

A Model for assessing staffing needs for an Outpatient Parenteral Antibiotic Therapy (OPAT) program

Background

- Management of patients needing OPAT requires a multidisciplinary team for transitioning patients from inpatient to outpatient care, initiating OPAT in ambulatory setting, ongoing tracking and monitoring of labs, antibiotic levels, managing complications of the drugs and intravenous access, and communicating with patients, family, home infusion pharmacies, home care nursing agencies, insurance companies, and the patients’ physicians and other providers.
- In our program, a significant monitory of labs are done at a different institution and have be manually tracked and entered into our EMR.
- Furthermore, about a third of labs results are not sent directly to the ID physician, and active monitoring is required.
- In addition, documentation of each activity in the EMR is necessary.
- Programs often have support staff such as a nurse or pharmacist to perform many of these activities to ease the burden from physicians.
- Guidance is lacking on determining number of staff needed for an OPAT program.

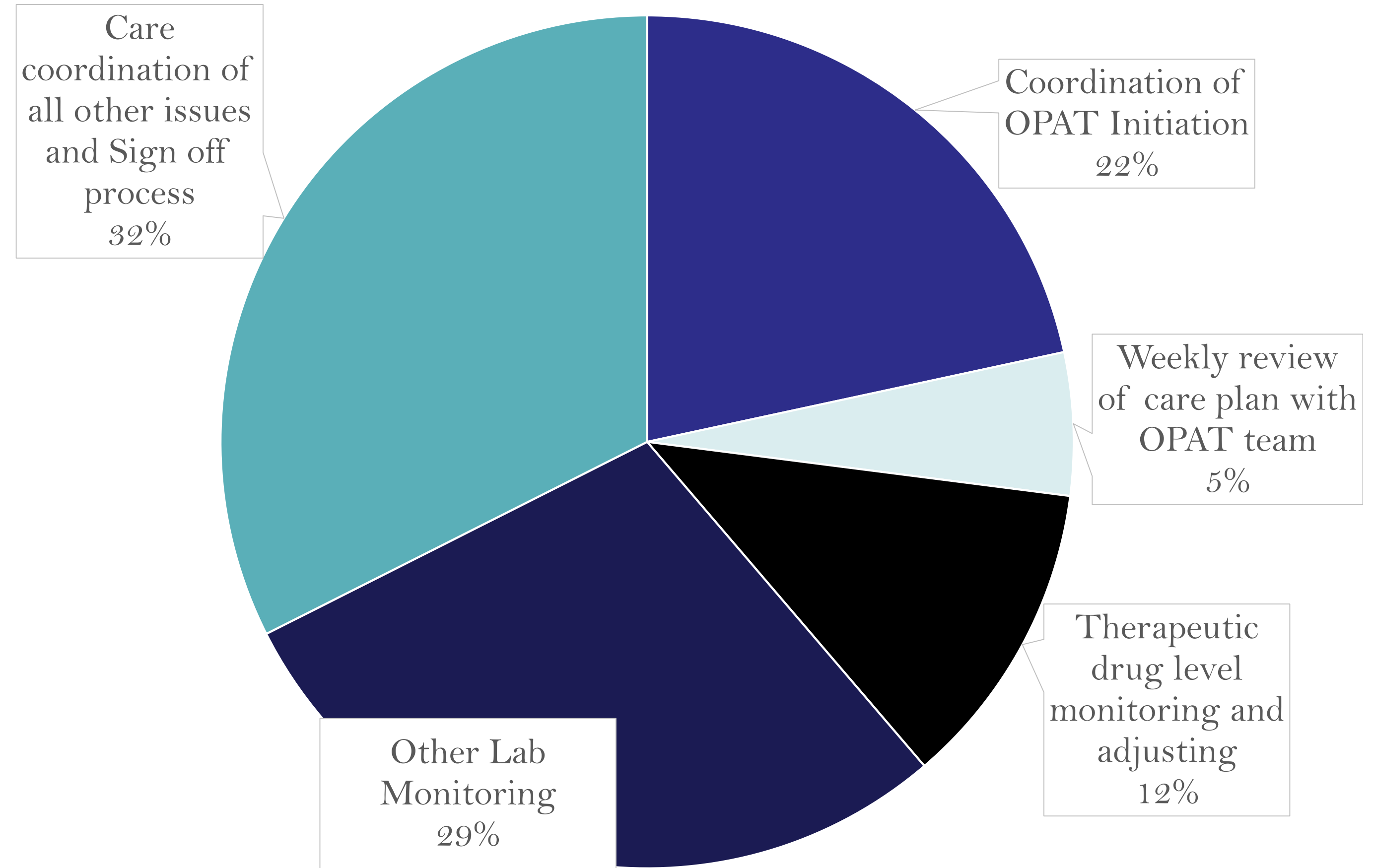
Methods

A step by step list of the various activities performed by OPAT nurse (RN) in our program was made. Time needed for each activity was determined. We calculated how many hours of nursing time would be needed per week to perform all the activities for patient care based on our OPAT volume.

Results

- In 2019 we enrolled 767 patients in 835 episodes of OPAT.
- Median duration on OPAT was 30 days.
- 98 (12%) episodes were started on OPAT as outpatients in the ID clinic
- 273 (33%) were on anti-infectives considered to have higher risk of toxicity and monitored more closely
- Weekly census averages about 120-135 patients, with about 50% on the high risk list.
- The OPAT RN workload was an average of 47.5 hours/week (range of 40-55 hours/week) (see table).
- Time per activity ranged from 5 minutes to 3 hours
- Greatest amount of time was spent on tracking labs and adjusting doses

Time spent on various activities



Conclusions

- The workload for OPAT RN in our program in 2019 exceeded > 1 full time RN time.
- This analysis allowed us to obtain funds for a second OPAT RN.
- We recommend that one RN can safely manage about 500-550 patients per year.
- Activities that involved greatest time was enrolling outpatients into OPAT, monitoring drug levels and adjusting doses, and tracking and manually entering outside labs into our EMR.
- Any OPAT Program can do such an analysis to determine their OPAT staffing needs based on breakdown of main activities and time needed
- Such analyses can help plan for the anticipated increases in OPAT volume in coming years based on increasing longevity of the population, increase in diabetes incidence, invasive procedures such as arthroplasties, cardiac devices, etc.

Limitations: This analysis underestimates staff time on OPAT patient care. It does not include time spent by inpatient staff to arrange for home care and home infusion services., nor does it account for ID pharmacist time, or the physicians and Nurse Practitioner time for management of issues aside from billable visits.

OPAT RN Activity Summary	Volume per week	RN Time per activity	Weekly average
Coordination for new Inpatient enrollees	15-16 patients	30 min/patient	7.5-8 hours/week
Coordination for new Outpatient enrollees	2 patients	2 hours/patient	4 hours a week
Weekly review of patients by OPAT team	120-135 patients	2-3 hours/week	2-3 hours/week
Track drug levels and coordinate dose adjustments	15-20 adjustments	20 min per dose change	5-6.5 hours/week
Track results of outside labs	30-35 patients	10-15 min/patient	5-8 hours a week
Manual entry of outside labs into EMR	30-35 patients	5 min/lab, 10-15 min/ patient	5-8 hours a week
All other issues (e.g. Access issues, adverse reactions, imaging needs, drain management, sign off process)	variable	10-30 min/issue	12-18 hours a week
		Total	47.5 ours/week Range 40-55 hours/week

***See poster #910585 at this conference for volume of non billable work done by OPAT staff in our program**