Abstract:

Objectives: 1) To investigate the current practice in point-of-care ultrasound use in PICUs across Europe; 2) to understand the barriers for point-of-care ultrasound implementation in the clinical practice; 3) to identify existing point-of-care ultrasound training programs; and 4) to assess training needs.

Design: Cross-sectional electronic survey.

Subjects: Medical directors of European PICUs.

Measurements and main results: The response rate was 42.3%; 142 of the 336 invited PICU medical directors from 26 European countries completed the survey. The clinicians in almost all the PICUs across Europe were reported to use point-of-care ultrasound in some form. A significant variation in the clinical practice according to the patient characteristics and presence of a fellowship training program was observed. PICUs with cardiosurgical patients reported using point-of-care ultrasound significantly more often than others. Ultrasound-guided vascular access was the most common point-of-care ultrasound indication, except in PICUs providing joint care for neonates and children. Units with a fellowship training program reported an increased use of point-of-care ultrasound for hemodynamic evaluation, during resuscitation and a positive impact on collaboration with imaging specialties. Although no barrier was deemed substantial to impede point-of-care ultrasound implementation, a number of potential hindrances to its implementation were reported—such as lack of formal training curriculum, collaborative learning opportunities, and quality assurance processes. Bedside informal teaching in point-of-care ultrasound was reported the most common method to acquire point-of-care ultrasound skills.

Conclusions: Point-of-care ultrasound is being used extensively across heterogeneously organized PICU settings in Europe. However, there remains a significant variation in the clinical practice across the units. Clear needs for improved point-of-care ultrasound training programs and clinical governance structure were identified. Evidence-based point-of-care ultrasound guidelines, structured training programs dedicated to neonatal and pediatric intensive care settings, and educational research in point-of-care ultrasound use may help in strengthening clinical governance, making clinical practice uniform and enhancing quality assurance.

Reference:

Ultrasound-guided VA is the most common type of point-of-care ultrasound.