

February 2008

Background

In summer of 2007, Network 11 participated in a national project to discover current practices with buttonhole cannulation. Of the 18 ESRD Networks, 14 took part in the project, with about 5,100 facilities participating. For more information on the national project, please visit www.fistulafirst.org.

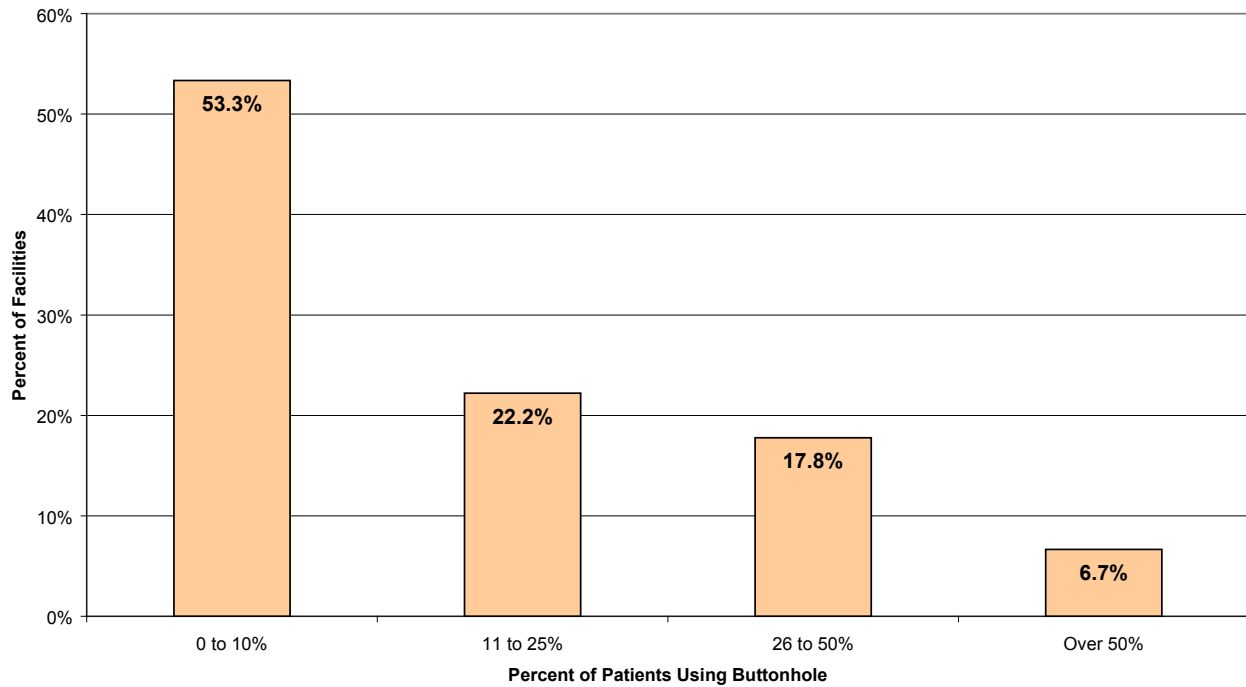
Method

All facilities in Network 11 were asked to participate in the Buttonhole Technique Scan. Questionnaires were sent to the nurse manager of each facility by email. Participants were asked to complete the questionnaire and return to Network 11's office by email or facsimile. A total of 146 (45%) facilities returned a completed Buttonhole Technique Questionnaire.

Results

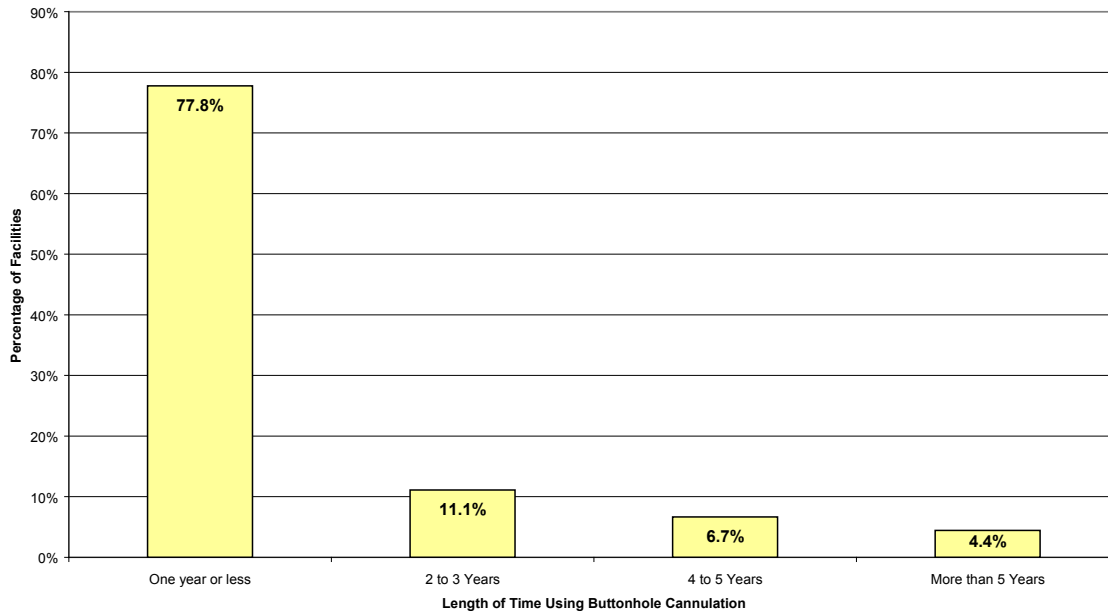
Use of Buttonhole Cannulation. In Network 11, about one-third (33%) of facilities who responded reported having at least one patient using the buttonhole technique for cannulation. Facilities had a varied use of the technique, ranged from 1 to 40 patients using the technique. In addition, 8 facilities cited using the buttonhole technique for arteriovenous grafts (AVG), in addition to arteriovenous fistulas (AVF). **Figure 1** shows the breakdown of the percentage of patients that use the buttonhole method of cannulation in Network 11 facilities. The majority of facilities use buttonhole for 10% or less of their patient population, but a small number of facilities have placed buttonhole as their primary cannulation method, using the method for as many as 88% of their patient population.

Figure 1. Percentage of Patients Using Buttonhole Cannulation in Network 11 Facilities



Of those facilities that reported using buttonhole cannulation, the amount of time each facility used the method varied, ranging from 2 weeks to 8 years. The average length of time for all Network 11 facilities was 4.3 years. **Figure 2** shows the breakdown of buttonhole experience, with the majority of facilities (78%) performing the buttonhole method less than 1 year.

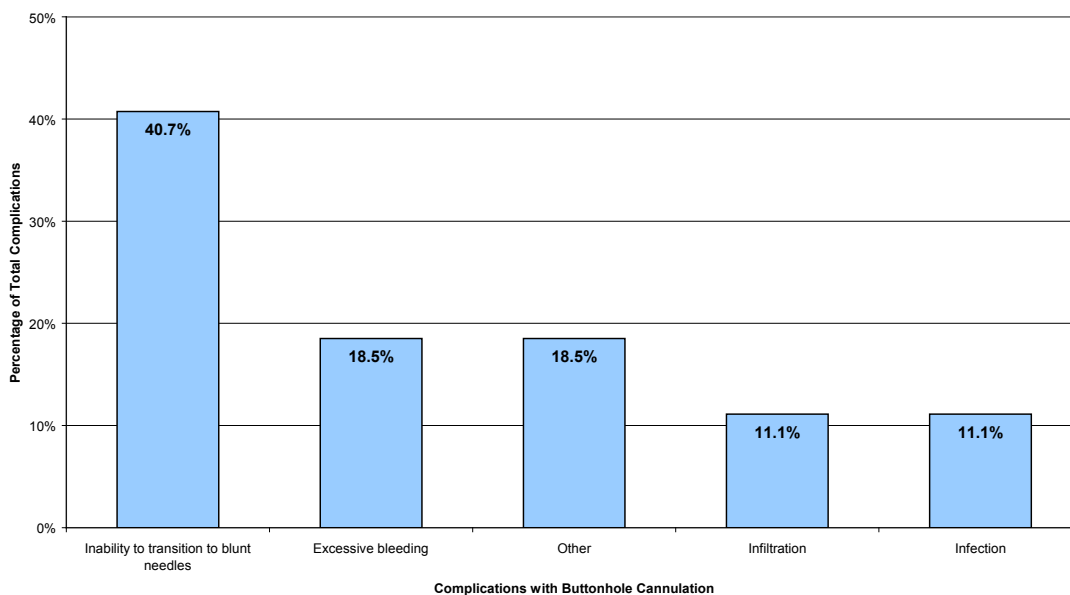
Figure 2. Length of Time Using Buttonhole Cannulation in Network 11 Facilities



Complications with Buttonhole Technique. The majority of facilities (61%) stated that they have had no complications using the buttonhole method of cannulation for their current patient population. Those facilities citing no complications (91%) have almost exclusively been practicing buttonhole cannulation for under one year. Those facilities who reported complications cited a wide range of experience with buttonhole cannulation, ranging the full spectrum of 2 weeks to 8 years, with an average of 2.5 years.

Facilities that reported complications gave a variety of reasons. A total of 27 complications were cited, with the majority (41%) being the inability to transition to blunt needles. **Figure 3** gives the

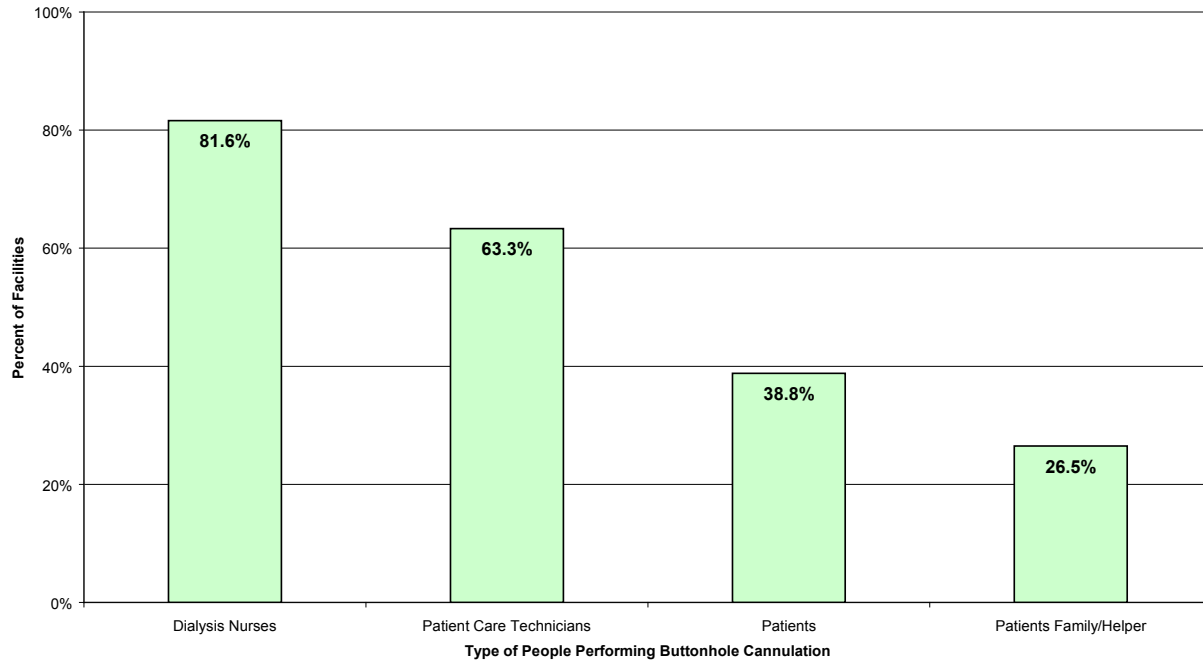
Figure 3. Complications Using Buttonhole Cannulation in Network 11 Facilities



remaining breakdown of complications experienced. Other complications cited include the development of multiple tracts, development of blood clots, leaking around needle sites, vessel bloodflow problems, and the inavailability of staff to perform the cannulation.

Buttonhole Cannulators. The majority of facilities reported the use of multiple cannulators using the buttonhole method. **Figure 4** shows the varying facility practices, but the majority of facilities use dialysis nurses and patient care technicians to cannulate buttonhole sites, with some facilities also using patients and/or their family member to cannulate the buttonhole sites.

Figure 3. Types of Buttonhole Cannulators in Network 11 Facilities



Staff Training. Facilities reported using multiple methods to train staff to perform buttonhole cannulation. The majority of facilities (53%) reported using inservices at the dialysis facility, with other training options included, such as vendor training, training offered within their dialysis corporation, and training offered by the Network. As facilities implemented the buttonhole method of cannulation, further educational offerings were used to augment the initial training, including training offered at national conferences, regional workshops offered through the Network, ANNA (American Nephrology Nurse Association), or vendors, scientific journal articles, and web sites. Of all of these options, facilities cited websites (43%) as the resource most used for staff education.

Conclusions

Although a strong number of facilities in Network 11 have expressed interest in buttonhole cannulation, only a third of respondents reported actually using the method in their facility. Occurrence of complications are few, but present in those facilities who have used the buttonhole method for a longer period of time. Both consumers and dialysis staff are participating in this method of cannulation, and many facilities have used the multiple educational resources available on the web and at national, regional, and local workshops. As the use of buttonhole cannulation technique gains further interest, this education and support will be called upon to make this Fistula First strategy a success for a greater number of facilities.