

**CAPTURING THE EFFECTIVENESS OF THE REGISTERED NURSE IN
AMBULATORY CARE**

by

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A DNP Project Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Nursing Practice

For submission to *Journal of Nursing Regulation*

Capella University

January 2016

Abstract

A quantum shift has occurred in the expectations for the provision of care when moving from the inpatient hospital setting to the outpatient ambulatory care setting. As health care systems merge with physician practice groups and individual physician practices, nurse leaders are challenged to find ways to ensure patient safety across an ever-enlarging geographic territory. In a pilot study, the project coordinator developed a new role of the registered nurse in ambulatory care to provide nursing support and ensure patient safety in several ambulatory practices across a broad geographic area. The new role is titled Registered Nurse (RN) Practice Coordinator (PC). This project examines the development of the new role for the registered nurses in ambulatory care and the impact of that role on patient safety outcomes.

Capturing the Effectiveness of the Registered Nurse in Ambulatory Care

Introduction

Patient safety is the driving force behind health care delivery. In the ambulatory care setting, patient safety may be measured in compliance with regulatory requirements, governmental laws, and institutional policies. The task to ensure patient safety is even more challenging in organizations that have decentralized leadership structures and widespread geographic locations.

The vast majority of health care is delivered in ambulatory settings, yet health care leaders are only just beginning to understand the safety risks that exist outside of hospital walls. There are 1.2 billion visits to physicians' offices in the United States each year, as compared with 35 million hospital discharges, and spending on outpatient care is the fastest growing segment of health care spending (Center for Disease Control and Prevention, 2014). Most patient-safety research and safety-improvement work referenced the inpatient settings. However, according to Agency for Healthcare Research and Quality (AHRQ), since 2005 only about 10% of patient-safety studies have been performed in outpatient settings (Ganghi & Lee, 2010).

The Institute of Medicine's *Future of Nursing Report* (2011) challenges nurses to partner in leading the transformation of healthcare by both recognizing and using the capabilities of registered nurses. According to Mastal and Levine (2012) the full capabilities of the registered nurse often are unseen, undervalued, and underutilized in many health care organizations. As stated by the American Academy of Ambulatory Care Nursing Position Statement on the Value of the RN in Ambulatory Care (2012), ambulatory care nursing is a unique realm of specialized

nursing practice. The goal of this DNP project is to show the impact of a new role for the registered nurse to patient safety outcomes in the ambulatory care setting.

Problem

According to the Centers for Disease Control and Prevention (2009), the transition of healthcare delivery from acute care hospitals to outpatient (ambulatory care) settings has demonstrated the need for greater understanding and implementation of basic infection prevention guidance.

The identified problem for this project is the lack of consistent compliance with medication safety, infection control, Point of Care Testing (POCT) compliance, medication storage, exam room cleanliness and expired supplies in the related ambulatory care clinics. This project will examine if within the ambulatory care clinics patient safety outcomes related to medication safety, infection control, Point of Care Testing (POCT) compliance, medication storage, exam room cleanliness and expired supplies are impacted by the presence of the Registered Nurse Practice Coordinator (RNPC); comparing these patient safety outcomes of clinics that have an RNPC to clinics that do not have an assigned RNPC over a six-month period.

Significance

After the enactment of the Patient Protection and Affordable Care Act (2010), millions of consumers, who in the past did not have access to affordable health care, are now accessing the health care system. This expanding universe of newly insured patients will include many who are seeking care for the first time in primary care or other ambulatory settings. Their care needs put renewed attention on current resources and emerging evidence that nurses engaged in clinical

practice, policy, academics, and research can use to promote quality and safety in ambulatory care (Ricciardi, 2015).

The *Code of Ethics for Nurses* stresses that professional nurses are accountable for the delivery of safe, competent care to those patients entrusted to them. (American Nurses Association, 2015). Subsequently, the negative impact on patient safety may be a direct consequence of the lack of qualified supervision of clinical support staff in the selected ambulatory care clinics.

Purpose/Assessment

The purpose of this evidence-based practice project is to show the benefits of the new role RNPC as an intervention to improve regulation compliance, staff training, and the environment of care, thus enhancing patient safety outcomes. Assessment of the current state of the surveyed ambulatory practices revealed that the clinics did not meet current standards for ensuring consistent minimum safe practice standards as it related to medication storage, point of care testing (POCT), infection control including high-level disinfection and sterilization, and management of expired supplies. The areas of noncompliance include the following metrics.

Medication Storage

The American Society of Health-System Pharmacists ([ASHP], 2014) believes that medication safety is a fundamental responsibility of all members of the profession. Noncompliance with medication storage principles is a risk to patient safety. The observed clinics did not follow a standard approach to medication storage. Several medications were found unsecured and expired. There were also multiple observations of multi-dose vials unlabeled and therefore surpassing the Center for Disease Control and Prevention required 28-day beyond use

date (American Society of Health System Pharmacist, 2013). Evidence of compliance includes the absence of expired and unlabeled medications in the clinics.

Medication Refrigeration

Vaccines must be stored properly from the time manufactured through the point of administration to maintain an effective vaccination program. Excess heat or cold reduces their potency, increasing the risk that recipients will not be protected against vaccine-preventable diseases. The daily maintenance of the temperature control log ensures safe medication storage, and that temperature excursions receive immediate attention. In the observed clinics there was no record of recorded temperatures which violates organizational policy and regulatory standards. The Center for Disease Control and Prevention recommended temperature range is 36 to 46 degrees Fahrenheit to be monitored twice daily for vaccine storage.

Point-of-Care Testing

Point-of-Care Testing (POCT) has been defined as a pathology test performed on-site by or on behalf of the treating doctor at the time of patient consultation, allowing the test results to be used to make an immediate decision about treatment. There are many legal guidelines and standards associated with POCT, for example, the Clinical Laboratory Improvement Amendments (CLIA) and International Organization for Standardization (ISO 2003:15197, ISO 2006:22870). These are intended to ensure precision in POCT and thus avoid the risk of malpractice in healthcare. Although CLIA requires that waived tests must be simple and have a low risk for erroneous results, this does not mean that waived tests are completely error-proof. Errors can occur anywhere in the testing process, particularly when the manufacturer's instructions are not followed and when testing personnel are not familiar with all aspects of the

test system (Centers for Disease Control and Prevention, 2015). Compliance with POCT standards is essential to patient safety due to the implications for misdiagnoses. In the observed clinics there was no consistent process for POCT. Evidence of compliance includes documented quality control testing on CLIA approved logs for all point of care testing equipment used.

Infection Control Standards

Infection Control (IC) standards, including sterilization and high-level disinfection of reusable medical equipment, and disinfection of reusable medical equipment, are critical to patient safety in ambulatory care. Disinfection and sterilization are essential for ensuring that medical and surgical instruments do not transmit infectious pathogens to patients. Because sterilization of all patient-care items is not necessary, health-care policies must identify, primarily on the basis of the items' intended use, whether cleaning, disinfection, or sterilization is indicated (Healthcare Infection Control Practices Advisory Committee, 2008). Findings also included lack of consistent decontamination processes across all clinics. The goal is to adhere to the Federal Drug Administration (FDA) and CDC recommendation and ensure the sterility of instruments for every patient. Evidence of compliance includes observations of compliance with institutional policy on High Level Disinfection and Sterilization of Reusable Medical Equipment.

Management of Expired Patient Care Supplies

Today, healthcare managers and industry experts understand that the efficient management of materials can not only reduce operating cost, but increase the quality of care. Expired supplies used in patient care is a patient safety and a health hazard (Callender & Grasman, 2010). Expired patient supply must be addressed proactively to ensure optimal safe care delivery. In the observed clinics there is no process in place for management of expired

supplies. The goal is to have no expired supplies used on patients. Evidence of compliance includes the absence of expired patient supplies in the ambulatory clinics.

Literature Review

A literature review was conducted to determine what the implications were in ambulatory care regarding patient safety and the supervision of clinical support staff by a registered nurse. A literature search was conducted using the CINAHL, Ovid and Medscape databases using the search terms *ambulatory care*, *patient safety*, *nurse*, *nursing*, *supervisor*, and *charge nurse* for peer-reviewed publications published 2009 to present date. This literature search revealed 29 articles, and none that were directly focused on this issue. The National Council State Boards of Nursing (NCSBN) in the Implication of the Affordable Care Act (2014), directly addressed clinical supervision of staff by the registered nurse. The NCSBN recommends that all nurses and advanced practice registered nurses (APRNs) fully practice within their scope of practice to provide needed services. The authors suggest that boards of nursing (BON) must monitor proposed assistive personnel to ensure that they do not jeopardize patient safety. To provide for this monitoring, RNs must become the essential leaders in the ambulatory care setting.

According to the American Academy of Ambulatory Nursing (2012) it is imperative to review the current ambulatory care delivery model including the role of a registered nurse in the ambulatory care setting. Ambulatory care facilities employ 25% of the 3 million RNs in the United States, 33% of which hold master's or higher degrees. Based on the data it is unclear what level of responsibility for patient safety outcomes has been delegated to RNs. Historically, registered nurses (RN) in ambulatory care have been an underutilized discipline. Along with regulation and growth in the profession, registered nurses developed an independent scope of

nursing practice (American Nurses Association, 2015). Efficient use of the registered nurse requires a full understanding of the RN scope of practice and value of the RN in ambulatory care.

Ricciardi (2015) suggests there is ample room for improvement to enhance access. The writer goes on to insist that addressing these challenges will require a team effort, with concerted attention to implementing research-based approaches that make care safer and higher quality. However, the role of the RN in today's changing care delivery environment is undergoing a significant transformation. In the ambulatory environment, RNs have a clinical and risk management role. RNs are the first members of the core clinical team to evaluate the ambulatory patient and are well positioned to intervene quickly to address any potential safety risks.

In conclusion, the reviewed literature supports the professional practice of the RN and recognizes the impact of the RN in affections patient safety outcomes. Based on previous research it is warranted to explore the effectiveness of the RN in ambulatory care in ensuring patient safety. The purpose of this evidence-based practice project is to capture the impact on patient safety outcomes in ambulatory care of the registered nurse in the function of Registered Nurse Practice Coordinator (RNPC).

Method/Implementation

This section presents the methodology of the project. Topics include the design and participants to be used in the project.

Design

In order to impact the described patient safety outcomes in the observed ambulatory care clinics, a new role for the RNPC was designed. The goal of the new role was to affect patient

safety outcomes through provisions of supervision of ambulatory clinical staff. The timeframe for the implementation of this pilot project was three months.

The RNPC is a registered nurse with a bachelor's of science in nursing and supervisory experience of five or more years of experience, preferably in ambulatory care. Job duties for the RNPC include

1. Coordination of Clinical Staff—assists with implementation of new programs through education and training, ensuring consistent standards of care are maintained across ambulatory practices, and serving as a clinical resource.
2. Staff Education—Identifies educational needs based on low volume high risk outpatient process and identified trends from quality reports.
3. Consultation—Works with practice managers and physicians to assist with complicated clinical problems.
4. Performance Improvement—Actively provides recommendations to leadership on performance improvement initiatives; participates in quality studies through data collection and evaluation of improvement efforts.

Ultimately, two registered nurses were hired as RN Practice Coordinators (RNPC). The goal was to provide clinical resources to support staff within two groups of clinics spread across a 20-mile radius of geographical territory (See Figure 1).

For the purposes of this project, ongoing monthly audits of the environment of care were conducted in a total of 28 clinics, for which, 18 participating clinics had an assigned RNPCs and ten clinics that did not have a RNPC (see Table 1). Data analysis was performed on a random sample of ten participating clinics.

The elements of performance audited during the monthly the environment of care audits include

- Infection Control (Sterilization, Disinfection, Waste Disposal)
- POCT Logs (Maintenance and Compliance)
- Medication Safety (Controlled Substances Chain of Custody; Security; Labeling & Storage)
- Patient Care Supplies and Storage (Expired Supplies and Cleanliness)
- Temperature Log (Temperature Monitoring & Excursion Management)
- Exam Rooms (Disinfection of Equipment; Supply Management and Storage)
- Overall Compliance

Participants

In the ambulatory care setting, samples of 28 of the organization's 150 ambulatory care clinics were selected for comparison. Of these selected clinics, 18 sites had RNPC assigned to them and 10 did not. During the timeframe of this project, there were two RNPC. The project received IRB approval. Volunteers completed the informed consents and delivered the project questionnaires via e-mail to the project coordinator.

Results

This section presents the results of the project. Topics include the data preparation and analysis for this project.

Data Analysis

Data Preparation

The data was imported into SPSS version 23 from MS Excel. The data was analyzed descriptively using frequencies and percentages, means and standard deviations, and *t* test for independent samples. The *t* tests for independent samples were used to examine if there were differences in the average compliance percentages for clinics with and without RNPC support.

Sample

The sample for this project was comprised of 28 clinics. The frequency and percentages for the clinic characteristics can be found in Table 1. The majority of the clinics were unlicensed (78.6%, $n = 22$) and the remaining were licensed (21.4%, $n = 6$). In addition, 17.9% ($n = 5$) did not have RNPC support, the remaining 82.1% ($n = 23$) had RN/RNPC support. Over 60% ($n = 18$) had a Practice Coordinator, the remaining 35.7% ($n = 10$) did not.

Descriptive Statistics for the Compliance Domains for All Clinics

The descriptive statistics for the primary compliance categories for the entire sample appear in Table 2. The average percentage of compliance for Infection Control was 91.79% ($SD = 25.10$) with a range of 0 to 100% compliance for this category. The average percentage of compliance for POCT Logs was 84.00% ($SD = 37.41$) with a range of 0 to 100% compliance for this category. The average medication compliance was 81.11% ($SD = 23.97$) with a range of 0 to 100% compliance. The average percentage of compliance for Supplies and Storage/Utility Room was 82.71% ($SD = 30.89$) with a range of 0 to 100% compliance for this category. The average Temperature Logs compliance was 92.86% ($SD = 26.22$) with a range of 0 to 100% compliance. The average percentage of compliance for exam rooms was 90.43% ($SD = 20.50$) with a range of

17% to 100% compliance for this category. Finally, the average overall compliance was 86.18% ($SD = 22.25$) with a range of 11% to 100% compliance for this category.

Results of the t tests for Independent Samples

Results of the t test for independent samples for overall compliance. A t test for independent samples was used to examine if there were differences in overall compliance for clinics with and without a Practice Coordinator. The average percentage of overall compliance for clinics without a Practice Coordinator was 73.70 ($SD = 33.76$) while the average percentage of overall compliance for clinics with RNPC/ RN support was 93.11 ($SD = 6.35$), as seen in Table 3. The mean difference between the groups' average compliance percentages was 19.41 (95% $CI = 2.77$ to 36.04). The difference in the average percentage of overall compliance between those with and without a Practice Coordinator was statistically significant ($t(26) = -2.39$, $p < .05$). As such, the group means were significantly different.

Summary

The overall results indicated that there were statistically significant differences in compliance among clinics with and without a Practice Coordinator. More specifically, clinics with a Practice Coordinator had a higher average percentage of infection control compliance ($M = 100.00$, $SD = 0.00$) than clinics without a Practice Coordinator ($M = 77.00$, $SD = 38.88$). Similarly, clinics with a Practice Coordinator had a higher average percentage of supplies and storage/utility room compliance ($M = 93.44$, $SD = 13.02$) than clinics without a Practice Coordinator ($M = 63.40$, $SD = 43.56$). Finally, clinics with a Practice Coordinator had a higher average percentage of overall compliance ($M = 93.11$, $SD = 6.35$) than clinics without a Practice Coordinator ($M = 73.70$, $SD = 33.76$). There were no statistically significant differences in the

average percentage of compliance between those with and without a Practice Coordinator for: (a) POCT logs, (b) medication compliance, (c) temperature logs, and (d) exam rooms.

Recommendations

The support and guidance provided by the RNPC were the mechanism for increased compliance with the defined patient safety standards. To date, organizational support has been obtained to hire 11 additional RNPC over the next two years.

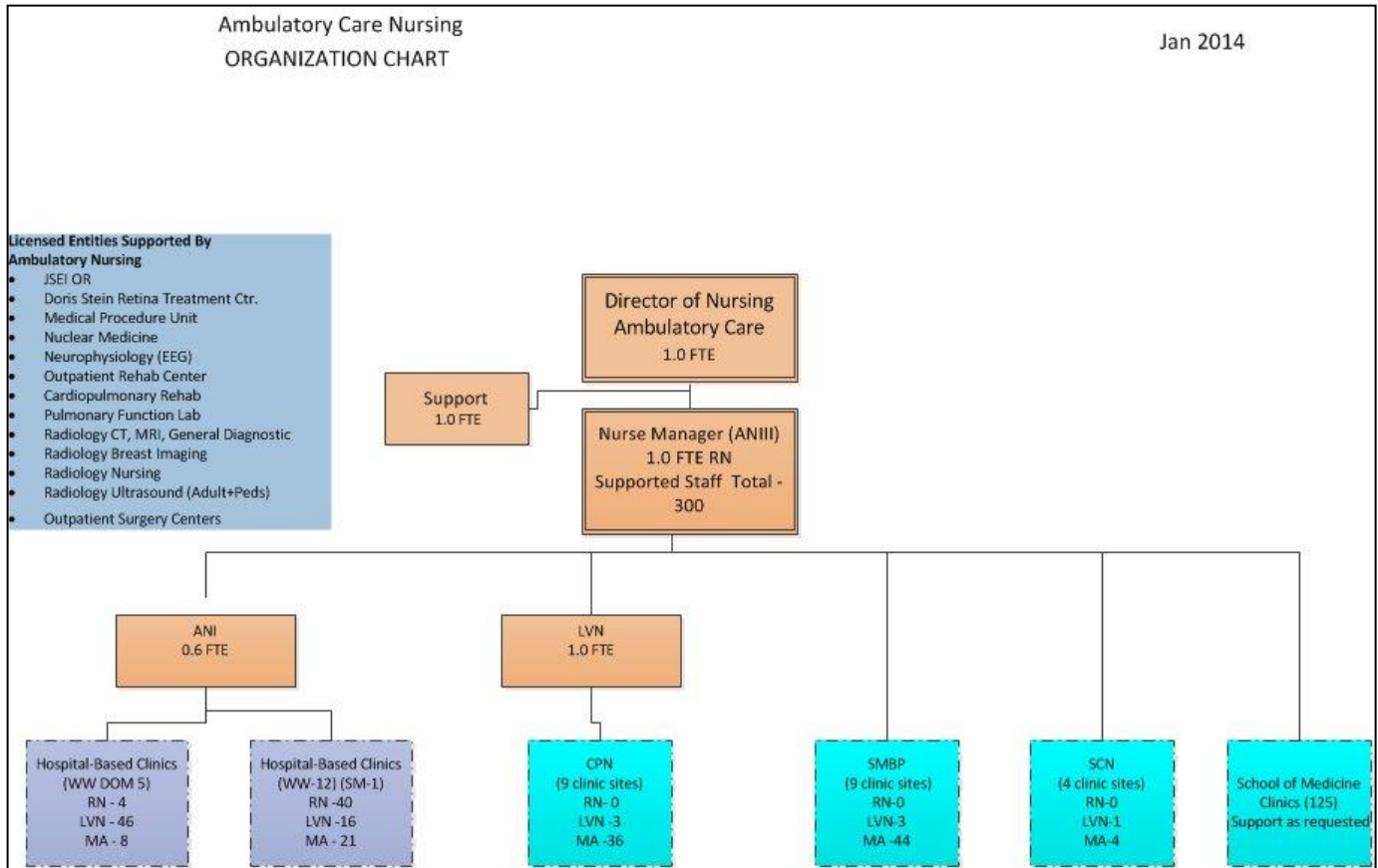
Lessons learned included the need to enlist the assistance of regulatory subject matter experts and the literature in the orientation of the RNPC to the role. Evaluation of cost savings related to the standardization of supplies, education, and equipment based on the recommendations of the RNPC is justified. Considerations for further study of the value of the RNPC to include review of event reports related to staff training, improper use of equipment, and other hazards that impact patient safety outcomes. In conclusion, this project has contributed to the current and future study of the registered nurse and the practice of ambulatory nursing.

References

- American Academy of Ambulatory Care Nursing Position Statement: The role of the registered nurse in ambulatory care. (2012). *Nursing Economic\$, 30(4)*, 233-239. Retrieved from <http://www.nursingconomics.net/cgi-bin/WebObjects/NECJournal.woa>
- American Nurses Association. (2015, November 2015). *Code of Ethics For Nurses*. Retrieved from American Nurses Association Website: <http://ana.nursingworld.org/mods/archive/mod311/cerm202.htm>
- American Society of Health System Pharmacist. (2013, July). ASHP crosswalk of guidance and standards for managing single dose vials (SDV) and multiple dose vials (MDV). Retrieved from <http://www.ashp.org/DocLibrary/MemberCenter/SPPM/Guidances-Standards-for-SDV-and-MDV.pdf>
- American Society of Health-System Pharmacist. (2013). ASHP statement on the role of the medication safety leader. *American Journal of Health-System Pharmacist, 70*, 448-452. doi: 10.2146/sp120010
- Centers for Disease Control and Prevention. (2009, July 30). *GUIDE to Infection Prevention in Outpatient Settings: Minimum Expectations for Safe Care*. Retrieved from CDC Web site: <http://www.cdc.gov/HAI/pdfs/guidelines/Ambulatory-Care-04-2011.pdf>
- Center for Disease Control and Prevention. (2014, April 29). *Fast Stats*. Retrieved from Center for Disease Control and Prevention Web site: <http://www.ahrq.gov/news/events/nac/2012-07-nac/brady/brady.html>

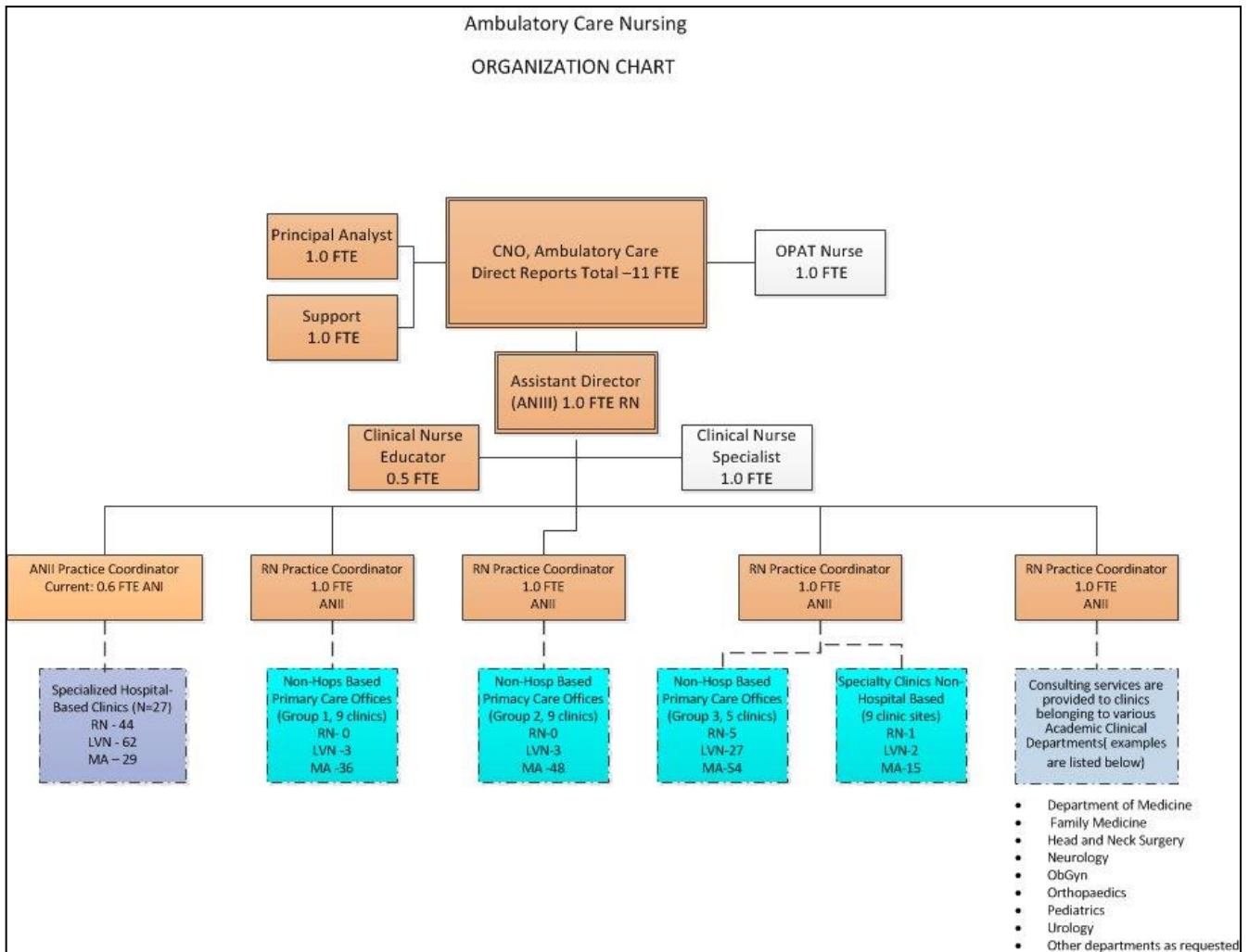
- Center for Disease Control and Prevention. (2015, March 16). *Clinical Laboratory Improvements Amendment (CLIA)*. Retrieved from Center for Disease Control and Prevention Web site: <https://www.cdc.gov/clia/Resources/WaivedTests/>
- Ganghi, T., & Lee, T. (2010). Patient safety beyond the hospital. *The New England Journal of Medicine*, 1001-1003. doi: 10.1056/NEJMp1003294
- Healthcare Infection Control Practices Advisory Committee. (2008). *Guideline for Disinfection and Sterilization*. Retrieved from Center for Disease Control and Prevention Web site: http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf
- Implications of the Affordable Care Act on nursing regulation and practice. (2014). *Journal of Nursing Regulation*, 5(1), 26–34. doi: 10.1016/s2155-8256(15)30096-x
- Institute of Medicine. (2011). The future of nursing: Leading change, advancing health. *Colorado Nurse*, 111(1), 1-7. Retrieved from <http://www.coloradonurses.org/>
- Mastal, M., & Levine, J. (2012). Perspectives in ambulatory care. The value of registered nurses in ambulatory care settings: A survey. *Nursing Economics*, 30(5), 295-304. Retrieved from <http://www.nursingconomics.net/cgi-bin/WebObjects/NECJournal.woa>
- Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 (2010). doi: 10.4135/9781452287508.n260
- Ricciardi, R. N. P. (2015). AHRQ focuses on ambulatory patient safety. *Journal of Nursing Care Quality*, 30(3), 193-196. doi:10.1097/NCQ.000000000000124

Figure 1. June 2014. Organizational Chart Pre-RNPC Implementation.



Note. The figure was created by the project coordinator and taken from the organization’s ambulatory nursing organizational structure with permission of the original author, CNO Ambulatory Care.

Figure 2. July 2015 Organizational chart with RN practice coordinators, post- RNPC implementation.



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Table 1

Frequencies and Percentages for the Clinics' Characteristics (N = 28)

Variable	N	%
Type of Clinic		
Unlicensed	22	78.6
Licensed	6	21.4
Total	28	100
Has RNPC/ RN Support		
No	5	17.9
Yes	23	82.1
Total	28	100
Has a Practice Coordinator		
No	10	35.7
Yes	18	64.3
Total	28	100

Table 2

Descriptive Statistics for the Compliance Categories

Compliance	<i>N</i>	Min	Max	Mean	<i>SD</i>
Infection Control Compliance (%)	28	0	100	91.79	25.10
POCT Logs Compliance (%)	25	0	100	84.00	37.41
Medication Compliance (%)	28	0	100	81.11	23.97
Supplies and Storage/Utility Room Compliance (%)	28	0	100	82.71	30.89
Temperature Logs Compliance (%)	28	0	100	92.86	26.22
Exam Rooms Compliance (%)	28	17	100	90.43	20.50
Overall Compliance (%)	28	11	100	86.18	22.25

Note: *N* = number, Min = Minimum, Max = Maximum, *M* = Mean, *SD* = Standard Deviation.

Table 3

Results of the t test for Independent Samples Comparing Overall Compliance (%) for Clinics With and Without a Practice Coordinator

Type of Compliance	Practice Coordinator	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Overall	No	10	73.70	33.76	-2.39	.02*
	Yes	18	93.11	6.35		

Note. *N* = number, *M* = Mean, *SD* = Standard Deviation, *t* = t statistic, *p* = probability level/statistical significance.

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Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and the disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of *plagiarism* are discussed in the Policy:

Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)

Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else's ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

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Research misconduct includes, but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners' failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

Statement of Original Work and Signature

I have read, understood, and abided by Capella University’s Academic Honesty Policy ([3.01.01](#)) and Research Misconduct Policy ([3.03.06](#)), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the *APA Publication Manual*.

Learner name
and date Quanna N. Batiste 12/10/2015

Mentor name
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