Title: *Using a mobile application for parents to track kangaroo care metrics during neonatal intensive care unit hospitalization*

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Background: Family Integrated Care (FICare) is a novel package of evidence-based interventions that enables parents to more effectively become primary caregivers for their preterm infants in the neonatal intensive care unit (NICU). As part of a multi-site trial of FICare in California, United States (US), a mobile application (We3health app) was developed to support families during their NICU stay. Because FICare strongly promotes kangaroo care (KC), We3health includes a module for tracking KC. This analysis describes relationships between parent and infant characteristics and KC activity recorded in We3health.

Method: Parents of preterm infants <33 weeks gestation enrolled in the baseline (usual care) phase of the study completed an online survey and used We3health to record frequency, duration and subjective experience with KC from the time of study enrollment until discharge.

Results: At present, 66 parents (61 mothers; 5 fathers) from three of the NICUs have both survey and We3health data for analysis. KC was unrelated to parent race, gender, prior NICU or child hospitalization, infant gestational age or length of NICU stay. However, parents unable to see their baby within 1 hour (p=.006) or hold their baby within 24 hours (p=.036) after birth reported significantly fewer KC days. Associations between early parent-infant contact and KC frequency remained significant after controlling for infant gestational age.

Conclusions: Early parent-infant contact within 24 hours of birth is an important factor influencing KC frequency and duration. Evidence-based, protocol driven quality improvement strategies are urgently needed to improve early parent-infant contact for preterm infants.