

# Peripheral intravenous catheter/cannula (PIVC)-related infections

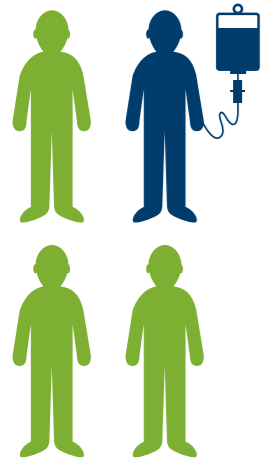
## Worldwide, over 1 billion PIVCs are used every year

for the administration of fluids, medication, blood products and contrast media. It is the most commonly performed invasive procedure in hospitalised patients.<sup>1</sup>



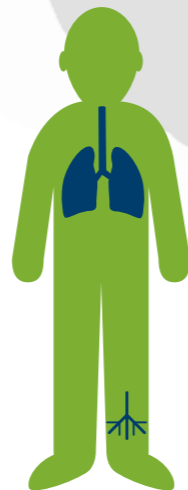
Adult PIVC

Up to 80% of hospitalised patients receive at least one PIVC during their hospital stay.<sup>2</sup>



In New Zealand and Australia, up to 1 in 4 PIVCs remain in place after they are no longer needed.<sup>9</sup>

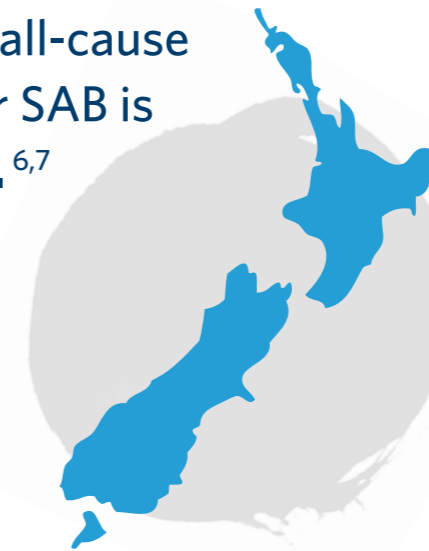
Up to **50%** of PIVCs fail before completion of therapy due to complications.<sup>3,4</sup>



Complications of PIVC include: **infection, occlusion, infiltration, dislodgement, phlebitis, extravasation, haematoma and air embolism.**

At least 1 out of 5 healthcare associated *Staphylococcus aureus* bacteraemia (SAB) cases are linked to PIVC in New Zealand.<sup>5</sup>

The 30-day all-cause mortality for SAB is **20%-26%**.<sup>6,7</sup>



As of 2010, for every case of HA-BSI (healthcare associated bloodstream infection), the cost to the health system was

**NZ\$20,394<sup>8</sup>**



New Zealand Government



### REFERENCES

- Alexandrou E, Ray-Barruel G, Carr PJ, et al. 2015. International prevalence of the use of peripheral intravenous catheters. *J Hosp Med* 10(8): 530-3.
- Zhang L, Cao S, Marsh N, et al. 2016. Infection risks associated with peripheral vascular catheters. *J Infect Prevention* 17(5): 207-13.
- Helm RE, Klausner JD, Klemperer JD, et al. 2015. Accepted but Unacceptable: Peripheral IV Catheter Failure. *J Infus Nurs* 38(3): 189-203.
- Wallis MC, McGrail M, Webster J, et al. 2014. Risk factors for peripheral intravenous catheter failure: a multivariate analysis of data from a randomized controlled trial. *Infect Control Hosp Epidemiol* 35(1): 63-8.
- Source of SAB data from DHBS; 2017.
- Turnidge JD, Kotsanas D, Munchhof W, et al. 2009. *Staphylococcus aureus* bacteraemia: a major cause of mortality in Australia and New Zealand. *MJA* 191(7): 368-73.
- Stuart RL, Cameron DRM, Scott C, et al. 2013. Peripheral intravenous catheter-associated *Staphylococcus aureus* bacteraemia: more than 5 years of prospective data from two tertiary health services. *MJA* 198(10): 551-3.
- Burns A, Bowers L, Pak N, et al. 2010. The excess cost associated with healthcare-associated bloodstream infections at Auckland City Hospital. *NZMJ* 123(1324): 17-24.
- Alexandrou E, Ray-Barruel G, Carr PJ, et al. 2018. Use of Short Peripheral Intravenous Catheters: Characteristics, Management, and Outcomes Worldwide. *J Hosp Med* (online only). URL: [www.journalofhospitalmedicine.com/jhospmed/article/166494/hospital-medicine/use-short-peripheral-intravenous-catheters-characteristics](http://www.journalofhospitalmedicine.com/jhospmed/article/166494/hospital-medicine/use-short-peripheral-intravenous-catheters-characteristics) (accessed 5 June 2018).