help whenever I need it. Physicians "micromanagement" (laying out specific instruction for the day for every scenario, rather than specifying goals/themes and allowing for some freedom in style) is a growing problem, although understandable given the increasing complexity of our environment and the sheer number of providers involved. I enjoy house staff and certainly appreciate their expertise. At the same time, their presence limits my job satisfaction by lessening my responsibilities and assuming work that I could do independently. Further, they understandably vary in their...
interest in and knowledge of our specialty, which creates variability in the quality of our patient care.

Total N= 4

S3 Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve how your skills and expertise can be better utilized moving forward. Your input is greatly appreciated.
Appendix K: 4C Step-Down Survey Results

Physician Assistant (PA) and Advanced Practice Nurse (NP, CNM) Utilization Survey

This survey is part of a project to better understand the work life of physician assistants and nurse practitioners, who are an increasingly important part of our care giving teams. Your participation is valuable and greatly appreciated. Your answers will be kept completely confidential. Thank you for your participation.

A1 I am a:
- Physician Assistant (PA-C) 100%, N=4
- Nurse Practitioner (NP/DNP) Total N=3

**Total N=3**

A2 This section contains questions about your primary clinical job/specialty. Your primary clinical job/specialty is the clinical job where you spend most of your time in clinical practice. If your time is split evenly between two settings or specialties, choose the specialty designated as your primary department for your credentialing and privileging. For the purposes of this survey, my primary clinical job/specialty is in: (answer the survey questions based off the area you chose)
- Surg: Cardiovascular/ Cardiothoracic 100%, N=4
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
- Surg: Neurological
- Surg: Otorhinolaryngology
- Surg: Spine
- Ped: Critical Care
- Ped: Hematology
- Ped: Rheumatology
- IM: Critical Care
- IM: Nephrology
- Anesthesiology
- IM: Rheumatology
- Radiation Oncology
- Ped: Endocrinology
- Dermatology
- Pain Management
- General Surgery
- Surg: Bariatric
- General Pediatrics
- Ped: Emergency Medicine
- Ped: Cardiology
- IM: Cardiology
Surg: Thoracic
Surg: Urology
Ped: Adolescent Medicine
Ped: Other
Family Medicine
Psychiatry
Ped: Neonatal-Perinatal
Genetics
Emergency Medicine
Public Health
Family Medicine with Urgent Care
Obstetrics/Gynecology
Ped: Pulmonology
Ped: Nephrology
Ped: Neurology
Geriatrics
Ophthalmology
Physical Medicine/Rehab
Hospital Medicine
Surg: Colon & Rectal
Surg: Oncology
Surg: Pediatric
Surg: Transplant
Surg: Vascular
Surg: Other
Ped: Allergy
Ped: Gastroenterology
IM: Hematology
Ped: Infectious Disease
Ped: Oncology
General Internal Medicine
IM: Pulmonology
IM: Endocrinology
IM: Immunology
Other
IM: Neurology
IM: Oncology
Interventional Radiology

Total N=4
A3 I work in the following clinical setting(s):
- Exclusively inpatient 100%, N=4
- Exclusively outpatient
- Both outpatient and inpatient
  **Total N=4**

A4 Which types of non-physician providers work in your department? (Please check all that apply)
- Physician Assistant (PA-C) 100%, N=4
- Nurse Practitioner (NP/DNP) 50%, N=2
- Nurse Midwife (CNM)
- Nurse Anesthetist (CRNA)
- Anesthesia Assistant
- Other ____________________
  **Total N=4**

S2 FOR THE REMAINDER OF THIS SURVEY, ANSWER QUESTIONS FROM THE PERSPECTIVE OF YOUR WORK IN THE DEPARTMENT YOU IDENTIFIED IN QUESTION 3 AS BEING YOUR PRIMARY CLINICAL JOB/ SPECIALTY.

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B1 Do you have your own patient visits appointment schedule (separate from the physician)?
- Yes
- No
- Sometimes
  **Total N= 0**

Answer If Do you have your own patient visits appointment schedule ... Sometimes Is Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B2 "Do you have your own patient visits appointment schedule (separate from the physician)?". You answered "Sometimes" for this, please explain why:
- Only if asked
- All new patients
- Pre-identified patients (by complexity, diagnosis, presenting problems)
- Other ____________________
  **Total N= 0**

Answer If Do you have your own patient visits appointment schedule ... Yes Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B3 What are the barriers to you having an independent clinic schedule?
- RVU Structure
- Physicians asking midlevels to perform the jobs of nurses and MAs
- Acuity of patient needs
- Physicians are unwilling to let go oversight of patients not needing high levels of care
- There is no barrier
- Other: ____________________
  **Total N= 0**
Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B4 I am/would be comfortable having my own patient appointment schedule.
- Yes, regardless of on-site availability of the physician
- Yes, only when a physician is also on-site
- No, why? ____________________

**Total N= 0**

Answer If Do you have your own patient visits appointment schedule ... No Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B5 Which types of visits are scheduled with you independently? (Please check all that apply)
- New Patients
- Routine Annual Physicals
- Post-op Global Visits
- Procedures
- Established Patients/ Follow-up
- Urgent Visits
- Pre-op H+Ps
- Established Patients/New-problems
- Consultations
- Independent Medical Exam (IME)
- Other ____________________

**Total N= 0**

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B6 How often (% of patients) does your supervising physician also see patients that you see in clinic?
______ %

**Total N= 0**

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B7 How often are you in the clinic/office seeing patients when no physician is physically present in the office/clinic?
______ %

**Total N= 0**

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B8 Who sees post-op global visits? (Please check all that apply)
- MD only
- PA/NP with MD available by phone if needed
- PA/NP with MD
- Does not apply
- PA/NP with MD available in clinic if needed
- I don't know
B9 How often are you used as a scribe? (Definition: A scribe is present during the clinical encounter to record the actions and the words of the physician in real time. Scribes MAY NOT interject or provide their own observations or impressions into the medical record. Thus, scribes may not provide any portion of the E+M service)
0%, N=1
Total N=1
Answer If I work in the following clinical setting(s): Exclusively outpatient Is Not Selected

C1 Do you participate in hospital rounds?
- Yes 100%, N=4
- No
Total N=4
If No Is Selected, Then Skip To End of Block
Answer If Do you participate in hospital rounds? Yes Is Selected

C2 Of the time you spend rounding, what percent of the time is with:(answers should total to 100)
- 31.25%, N=4 The supervising physician
- 00.25%, N=4 Intern, Residents, and/or Fellows
- 01.00%, N=4 Supervising physician and Interns, Residents, and/or Fellows
- 67.50%, N=4 Round Autonomously (with general physician supervision*)* General supervision means the procedure/task is furnished under the physician’s overall direction and control, but the physician’s presence is not required during the performance of the procedure/task
Total N=4

D1 Do you perform procedures?
- Delegated to PA/NP per delegation agreement; PA/NP sees and treats accordingly 100%, N=4
- Only after checking with the physician
- The physician and I see patients together: we each do procedures
- The physician and I see patients together: physician performs all procedures
- No
Total N=4

D2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care and other tasks Using the slider bars below, indicate what percentage of the time you perform each task. If you dont perform a certain task, leave the slider at 0. Your total must equal 100%.
- 31.75%, N=4 Direct Patient Care Tasks (i.e. “touch time” and face-to-face time with patient such as time spent with patient during rounds or time directly with patient in clinic)
- 49.75%, N=4 Indirect Patient Care Tasks (Activities that are clinical in nature but not performed while touching the patient, e.g. Carelink orders, dictations, clinic preparation, answering pages, etc.)
- 18.5%, N=4 Other tasks (non-clinical tasks or non-PA/NP tasks that would be better performed by other staff)
Total N=4
D3 How many physicians do you work with?
- 1-2
- 3-4
- 5-6
- 7-8 100%, N=4
- 9-10
- 10+

Total N=4
D4 How would you describe your level of independence?
- My level of independence is consistently maximized across all of my physicians 75%, N=3
- My level of independence varies greatly between all the physicians I work with 25%, N=1
- My level of independence is consistently underoptimized across all of my physicians

Total N=4
D5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? (Please check all that apply)
- Administrative work 100%, N=4
- Clerical Work 75%, N=3
- Prior authorizations 75%, N=3
- Phone calls 75%, N=3
- Prescription Refills 75%, N=3
- Email patients
- Insurance and disability paper work
- Other

Total N=4
D6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?
- spend most of our time writing progress notes, cleaning up orders in carelink, documenting to careweb, updating work flow tools instead of direct patient care. can't even get off the floor to attend noon conferences and such. also competent nursing, nursing mgt and nurse education would go a long way.
- I think PA's should be assigned to surgeons for a certain amount of weeks consistently b/c it provides better patient management and continuity of care.
- Increase direct patient care

Total N=3
D7 Do you provide First Assist services?
- Yes
D8 You responded "Yes" to "Do you provide First Assist services?". Please elaborate:
- All of my surgeon's cases
- Only when there is no resident available
- Residents and I both perform services
- Only for emergency cases
- All other reasons

**Total N= 0**

Answer If Do you provide First Assist services? No Is Selected

D9 You responded "No" to "Do you provide First Assist services?" Please elaborate. (Please check all that apply)
- Not applicable to my role  **100%, N=3**
- Residents assist in surgery
- I would if I could
- Physician doesn't allow me to
- All other reasons

**Total N= 3**

D10 Which of the following team members are providing surgical First Assist services in your department/specialty? (Please check all that apply)
- PA  **75%, N=3**
- Other  **25%, N=1**
  - PA and fellows in surgery - different group
- Not Applicable  **25%, N=1**
- Residents  **25%, N=1**
- NP
- Certified First Assistant (CST/CFA)
- Registered Nurse First Assistant (RNFA)
- Both NP's and PA's
- I Don't Know

**Total N= 4**

E1 How long have you been working with your current physician(s)/group?
- Less than 6 months
- Between 6 months and 1 year  **50%, N=2**
- Between 1 year and 3 years
- Between 3 years and 5 years
- More than 5 years  **50%, N=2**

**Total N=4**

E2 How long have you been working in your current specialty?
- Less than 6 months
Between 6 months and 1 year 50%, N=2
Between 1 year and 3 years
Between 3 years and 5 years
More than 5 years 50%, N=2
Total N=4

E3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?
- All 50%, N=2
- Most 50%, N=2
- Some
- Few
- None
Total N=4

E4 Based upon the physicians you work with most often, are you comfortable seeking/asking for supervision from the physicians?
- Never
- Sometimes 25%, N=1
- Usually 50%, N=2
- Always 25%, N=1
Total N = 4

Answer If Based upon the physicians you work with most often, are y... Sometimes Is Selected
Or Based upon the physicians you work with most often, are y... Never Is Selected

E5 Please explain why you are not or unsure of "I am comfortable seeking/asking for supervision from the physicians that I work with."
- Different physicians have different personalities/views of PA's
Total N=1

E6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.
- Yes 100%, N=4
- No
- Unsure
Total N=4

Answer If I believe the attending physicians I work with fully unde... Yes Is Not Selected

E7 You selected "No" or "Unsure" to "My primary physician that I work with fully understands my qualifications and the types of medical tasks and procedures that I am capable of performing?". Please explain:
Total N=0

E8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians?
- 5 (Too much)
E9 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and residents/interns?

- 5 (Too much)
- 4
- 3 (Just right) 100%, N=4
- 2
- 1 (Too little)

Total N=4

Answer: If Acknowledging that there is overlap in clinical duties, w... 5 (Too much) Is Selected

E10 How much of this duplication is necessary?

- 0%
- 20%
- 40%
- 60%
- 80%
- 100%

Total N=0

F1 How valued and respected do you feel as a member of your hospital system?

- 1 (Not valued at all)
- 2
- 3 25%, N=1
- 4
- 5
- 6 25%, N=1
- 7
- 8
- 9 50%, N=2
- 10 (Very valued)

Total N=4

F2 How satisfied are you as a PA/NP with the type of work that you do?

- 1 (Very dissatisfied)
- 2
- 3 25%, N=1
- 4
- 5
- 6 25%, N=1
50%, N=2
10 (Very satisfied)

**Total N=4**

F3 Please think about how often you perform each task that are lower, at, or higher than your skill level. Using the slider bars below, indicate what percentage of the time you perform roles at each level. If you never perform tasks at a certain level, leave the slider at 0. Your total must equal 100%.

- **28.50%, N=4** is lower than your skill level?
- **65.25%, N=4** is at your skill level?
- **06.25%, N=4** higher than your skill level?

**Total N=4**

F4 Although you have identified your primary service, many staff work with multiple departments. Please identify all of the Departments/Specialties/Divisions where you practice (including your primary service). Check all that apply.

- Surg: Cardiovascular/Cardiothoracic 100%, N=4
- Occupational Medicine 25%, N=1
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
- Surg: Neurological
- Surg: Otorhinolaryngology
- Surg: Spine
- Ped: Critical Care
- Ped: Hematology
- Ped: Rheumatology
- IM: Critical Care
- IM: Nephrology
- Anesthesiology
- IM: Rheumatology
- Radiation Oncology
- Ped: Endocrinology
- Dermatology
- Pain Management
- General Surgery
- Surg: Bariatric
- General Pediatrics
- Ped: Emergency Medicine
- IM: Gastroenterology
• IM: Infectious Disease
• IM: Other
• Surg: Hand
• Surg: Trauma
• Ped: Cardiology
• IM: Cardiology
• Surg: Thoracic
• Surg: Urology
• Ped: Adolescent Medicine
• Ped: Other
• Family Medicine
• Psychiatry
• Ped: Neonatal-Perinatal
• Genetics
• Emergency Medicine
• Public Health
• Family Medicine with Urgent Care
• Obstetrics/Gynecology
• Ped: Pulmonology
• Ped: Nephrology
• Ped: Neurology
• Geriatrics
• Ophthalmology
• Physical Medicine/Rehab
• Hospital Medicine
• Surg: Colon & Rectal
• Surg: Oncology
• Surg: Pediatric
• Surg: Transplant
• Surg: Vascular
• Surg: Other
• Ped: Allergy
• Ped: Gastroenterology
• IM: Hematology
• Ped: Infectious Disease
• Ped: Oncology
• General Internal Medicine
• IM: Pulmonology
• IM: Endocrinology
• IM: Immunology
G1 Please share any additional feedback:

- I feel that being a Physician Assistant is a great job and it is very important to have clear communication between Physician and PA as to what they are comfortable having the PA do and what they would like to be consulted about.

Total N = 1

S3 Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve how your skills and expertise can be better utilized moving forward. Your input is greatly appreciated.
Appendix L: Outpatient Survey Results

Physician Assistant (PA) and Advanced Practice Nurse (NP, CNM) Utilization Survey

This survey is part of a project to better understand the work life of physician assistants and nurse practitioners, who are an increasingly important part of our care giving teams. Your participation is valuable and greatly appreciated. Your answers will be kept completely confidential. Thank you for your participation.

A1 I am a:
- Nurse Practitioner (NP/DNP) 50%, N=2
- Physician Assistant (PA-C) 50%, N=2

Total N=4

A2 This section contains questions about your primary clinical job/specialty. Your primary clinical job/specialty is the clinical job where you spend most of your time in clinical practice. If your time is split evenly between two settings or specialties, choose the specialty designated as your primary department for your credentialing and privileging. For the purposes of this survey, my primary clinical job/specialty is in: (answer the survey questions based off the area you chose)
- Surg: Cardiovascular/ Cardiothoracic 100%, N=4
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
- Surg: Neurological
- Surg: Otorhinolaryngology
- Surg: Spine
- Ped: Critical Care
- Ped: Hematology
- Ped: Rheumatology
- IM: Critical Care
- IM: Nephrology
- Anesthesiology
- IM: Rheumatology
- Radiation Oncology
- Ped: Endocrinology
- Dermatology
- Pain Management
- General Surgery
- Surg: Bariatric
- General Pediatrics
- Ped: Emergency Medicine
- Ped: Cardiology
- IM: Cardiology
- Surg: Cardiology
- Surg: Thoracic
☐ Surg: Urology
☐ Ped: Adolescent Medicine
☐ Ped: Other
☐ Family Medicine
☐ Psychiatry
☐ Ped: Neonatal-Perinatal
☐ Genetics
☐ Emergency Medicine
☐ Public Health
☐ Family Medicine with Urgent Care
☐ Obstetrics/Gynecology
☐ Ped: Pulmonology
☐ Ped: Nephrology
☐ Ped: Neurology
☐ Geriatrics
☐ Ophthalmology
☐ Physical Medicine/Rehab
☐ Hospital Medicine
☐ Surg: Colon & Rectal
☐ Surg: Oncology
☐ Surg: Pediatric
☐ Surg: Transplant
☐ Surg: Vascular
☐ Surg: Other
☐ Ped: Allergy
☐ Ped: Gastroenterology
☐ IM: Hematology
☐ Ped: Infectious Disease
☐ Ped: Oncology
☐ General Internal Medicine
☐ IM: Pulmonology
☐ IM: Endocrinology
☐ IM: Immunology
☐ Other ______________________
☐ IM: Neurology
☐ IM: Oncology
☐ Interventional Radiology

Total N=4

A3 I work in the following clinical setting(s):
☐ Exclusively outpatient 100%, N=4
A4 Which types of non-physician providers work in your department? (Please check all that apply)

- Physician Assistant (PA-C) 100%, N=4
- Nurse Practitioner (NP/DNP) 75%, N=3
- Nurse Midwife (CNM)
- Nurse Anesthetist (CRNA)
- Anesthesia Assistant
- Other ____________________

Total N=4

S2 FOR THE REMAINDER OF THIS SURVEY, ANSWER QUESTIONS FROM THE PERSPECTIVE OF YOUR WORK IN THE DEPARTMENT YOU IDENTIFIED IN QUESTION 3 AS BEING YOUR PRIMARY CLINICAL JOB/ SPECIALTY.

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B1 Do you have your own patient visits appointment schedule (separate from the physician)?

- Yes 75%, N=3
- No 25%, N=1
- Sometimes

Total N=4

Answer If Do you have your own patient visits appointment schedule ... Sometimes Is Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B2 "Do you have your own patient visits appointment schedule (separate from the physician)?". You answered "Sometimes" for this, please explain why:

- Only if asked
- All new patients
- Pre-identified patients (by complexity, diagnosis, presenting problems)
- Other ____________________

Total N=0

Answer If Do you have your own patient visits appointment schedule ... Yes Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B3 What are the barriers to you having an independent clinic schedule?

- There is no barrier 100%, N=1
- RVU Structure
- Physicians asking midlevels to perform the jobs of nurses and MAs
- Acuity of patient needs
- Physicians are unwilling to let go oversight of patients not needing high levels of care
- Other: ____________________

Total N=1

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected
B4 I am/would be comfortable having my own patient appointment schedule.
- Yes, regardless of on-site availability of the physician 100%, N=3
- Yes, only when a physician is also on-site
- No, why? ____________________
  Total N=3

Answer If Do you have your own patient visits appointment schedule ... No Is Not Selected And Do you have your own patient visits appointment schedule ... Yes Is Displayed

B5 Which types of visits are scheduled with you independently? (Please check all that apply)
- Established Patients/ Follow-up 67%, N=2
- Urgent Visits 67%, N=2
- Pre-op H+Ps 67%, N=2
- New Patients 33%, N=1
- Post-op Global Visits 33%, N=1
- Established Patients/New-problems 33%, N=1
- Consultations 33%, N=1
- Routine Annual Physicals
- Procedures
- Independent Medical Exam (IME)
- Other ____________________
  Total N=3

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B6 How often (% of patients) does your supervising physician also see patients that you see in clinic?
49.5% 
Total N=4

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B7 How often are you in the clinic/office seeing patients when no physician is physically present in the office/clinic?
40.25% 
Total N=4

Answer If I work in the following clinical setting(s): Exclusively inpatient Is Not Selected

B8 Who sees post-op global visits? (Please check all that apply)
- PA/NP with MD 75%, N=3
- PA/NP with MD available by phone if needed 50%, N=2
- PA/NP with MD available in clinic if needed 50%, N=2
- MD only 25%, N=1
- Does not apply
- I don't know
  Total N=4

B9 How often are you used as a scribe? (Definition: A scribe is present during the clinical encounter to record the actions and the words of the physician in real time. Scribes MAY NOT interject or provide
their own observations or impressions into the medical record. Thus, scribes may not provide any portion of the E+M service.

25%, N=4
Total N=4

Answer If I work in the following clinical setting(s): Exclusively outpatient Is Not Selected

C1 Do you participate in hospital rounds?
- Yes
- No

Total N=0
If No Is Selected, Then Skip To End of Block

Answer If Do you participate in hospital rounds? Yes Is Selected

C2 Of the time you spend rounding, what percent of the time is with:(answers should total to 100)
- The supervising physician
- Intern, Residents, and/or Fellows
- Supervising physician and Interns, Residents, and/or Fellows
- Round Autonomously (with general physician supervision)* General supervision means the procedure/task is furnished under the physician’s overall direction and control, but the physician’s presence is not required during the performance of the procedure/task

Total N=0

D1 Do you perform procedures?
- No 100%, N=4
- Only after checking with the physician
- Delegated to PA/NP per delegation agreement; PA/NP sees and treats accordingly
- The physician and I see patients together: we each do procedures
- The physician and I see patients together: physician performs all procedures

Total N=4

D2 In a typical week, what percentage of your time would you estimate is spent on the following tasks: direct patient care, indirect patient care and other tasksUsing the slider bars below, indicate what percentage of the time you perform each task. If you don't perform a certain task, leave the slider at 0. Your total must equal 100.
59.75%, N=4 Direct Patient Care Tasks (i.e. “touch time” and face-to-face time with patient such as time spent with patient during rounds or time directly with patient in clinic)
32.5%, N=4 Indirect Patient Care Tasks (Activities that are clinical in nature but not performed while touching the patient, e.g. Carelink orders, dictations, clinic preparation, answering pages, etc.)
7.75%, N=4 Other tasks (non-clinical tasks or non-PA/NP tasks that would be better performed by other staff)

Total N=4

D3 How many physicians do you work with?
- 1-2 50%, N=2
- 3-4
- 5-6
- 7-8 25%, N=1
D4 How would you describe your level of independence?
- My level of independence is consistently maximized across all of my physicians (25%, N=2)
- My level of independence is consistently underoptimized across all of my physicians (50%, N=2)
- My level of independence varies greatly between all the physicians I work with (Total N=4)

D5 What duties are you required to perform, if any, that you feel could be delegated to another person, which in turn will open more direct patient care time for you? (Please check all that apply)
- Clerical Work (75%, N=3)
- Phone calls (75%, N=3)
- Prior authorizations (50%, N=2)
- Administrative work (25%, N=1)
- Email patients (25%, N=1)
- Prescription Refills (25%, N=1)
- Insurance and disability paperwork
- Other ____________________

D6 How should your department utilize PAs/NPs differently to improve patient and physician satisfaction?
- Provide CCC support as occurs with physicians
- Work in tandem on the same patient, the NP prepping for the actual visit with the surgeon. Alter the way patients are scheduled so the NP does not have to wait (and keep the patient waiting) to confer with the surgeon
- The patients seem to be very satisfied. I'm pretty sure that the physicians are satisfied too.

D7 Do you provide First Assist services?
- Yes
- No (100%, N=4)

D8 You responded "Yes" to "Do you provide First Assist services?". Please elaborate:
- All of my surgeon's cases
- Only when there is no resident available
- Residents and I both perform services
- Only for emergency cases
- All other reasons

Total N=0
D9 You responded "No" to "Do you provide First Assist services?" Please elaborate. (Please check all that apply)

☑ Not applicable to my role 100%, N=4
☑ Residents assist in surgery
☑ I would if I could
☑ Physician doesn't allow me to
☑ All other reasons

Total N=4

D10 Which of the following team members are providing surgical First Assist services in your department/specialty? (Please check all that apply)

☑ PA 75%, N=3
☑ Residents 50%, N=2
☑ Not Applicable 25%, N=1
☑ NP
☑ Certified First Assistant (CST/CFA)
☑ Registered Nurse First Assistant (RNFA)
☑ Both NP's and PA's
☑ Other ____________________
☑ I Don't Know

Total N=4

E1 How long have you been working with your current physician(s)/group?

☑ Less than 6 months
☑ Between 6 months and 1 year
☑ Between 1 year and 3 years 50%, N=2
☑ Between 3 years and 5 years 25%, N=1
☑ More than 5 years 25%, N=1

Total N=4

E2 How long have you been working in your current specialty?

☑ Less than 6 months
☑ Between 6 months and 1 year
☑ Between 1 year and 3 years 25%, N=1
☑ Between 3 years and 5 years
☑ More than 5 years 75%, N=3

Total N=4

E3 Based on the physicians you work with most often, for how many of them would you characterize your relationship as strong and professional?

☑ All 50%, N=2
☑ Most 25%, N=1
☑ Some
☑ Few 25%, N=1
☑ None
E4 Based upon the physicians you work with most often, are you comfortable seeking/asking for supervision from the physicians?

- Never
- Sometimes 25%, N=1
- Usually
- Always 75%, N=3

E5 Please explain why you are not or unsure of "I am comfortable seeking/asking for supervision from the physicians that I work with."

- Role not really require supervision as all cases are staffed. I do not think my clinical opinions are regarded with deference. In short, I function as a human dictation device on my clinic day.

E6 I believe the attending physicians I work with fully understand my qualifications and the types of medical tasks and procedures that I am capable of performing.

- Yes 75%, N=3
- No 25%, N=1
- Unsure

E7 You selected "No" or "Unsure" to "My primary physician that I work with fully understands my qualifications and the types of medical tasks and procedures that I am capable of performing?". Please explain:

- this is not applicable in the area in which I work as we do not perform procedures

E8 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and attending physicians?

- 5 (Too much)
- 4 50%, N=2
- 3 (Just right) 25%, N=1
- 2 25%, N=1
- 1 (Too little)

E9 Acknowledging that there is overlap in clinical duties, what do you think about the overlap in clinical duties between you and residents/interns?

- 5 (Too much)
- 4
- 3 (Just right) 75%, N=3
Answer If Acknowledging that there is overlap in clinical duties, w... 5 (Too much) Is Selected

E10 How much of this duplication is necessary?
- 0%
- 20%
- 40%
- 60%
- 80%
- 100%

Total N=0

F1 How valued and respected do you feel as a member of your hospital system?
- 1 (Not valued at all) 25%, N=1
- 2
- 3
- 4
- 5
- 6
- 7 50%, N=2
- 8
- 9
- 10 (Very valued) 25%, N=1

Total N=4

F2 How satisfied are you as a PA/NP with the type of work that you do?
- 1 (Very dissatisfied) 25%, N=1
- 2
- 3
- 4
- 5
- 6 25%, N=1
- 7
- 8 25%, N=1
- 9
- 10 (Very satisfied) 25%, N=1

Total N=4

F3 Please think about how often you perform each tasks that are lower, at, or higher than your skill level. Using the slider bars below, indicate what percentage of the time you perform roles at each level. If you never perform tasks at a certain level, leave the slider at 0. Your total must equal 100%.

45% N=4 is lower than your skill level?
51.75%,N=4 is at your skill level?
6.5%, N=4 higher than your skill level?
Total N=4
F4 Although you have identified your primary service, many staff work with multiple departments. Please identify all of the Departments/Specialties/Divisions where you practice (including your primary service). Check all that apply.

- Surg: Cardiovascular/ Cardiothoracic 100%, N=3
- IM: Critical Care 33%, N=1
- IM: Cardiology 33%, N=1
- Addiction Medicine
- Diagnostic Radiology
- Surg: Orthopedics
- Surg: Plastic
- Allergy
- Pathology
- Surg: Neurological
- Surg: Otorhinolaryngology
- Surg: Spine
- Ped: Critical Care
- Ped: Hematology
- Ped: Rheumatology
- IM: Nephrology
- Anesthesiology
- IM: Rheumatology
- Radiation Oncology
- Ped: Endocrinology
- Dermatology
- Pain Management
- General Surgery
- Surg: Bariatric
- General Pediatrics
- Ped: Emergency Medicine
- IM: Gastroenterology
- IM: Infectious Disease
- IM: Other
- Occupational Medicine
- Surg: Hand
- Surg: Trauma
- Ped: Cardiology
- Surg: Thoracic
- Surg: Urology
- Ped: Adolescent Medicine
- Ped: Other
Working at UMH has been extraordinarily disappointing for me. To be fair, I have historically worked in less specialized clinical positions where I have been allowed to practice in a highly autonomous fashion. The current UMH model, perhaps a function of the university's highly specialized clinical departments and services, may simply be less appealing to PA's like me who have been exposed to alternate PA practice
models that foster a much higher level of clinical autonomy and decision making. My current role and responsibilities clearly fill a university need to keep the tertiary medicine machine running but does not afford me any real sense of accomplishment or professional relevance.

**Total N=1**

S3 Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve how your skills and expertise can be better utilized moving forward. Your input is greatly appreciated.