The Oncology Nursing Society (ONS) has conducted several member surveys that included questions about staffing but has not established nurse–patient ratios, given the number and complexity of variables that must be considered. The 2016 ONS member survey showed that staffing was the most frequently cited challenge in the practice setting. With the implementation of ONS Communities in 2017, members have the opportunity to network and connect about issues. Staffing in chemotherapy infusion centers has been a frequent topic.

**AT A GLANCE**
- With the transition of treatments to the ambulatory setting, determining staffing has become a critical factor in developing ambulatory infusion and chemotherapy centers.
- Results from the 2016 ONS member survey indicated that appropriate staffing levels are a pressing challenge for ONS members in practice.
- To date, no standard staffing model or nurse–patient ratio exist for ambulatory infusion and chemotherapy centers.

**KEYWORDS**
- nurse staffing models; nurse–patient ratios; chemotherapy staffing

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**Member Input**

**The challenge of staffing in ambulatory infusion settings**

Brenda Nevidjon, MSN, RN, FAAN

Determining inpatient and ambulatory nurse staffing is a complex undertaking for everyone from frontline nurse managers to the senior nurse executive of an organization. Inpatient staffing models have had a greater focus because of labor being the largest line item in a facility's budget and nursing being the largest percentage of that labor budget. The development and implementation of acuity tools has led to most hospitals using a commercial or homegrown tool to capture the intensity of care needed by patients (Welton, 2017). Nurse assignments are determined based on acuity ratings and other factors, such as nurse skills, expertise, and experience. Staffing has been shown to affect patient outcomes, most notably by Aiken (2017).

In the cancer care environment, with the transition of more treatments to the ambulatory setting, determining staffing has become a critical factor in developing cancer programs, particularly infusion and chemotherapy centers. The Oncology Nursing Society (ONS) increasingly has had questions sent to the clinical inquiry inbox about staffing for inpatient units and ambulatory settings, particularly chemotherapy treatment sites. The Association of Community Cancer Centers regularly has discussions in its forum about nurse staffing in the ambulatory setting (C. Downs, personal communication, June 2016). Optimal staffing levels and benchmarks are consistent across the clinical setting, but the answers are elusive because of the variable factors that must be considered. ONS does not provide staffing recommendations because of the diversity of ambulatory settings in which chemotherapy is administered. This article summarizes information that ONS has from surveys and forum discussions.

**Survey Results**

ONS has conducted member surveys about inpatient and ambulatory staffing. In the early 1990s, the focus was on salary, staffing, and professional practice in infusion centers, physician offices, and ambulatory clinics (ONS, 1990a, 1990b, 1992). A decade later, ONS again conducted a survey on the nursing workforce environment and staffing in inpatient and outpatient settings. Lamkin, Rosiak, Buerhaus, Mallory, and Williams (2001, 2002) reported that the nurses and executives who completed the surveys perceived that patient acuity and paperwork were increasing, and hospital lengths of stay were shorter. Following this report, ONS conducted an ambulatory office nurse survey, which was further narrowed to focus on chemotherapy treatment (Ireland, DePalma, Arneson, Stark, & Williamson, 2004). The majority of the respondents reported that the nurse–patient ratio was reasonable, no staffing tool was used, and patient volume and types of treatments were used for staffing decisions. Of note, 40% of respondents reported that they mixed the chemotherapy. One of the many recommendations from these survey responses was to develop a tool or to test existing tools that help with staffing plans.

**Challenges**

Results from the 2016 ONS member survey indicated the most pressing challenges members face in their practice.
Respondents could select any and all items from a list or add challenges. Of the 1,842 members who submitted a completed survey, 1,186 (64%) selected appropriate staffing levels or mix as one of their answers (see Table 1). Given the advancement of staffing acuity tools, including more that are electronic, the response was surprising to staff and the ONS Board of Directors. Coupled with the clinical inquiry calls about chemotherapy infusion center staffing, ONS, as an organization, initiated a project to better understand strategies and tools to improve the state of staffing levels and to develop resources that could be helpful to members (Matey, 2017).

In early 2017, ONS launched its Communities platform (http://communities-ons.org) that supports an online exchange of ideas, discussions, and networking among members. In the All ONS Member Community, the discussion about chemotherapy infusion center staffing led to the creation of a specific community site, ONS Ambulatory Staffing Initiative. Periodic and robust conversations continue to appear in the All ONS Member Community, with limited engagement occurring in the focused community. The following themes emerged in these discussions: scheduling process, patient acuity, and nurse responsibilities and workload.

Scheduling Process
From discussions on the ONS Communities sites, key components to improving infusion setting workflows include how patients are scheduled and how the schedule is managed throughout the day. Numerous posts to the Communities identified that the distribution of patients often exceeds capacity from 10 am to 2 pm, with low or lower use at earlier or later hours during the infusion center’s operational day. Many variables contribute to that scenario, including late arrival because of physician and laboratory appointment delays, patient preference for those hours, and unscheduled patients being added during the day.

A solution to the late arrival in some centers is to fit in the delayed patient when a chair is available but to give preference to patients who are on time. Working with staff who schedule patients also has helped some centers. Most schedulers are nonclinical staff, and developing descriptions of types of infusion visits helps them make better decisions about when in the day to schedule a patient. Some centers use templates that are features of their electronic health record. Discussion posts on ONS Communities noted specific scheduling technology that allows a patient to be scheduled to a specific chair. Others use electronic tracking systems that follow a patient from his or her first encounter through completion of the visit.

Because many factors contribute to efficient nurse–patient ratios, ONS does not recommend specific staffing ratios for practice.

Patient Acuity
Because many factors contribute to efficient nurse–patient ratios, ONS does not recommend specific nurse–patient staffing ratios for practice. Most descriptions of variables that charge nurses use to make assignments consistently cited patient acuity or intensity of the treatment regimen. Acuity can range from simple injections that take 15 minutes to multiple-drug regimens and close monitoring over five hours. Centers with acuity measures can balance nurse workloads by the mix of patients assigned to a nurse. Some respondents reported, on average, how many patients they cared for at a time and throughout the course of a shift. What is striking is the range in volume at some centers with fewer than 20 patients to those with 200 patients per day, including some patients on phase 1 or 2 clinical trials, which require more time for patient care.

Nurses’ Responsibilities and Workload
Variability in nurses’ responsibilities was also a theme in discussions on the ONS Communities. Not surprisingly, in large-volume centers, the priority nursing focus in the infusion center is clinical care of patients. Members reported that initial chemotherapy education was provided before patients began treatment, and then this education was reinforced by the nurse administering the chemotherapy. A charge nurse without a patient assignment was usual. This differed from nurses who said they gave initial education while administering chemotherapy, triaged telephone calls, helped with scheduling, communicated with community agencies, and participated in a myriad of other activities that added to their workload. Given that safety is critical in administering chemotherapy, activities that take a nurse away from direct patient clinical care are a concern.

Those making patient care assignments considered whether the assigned nurse was new or experienced in the practice setting. Discussions did not indicate if adding precepting responsibilities modified staffing or a clinical nurse’s patient care assignment. Discussion posts indicated that many centers use a nurse to chair strategy for assignments, but others have a type of primary nursing in which the nurse provides direct patient care to the same patients. Overall, the common ratio
mentioned in discussions was 1 nurse to 3 or 4 patients concurrently, with a total of 8–10 patients throughout the day. However, some nurses noted having to care for more patients concurrently because of the volume.

In the discussion posts, nurses frequently expressed concern about burnout because of heavy workload and schedules that, for some centers, required nurses to work additional shifts and on weekends. In settings without a medical assistant, nurses remarked that they had to “do it all.” The nursing shortage also was mentioned as a concern. No discussion posts indicated that nurses still were mixing chemotherapy. However, the content from these discussion posts overall differs from data results collected in the 2014 ONS survey.

Other Themes Noted by Members

From the discussion posts, medical assistants were included as staff or needed as additional hires. Most likely a reflection of state regulation, in some centers, medical assistants do laboratory draws and give injections. Most commonly, medical assistants help with patient needs and other work delegated by nurses. No posts mentioned volunteers, but they have been discussed in other settings, such as the Best Practice Exchange at ONS Congress.

In addition to chemotherapy administration as a role of clinical care, nurses also completed or assisted with a mix of other procedures administered in the ambulatory area identified by members. The consensus of posts reported that patients were not treated for infectious diseases in infusion centers. However, they may treat patients who did not have a cancer diagnosis. Most of these visits were for injections, hydration, iron replacement, or blood transfusions.

A few posts noted the physical layout of their infusion center; some referenced a pod configuration. Design and workflow are related, and visibility of patients to the nurses can be a safety concern, particularly if staffing is also an issue.

Productivity measurement was only noted briefly in discussions on the ONS Communities. According to posts, how productivity is measured appeared to vary by organization. Two measures noted were the number of visits and the number of patient minutes per full-time equivalent.

Conclusion

ONS has surveyed on the topic of nurse staffing several times, starting in the early 1990s. Most recently, the attention is on ambulatory chemotherapy infusion sites. Members asked for ratios and benchmarks, but ONS decided not to provide them, given the complexity of variables that need to be considered. As shown by the discussions on the ONS Communities sites, managers must take into account many patient- and nurse-related factors when developing staffing models. Through these discussions, members are developing profiles of different treatment sites and connecting with colleagues who share similar experiences.

Table 1. Practice Challenges Reported in the 2016 Oncology Nursing Society Member Survey (N = 1,842)

<table>
<thead>
<tr>
<th>WHAT ARE THE MOST PRESSING CHALLENGES YOU FACE TODAY IN YOUR PRACTICE?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate staffing levels and/or mix</td>
<td>1,186</td>
<td>64</td>
</tr>
<tr>
<td>Staff training and education</td>
<td>922</td>
<td>50</td>
</tr>
<tr>
<td>Sufficient patient care resources (e.g., social workers, administrative support services)</td>
<td>706</td>
<td>38</td>
</tr>
<tr>
<td>Compassion fatigue</td>
<td>661</td>
<td>36</td>
</tr>
<tr>
<td>Care coordination</td>
<td>583</td>
<td>32</td>
</tr>
<tr>
<td>Reimbursement issues</td>
<td>541</td>
<td>29</td>
</tr>
<tr>
<td>Patient access to care</td>
<td>343</td>
<td>19</td>
</tr>
<tr>
<td>Using electronic health records</td>
<td>336</td>
<td>18</td>
</tr>
<tr>
<td>Cultural and language barriers</td>
<td>294</td>
<td>16</td>
</tr>
<tr>
<td>Intimidation from other healthcare professionals (e.g., workplace bullying)</td>
<td>253</td>
<td>14</td>
</tr>
<tr>
<td>Workplace hazards (e.g., safe handling and related issues)</td>
<td>176</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>143</td>
<td>8</td>
</tr>
</tbody>
</table>

Note. Participants could select more than one response.

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The author takes full responsibility for this content. Nevidjon has previously served on speakers bureaus for Duke University in Durham, NC.

REFERENCES


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