When implementing strategies to improve integration, it is useful to have measures capable of assessing it. Informed by Singer et al.’s Integrated Care Framework (2011), we developed a 21-item questionnaire of Provider and Staff Perceptions of Integrated Care (PSPIC) according to the Framework's seven constructs: 1) care coordination within clinic, 2) coordination with external providers, 3) coordination with community resources, 4) familiarity with patients, 5) contacting patients between office visits, 6) patient-centered care, and 7) shared responsibility. Each construct was represented within the PSPIC by domains containing three questions; each question had five ordinal responses (Strongly Disagree=1, Disagree=2, Neither Disagree or Agree=3, Agree=4 and Strongly Agree=5). To develop the PSPIC we reviewed care integration literature, undertook pre-testing, and obtained feedback from research partners and clinicians via group meetings focused on the face validity and potential utility of the PSPIC.

This paper discusses the development and testing of the PSPIC administered as part of a cross-sectional survey of providers and staff at federally-qualified health centers and other safety net clinics in the US. The MidWest Clinicians’ Network (MWCN; a network of federally-qualified health centers and other safety net clinics) provided investigators with a list of all health providers and staff at 101 health centers affiliated with the MWCN in 10 Midwestern states: Illinois, Iowa, Indiana, Kansas, Minnesota, Michigan, Missouri, Nebraska, Ohio, and Wisconsin. Questionnaires were mailed to all personnel. We aimed to determine, by undertaking exploratory factor analysis (EFA), whether the PSPIC had an underlying latent structure which may be useful in understanding care integration. Following EFA, confirmatory factor analysis (CFA) was undertaken. Item analyses were undertaken to examine the convergent and divergent properties of the questions within each of the seven Integrated Care Framework domains.

Questionnaires were sent to 2,604 providers and staff from 101 health centers. Following repeated mail-outs, 781 (30%) people from 97 health centers responded. Of these, 380 were randomly allocated to the EFA group and 401 to the CFA group. The EFA suggests four latent factors. Factor 1
was labelled as ‘Teams and Care Continuity’; Factor 2 as ‘Patient Centeredness’; Factor 3 as ‘Coordination with External Providers’, and Factor 4 as ‘Coordination with Community Resources’. The CFA model confirmed these factor groupings. For the total sample, Cronbach’s alpha exceeded 0.7 for each latent factor (α=0.82, α=0.87, α=0.75 and α=0.88 respectively). Additionally, descriptive responses to each of the 21 PSpIC questions appear to have potential in identifying areas that providers and staff recognize as care integration strengths, and areas that may warrant improvement. For example, most respondents were not strongly agreed that they: coordinated care effectively with external providers (12% strongly agreed); were well-informed about patients’ social needs (8.4%), or routinely helped patients manage their chronic conditions (9.2%). Opportunity for improvement appeared to exist across all PSPIC 21 items.

The Integrated Care Framework, and findings from the PSpIC measure, support the current emphasis on improving the patient-centeredness of health services, together with ongoing care coordination efforts, in providing services that are truly integrated for patients.

**Keywords:** integration; coordination; care management; survey