

## **This study demonstrates that multimodal prevention strategies aiming at improving CVC insertion practice and HH reduce CRBSI in diverse European ICUs” van der Kooi (2017).**

Abstract:

**PURPOSE:** To test the effectiveness of a central venous catheter (CVC) insertion strategy and a hand hygiene (HH) improvement strategy to prevent central venous catheter-related bloodstream infections (CRBSI) in European intensive care units (ICUs), measuring both process and outcome indicators.

ReTweet if useful... Article examines strategies that aim to improve CVC insertion practice  
[@ivteam #ivteam](https://ctt.ec/BXdQf+)

Click To Tweet

**METHODS:** Adult ICUs from 14 hospitals in 11 European countries participated in this stepped-wedge cluster randomised controlled multicentre intervention study. After a 6 month baseline, three hospitals were randomised to one of three interventions every quarter: (1) CVC insertion strategy (CVCi); (2) HH promotion strategy (HHi); and (3) both interventions combined (COMBi). Primary outcome was prospective CRBSI incidence density. Secondary outcomes were a CVC insertion score and HH compliance.

**RESULTS:** Overall 25,348 patients with 35,831 CVCs were included. CRBSI incidence density decreased from 2.4/1000 CVC-days at baseline to 0.9/1000 ( $p < 0.0001$ ). When adjusted for patient and CVC characteristics all three interventions significantly reduced CRBSI incidence density. When additionally adjusted for the baseline decreasing trend, the HHi and COMBi arms were still effective. CVC insertion scores and HH compliance increased significantly with all three interventions.

**CONCLUSIONS:** This study demonstrates that multimodal prevention strategies aiming at improving CVC insertion practice and HH reduce CRBSI in diverse European ICUs. Compliance explained CRBSI reduction and future quality improvement studies should encourage measuring process indicators.

Reference:

van der Kooi, T., Sax, H., Pittet, D., van Dissel, J., van Benthem, B., Walder, B., Cartier, V., Clack, L., de Greeff, S., Wolkewitz, M., Hieke, S., Boshuizen, H., van de Kasstele, J., Van den Abeele, A., Boo, T.W., Diab-Elschahawi, M., Dumpis, U., Ghita, C., FitzGerald, S., Lejko, T., Leleu, K., Martinez, M.P., Paniara, O., Patyi, M., Schab, P., Raglio, A., Szilágyi, E., Ziętkiewicz, M., Wu, A.W., Grundmann, H. and Zingg, W. (2017) Prevention of hospital infections by intervention and training (PROHIBIT): results of a pan-European cluster-randomized multicentre study to reduce central venous catheter-related bloodstream infections. *Intensive Care Medicine*. December 16th. .

doi: 10.1007/s00134-017-5007-6.

**Thank you to our partners for supporting IVTEAM**