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Unit Staffing Collaborative Department of Radiology

Division of Interventional Radiology
Radiology Nursing Services
McClure One.

The Interventional Radiology (IR) team met twice to review and discuss the staffing initiative collaborative engagement.

-17 December 2020
-21 January 2021

VERMONT FEDERATION OF NURSES & HEALTH PROFESSIONALS

THE University of Vermont MEDICAL CENTER

Interventional Radiology USC Members

- Annie Beauchesne RN
- Allison Benjamin RN
- Tommie Bertoch RN
- Ariel Cota RN
- Heather Leckey RN
- Cheryl O'Toole RN
- Vicki Pelkey RN
- Katie Lyford RN
- Sarah Wood RN
- Heather McCuin RT
- Paula Gonyea RT
- Douglas Sutton RN

Components of USC Project Plan

- Unit/clinic profile: Interventional Radiology (IR) is located on McClure 1. We currently have five suites with different types of imaging capabilities including CT Scan, Fluoroscopy and/or Ultrasound. Our suites are staffed by a minimum of one nurse, one tech and one provider. Interventional Radiology cares for patients ranging from birth to death as well as varying levels of acuity. Our operating hours are Monday-Friday from 7:30-17:30. Anything after 1730, on weekends and/or holidays is considered call time. The call team comprised of one nurse, one tech and a physician with a response time of 30 minutes to the hospital.
- Minimum staffing levels: one nurse, one tech and a provider for every suite.
- Average Daily Census: An average of 14-25 cases a day varying in length, patient/procedure complexity and time. This would include prescheduled outpatient procedures/cases, inpatients, add-ons and emergencies and hospital to hospital transfers only for an IR procedure.
- Staff turnover/vacancy: Currently there are no open Registered Nurse positions. Historically, recruitment and filling open positions has been challenging resulting in open call shifts for the nursing staff to pick up.
- Required annual certifications: BLS, PALS, and ACLS are completed on a two year cycle.
- New Registered Nurse orientation is an average of eight weeks of precepted training which includes buddy call. This may differ from nurse to nurse depending on skills/ability and individual need.
- Analysis of time spent by nurses on nursing and non-nursing activities; stocking the procedure rooms, turning over/cleaning the room on-call and transporting patients.
- Analysis and recommendation of acuity process and/or tool: There is no pertinent acuity tool.
- Analysis and determination for Circulating RN(s) to enable Circulating RN(s) to facilitate meal/break coverage and assist in transfers/discharges in all critical, procedural and acute care units. Interventional Radiology provides a 1.0 FTE for the Charge Nurse position. To comply with our contract the care coordinator will longer count towards primary RN staffing in the grid, except in urgent situations.
- Staffing effectiveness data (see Article 20), including unit specific quality data and NDNQI RN satisfaction and Practice Environment results (slide 11)
- Clinic/Unit-specific quality data, including unit-based improvement initiatives (slide 12)
- Staffing data, including the unit budget (slide 14)
- Financial impact of the proposal (slide 15)
- Metrics to be used to measure the effectiveness of the USC Project (slide 16)

Timeline

- The USC Project plan must be completed and submitted to the Chief Nursing Officer of the Hospital and President the VFNHP within three (3) months of completion of project **(Inpatient: 11/20/2020; Ambulatory: 12/1/2020).** The manager will make reasonable time available for the committee to work on the written plan. Staffing plans developed under this Article 20B shall require approval by both the Chief Nursing Officer of the Hospital and President of the VFNHP. A decision on the memorandum of agreement shall be made within three (3) months of the submission of the final report **(2/22/21)**. A failure to reject the plan or provide specific reasons for the rejection by either party within three (3) months of submission shall be considered acceptance. Where a final USC Project plan is rejected in good faith by either party, the USC committee shall reconvene and submit a new final report within three (3) months. Either party may initiate mediation following the rejection of a report.

Interventional Radiology Division Unit Profile

- IR's operating hours are from 7:30-17:30 Monday-Friday. After 17:30, on weekends and holidays we turn into an on-call service with 24 hour coverage.
- The on-call service is 365 days a year and supports off hour emergencies and performing urgent procedures.
- The Interventional Radiology Department is a procedural area that does in excess of 35 different types of minimally invasive procedures that include, but are not limited to: Venous access, Angiograms, drain placements, paracentesis, thoracentesis, ablations, embolization's, stroke thrombectomy and biopsies.
- A procedural team consist of a Registered Nurse, Registered Radiology Technologist, and an Attending Radiologist/ Provider.
  - This service provides care to the Inpatient and Outpatient population including hospital to hospital transfers.
- IR procedures vary in their length of suite time and complexity as well as patient acuity.
- In the rare instance when a patient is too unstable to come down to Interventional Radiology, a nurse, tech and physician will go to the Operating Room or travel to the patients room.
- IR procedures are guided with the assistance of radiological imaging including Fluoroscopy, Ultrasound and/or CT Scan.
  - Some patients are provided moderate sedation under the collaborative care of a Registered Nurse and Attending Provider. Other cases are done without conscious sedation.
  - Some cases have fellows or residents who scrub into the procedure. Teaching cases may extend the anticipated length of the procedure.
- Pre-procedural preparation, includes but is not limited to; review laboratory values, NPO status, peripheral IV, prepping the room, prepping the patient, providing care and cleaning/turning over the room.
- Interventional Radiology also participates in clinical trials.
  - Neuro stents
  - Liver biopsies

Meeting Dates

- The Interventional Radiology team met twice to review the staffing initiative collaborative.

- -17 December 2020
- -21 January 2021

- These have been one hour sessions utilizing Teleconferencing assisted technology (MS Teams).

Minimum Staffing Levels Mitigation

- <u>Provide staffing pattern for low census/volumes.</u>

- In the event of low volume, no additional cases scheduled for the day, or when all cases have been completed RN staff is reduced by:
  - After checking with the current days on-call nurse, the call person from the night before is asked if they would like to leave.
  - Follow the collective bargaining unit agreement Article 20A

Minimum staffing levels defy quantification based on patient acuity, volume, hospital census, and emergent/urgent procedural needs.

Time Spent on Nursing vs Non-Nursing Duties

- There are minimal non-nursing activities performed at this time by the Registered Nursing staff in Interventional Radiology during normal operating hours.
  - The on-call team collaborates to provide safe level of patient care including some non-nursing duties.

- Nursing duties include running a procedure room for the entirety of their shift and working with one patient at a time, monitoring and sedating, until the case is complete.

- Most common non-nursing duties completed by Interventional Radiology nurses are:
  - Stocking rooms
  - Cleaning/Turning over a room on-call
  - Transporting patients

  The non-nursing duties fall within the scope of practice and suite readiness for the IR RN.

- Non-direct patient care duties the staff collaborate in are in some way a nursing function.
  - Teaching nurses on the floor
  - Teaching patients about their drains
  - Sim Lab- involving best practice research, sim lab module creation, demonstration of sim skills with staff participation, and follow-up discussion.
  - Sedation competency for the entire hospital (for procedural areas).
  - Stroke Audits
  - BLS instruction
  - Committee involvement
  - Pre-calls- For patients receiving sedation for their scheduled procedure.
  - Patient initiated phone calls with questions.
  - ACLS/PALS/BLS renewals
  - Hospital to Hospital transfers for the purpose of an IR procedure to return to previous facility post procedure. This may include components of arranging, facilitating and procedure readiness.

Analysis/ Recommendation of Acuity Tool/Process

- The level of acuity of the patient population is 95% stable and non-acute.
- Interventional Radiology provides procedural care to a population mix of Outpatients (60%) and Inpatients (40%).
- Acuity from patient to patient may differ requiring additional support for higher acuity patients. The charge nurse/circulator can function as an additional set of hands, resource for:
  - Mass transfusion requiring an additional nurse in the room
  - Trauma patients- Helpful to have a second nurse in the room.
  - Stroke- More hands we have the quicker we can open up an occluded vessel.
  - Anesthesia to support the case. Giving the nurse the ability to support anesthesia as well as the IR team.
  - Unanticipated events such as, contrast reactions, sepsis, respiratory and/or cardiac decline, agitation.
- As a tertiary care center, Interventional Radiology receives transfers from outside medical facilities for treatment. For example, we receive stroke transfers and traumas for higher acuity care. Other patients are able to return to the referring institution day of procedure.
- Some of our patients are given moderate sedation for their procedure, in accordance to the hospital policy.
  - Policy ANES00001
  - https://www.acr.org/-/media/acr/files/practice-parameters/sed-analgesia.pdf
- Built in time for Sim Lab training
- Built in time for new treatment device in-services and demonstrations.

Analysis for Nurse Circulator

- For critical, procedural, acute care units.
- The Interventional Radiology area provides a nurse to patient ratio of one (1) Registered Nurse to one (1) Patient. This staffing ratio of 1:1 is consistent with hospital policy for conscious sedation and credentialing agencies recommendations regarding Interventional Radiology suite staffing.
- The unit provides FTE support for the Charge Nurse. The charge nurse does not have an assignment in an angio suite and functions as a circulator in IR.
- Help with high acuity cases.
- Resource for staff in procedure room.
- This enables the IR charge/circulator to help support the nurses with: giving breaks, patient education, resource to staff, committee involvement, and collaboratively work with the IR clinic.
- The charge nurse works collaboratively to help assist in the movement of cases on the daily schedule.
- The Care Coordinator (CC) position is an evolving role to enable the full-time IR RN charge/circulator to focus on the immediate needs of the unit for the day. The CC role will focus on patient pre-calls giving the charge/circulator the ability to prioritize same day patient workflow.
- High quality patient care is our focus and commitment to our community. An increase in FTE will allow IR nurses the ability to thoroughly analyze the chart and make sure the patient is procedure ready. Subsequently, a committed charge/circulator nurse would allow for better patient care, room utilization and potentially safer for our patients.
  - Identifying any current anticoagulation therapy that may have been overlooked, abnormal lab values or npo status could reduce the potential for a complication.

Staffing Effectiveness Data

- The 2020 NDNQI results were very complimentary: Interventional Radiology nursing scored **above** the published peer mean in: Job enjoyment: **4.57** (mean 4.25) *up from 2019*, Access to Professional development: **4.29** (mean 4.25) *up from 2019*, and Autonomy: **4.63** (mean 4.25) *down slightly from 2019*.
- Recommended areas for improvement includes:
  - RN-RN Interaction **4.42** (mean 5.00) *up slightly from 2019*.
  - Inter professional Rollup **3.75** (mean 4.00) *down slightly from 2019*.

- Interventional Radiology's physical floor plan consist of five (5) separate and distinct imaging/procedural suites. Four Fluoroscopy rooms and one procedural CT scanner. Each room also has the ability to add an ultrasound unit when clinically necessary.
- Nurse staff turnover is cyclical. Currently, IR has no posted RN vacancies.
- One patient is attended to by an Interventional Radiology procedure team composed of a minimum of: Attending Radiologist/ Provider, Registered Nurse, Registered Technologist.
  - Interventional Radiology has two fellows who are also part of the team.
  - In the setting of a teaching hospital having fellows, residents, or medical students assist in cases and may result in prolonging the length of the procedure.
- The Interventional Radiology quality council is composed of: two nurses, two technologist, one medical assistant, one physician assistant, one physician, one cardiovascular nurse and a supervisor.
  - Members of the council change every two years.
  - The IR Quality Council meets quarterly and as needed to discuss process improvements, efficiencies and practice recommendations.
- Implement a yearly survey to discuss with nursing our staffing levels, needs or improvements.
- Present the Press Ganey scores at nursing staff meetings to discuss areas of improvement as well as areas we currently score well on.
- Current staffing grid does not allow for the unexpected nursing call out without affecting our patient care.
  - Audit tool to address:
    - Start times
    - Did any patients have to wait for their procedure and why?
    - How many patients waited for their procedure?
    - How much time did the patient have to wait?
    - The purpose of this audit would be to have a wait time of no more than 30 minutes with a goal of less than 15 minutes from their scheduled procedure time.

Interventional Radiology Specific Quality Data

- Interventional Radiology is responsible for a Primary Stroke service to support the network. Over the past 24 months the IR team has collaboratively worked with the stroke coordinator and Neurology team to set up a task force.
- To facilitate the constantly evolving required documentation to maintain our primary stroke certification an Interventional Radiology nurse audits all of our stroke cases, with a goal of 85% accuracy of required documentation, and gives feedback in a timely manner.
- The stroke task force has a large number of metrics provided by the American Heart Association used to measure program effectiveness. *These are available upon request*.
- The stroke task force meets at a minimum of quarterly to review the metrics, opportunities for improvement and prepare for targeted Joint Commission credentialing surveys.

Interventional Radiology Specific Quality Data (cont.)

- Interventional Radiology collaborates with Acute Care Surgery (ACS) to collect specific data required by JCAHO pertinent to ACS level one trauma center requirements. *These are available upon request*.

- IR has two nurses as members of our Interventional Radiology quality council. A Co-chair of this council is an IR nurse.

- IR has a Registered Nurse that is a co-chair, chair elect on the Peri-Operative Service Line in the Nursing Professional Governance structure.

- IR nursing staff are active members of the EPIC EMR process from conceptualization to the dynamic process of implementation with ongoing efforts to help support, train and troubleshoot Epic for the health network.

Current Staffing Plan including Ancillary Staff

- Current Staffing compliment for daily operations:
- Attending Provider Staff: 6.0 FTE (*Medical staff side*)
- Physician Assistant: 3.0 FTE (*Medical staff side*)
- Registered Nurse Staff: 7.4 FTE
  - 0.9 FTE does not start until April 5th 2021.
  - This includes all staff nurses, per diems and the care coordinator.
- Radiology Technologist: 7.7 FTE
  - Open 1.0 FTE position
- Medical Assistant: 2.9 FTE
- Inventory Controller: 1 FTE
- Quality and Consumer Service Consultant: .5 FTE
- Supervisor and Manager: 2.0 FTE

Current Staffing Data including Unit Budget

- Interventional Radiology measures and prepares an annual budget based on Procedure/Exam Volume: ***Budgeted 10,618*** (FY21)

- December 2020 (FY21) year to date: Budgeted: 2,641 Actual: 1,343
  - This reflects the impact of the Covid-19 pandemic and the subsequent Cyber-attack.

- FTE Year to date December:
  - Actual: 22 Budgeted: 24 This reflects the inability to recruit and fill one vacant 1.0 FTE IR nurse position and a 0.5 FTE IR technologist position.
    - The IR RN position is filled with a start date of 4/5/2021
    - The IR tech position is filled with an anticipated start date TBD.

Financial Impact of the Proposal

- Adding a **0.75** FTE (Registered Nurse)

- The impact to the annual budget would be seen in the expense line of the annual operating budget, related to benefits and salary. The difference equates to $78,286

- The Interventional Radiology Fiscal year 2021 had a budgeted FTE compliment of 24.0 FTE. The AMS recommended in the Labor benchmark development and staffing analysis be in a range of 21.80 to 27.03 FTEs.
- The AMS recommended range, staying within 27.03 FTEs allows IR staff flexibility to take vacations, attend conferences, educational offerings, etc.

- See attached Excel spreadsheet.

Metrics to Measure the Effectiveness of the USC Project Plan

- Indicator of staff satisfaction-
  - Full time position open for no more than two months. Per diem position open for no more than three months
  - Normal attrition- No more than one RN open position at a time.
  - NDNQI indicators for staff satisfaction at or above national average.
- Continued flexibility and adaptability of the staff to cover each other without impacting patient care.
  - ACLS/PALS/BLS completed in a timely manner
  - Committee involvement- The flexibility to allow all interested nurses to participate in one committee of their interest.
  - Stroke Documentation- Audits should be at least 85% compliant.
- Room utilization from the hours of 0800-1630
  - Goal of 60% room utilization.
  - Room turn over within 30 minutes.

Current Staffing Grid

- The staffing grid is based on operations Monday through Friday 0730 to 1730
- Attending Provider Staff: 7.0 FTE
- Physician Assistant: 3.0 FTE
- Registered Nurse Staff: 6.5 FTE as of April 7.4 FTE
  - 0.9 starts in April which was a filled position from Sept 2020.
  - This includes staff nurses, per diems and care coordinator.
- Radiology Technologist: 7.7 FTE
  - 1.0 FTE open position
- Inventory Controller: 1.0 FTE
- Medical Assistant: 2.9 FTE
- Quality and Consumer Service Consultant: 0.5 FTE
- Supervisor and Manager: 2.0 FTE

IR Current Staffing Grid	RN	RT	MAS	Inventory controller
			3	1
Suite 22	1	1		
Suite 23	1	2		
Suite 24	1	1		
Suite 25	1	1		
Suite 26	1	1		
Triage Desk		2		
Care Coordinator	1			

AMS Recommended (Target) Staffing Grid

- Review of the Applied Management Systems (AMS) reveals Interventional Radiology's current budgeted FTE level and projected changes are within the recommended target.

- AMS benchmarking suggest, a unit of this configuration should have a FTE complement range between 21.80 and 27.03 FTEs based on an annualized procedure volume of 10,595.

- Interventional Radiology's budgeted FY21 FTE is 24.

- The increase as recommended results in FY22 FTE of 24.9 with a monetary impact of $78,286.

Proposed Staffing Grid

IR Proposed Staffing Grid	RN	RT	MAS	Inventory controller		
			3	1		
Suite 22	1	1				
Suite 23	1	2				
Suite 24	1	1				
Suite 25	1	1				
Suite 26	1	1				
Triage Desk		2				
Charge Nurse	1					
Care Coordinator	1					
Recommendations from JVIR:						
When a nurse-to-bed ratio has been determined, this number should be multiplies by a factor						
of 1.2- 1.8 FTEs per staff position to account for staff vacations, sick time and educational leaves.						
Staffing levels should ideally be optimized by incorporation of staffing needs into a CQI program.						

https://www.jvir.org/article/S1051-0443%2816%2900283-9/pdf
https://www.acr.org/-/media/ACR/Files/Practice-Parameters/IRClin-Prac-Mgmt.pdf
The survey does not realize the net effects of recruiting.
On-call staffing is one nurse, one tech and a minimum of one provider.
Working per diems are utilized to cover vacation requests, orientation, projects and time off requests.
The IR USC review recommends the incorporation of one per diem position (0.15 FTE) into the proposed additional 0.75 FTE RN resulting in a 0.9 committed hours Interventional Radiology Nurse position.

Highlighted Changes

- The recommendation emerging from this review suggests incorporating the per diem Registered Nurse position to a committed hour position within the division of Interventional Radiology.
- Specifically, we would be incorporating an existing per diem (0.15 FTE) Registered Nurse position to a 0.9 FTE committed position. Resulting a net increase of 0.75 FTE.
- The rationale is to enhance the position to offer guaranteed hours and benefits to the applicants.
- Patient and staff safety is our top priority.
- Interventional Radiology's focus is patient safety. Therefore, prioritizing IR staffing ensures the ability to provide a safe, consistent, appropriate level of care.
- Full time Care Coordinator.
- This committed hour increase will allow:
  - The unit to have flexibility for summer vacations and time off.
  - The unit to have a separate charge nurse and care coordinator along with staff to fill every room.
  - It will give nurses the ability to get pre-calls done to our patients in a timely manner.
  - Answer patient phone calls.
  - The unit to be able to finish quality improvement projects as well as the ability to do more.
  - This increase will help facilitate the ability to get nurses breaks allowing an increase in procedure room utilization.
    - With a goal of 60% room utilization.

Time line and Deliverables

- Check in/progress update - schedule call with P. Gagne and D. Snell by **October 15, 2020**

- Final plans submission deadline:
  - **INPATIENT UNITS: November 20, 2020**
  - **AMBULATORY CLINICS: December 1, 2020**

- Submit to: CNO and President VFNHP
  - Scan as 1 document and email to Peg.Gagne@uvmhealth.org and debs@vfnhp.org

Project Plan Approval

May 3, 2021

Dear Radiology USC Team,
Thank you very much for your engagement and efforts in the Unit Staffing Collaborative (USC) project. We are happy to let you know that your USC project plan for a 0.75 FTE increase in RN staffing is approved, for implementation in FY 22. If there is an urgent need for the FTE addition prior to FY 22 (10/1/2021), please follow the position review/ approval process with your leadership team.
Going forward, your USC team is responsible for the implementation and ongoing monitoring of the effectiveness and progress of your staffing plans, review of any Concern Forms and submission of proposed changes/ reports to the Staffing Committee (see Article 20B).

Regards,
Peg and Deb

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