

2016

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## Citation: Pilot Scholars Version (Modified MLA Style)

Anderson, Meg and Dillard, Laura Iwata, "Small Numbers, Big Impact: Collaborating with a Coordinated Care Organization to Initiate Pediatric Developmental Screening at a Primary Care Practice" (2016). *Nursing Graduate Publications and Presentations*. 10. [http://pilotscholars.up.edu/nrs\\_gradpubs/10](http://pilotscholars.up.edu/nrs_gradpubs/10)

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Small Numbers, Big Impact: Collaborating with a Coordinated Care Organization to Initiate  
Pediatric Developmental Screening at a Primary Care Practice

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### Abstract

**Background and Purpose:** The purpose of this project was twofold: to develop and implement a process for developmental screening using the Ages and Stages-3 (ASQ-3) tool in a small primary care clinic affiliated with a Coordinated Care Organization (CCO); and to explore the potential for collaboration between Doctor of Nursing Practice (DNP) students and community care organizations (CCOs) responsible for the quality-metrics in their respective regions.

**Methods:** DNP students partnered with clinic staff and a CCO to create clinic-specific training materials and workflows, including a PowerPoint, electronic health record (EHR) template, and in-personal training sessions. During implementation, children scheduled for well child appointments aged five years and younger were screened using the ASQ-3 questionnaire and data was collected for 10 weeks.

**Conclusion:** 100% of eligible children (five total) were screened and appropriately documented in the EHR. No children required referrals for failing scores.

**Implications for Practice:** Developmental screening with the ASQ-3 tool is a practical strategy to monitor the growth and development of children served by primary care clinics. DNP prepared advanced practice nurses are uniquely prepared to implement these sustainable practice improvement initiatives. Collaboration between DNP students and CCO clinics provides mutually beneficial opportunities to improve population health outcomes.

## **Background**

In 2012, Oregon took a bold step in Medicaid reform by establishing a new system of coordinated care organizations (CCOs) designed to manage rising costs and improve health outcomes for recipients of state-backed coverage (McConnell, 2016). CCOs are regional networks of physical, mental, and dental healthcare providers responsible for delivering comprehensive care to Oregon Health Plan (OHP) members located within a defined area of service (Oregon Health Policy Board, n.d.). Each CCO is afforded a capitated budget to be used for comprehensive services for health plan members and must track and report data such as costs, payments, health outcomes and quality measurements (Howard et al., 2015). CCOs who meet specific quality metrics are awarded additional financial incentives (Barr, 2015). In addition, CCOs aim to increase community engagement by establishing community advisory councils and including input from seniors, people with disabilities, and local consumers from diverse backgrounds in the organizational decision making process (Howard et al., 2015). Each CCO, therefore, is designed to increase accountability, track and improve quality, and better integrate care (Howard et al., 2015).

Oregon currently has 16 CCOs responsible for tracking and meeting 17 CCO incentive quality metrics and 16 state performance metrics (Oregon Health Authority [OHA], n.d.). The potential financial incentives for meeting metrics are a powerful motivator for quality improvement, yet the aggressive pace of change often required to reach benchmarks can be intimidating to many individual clinics and providers. For our Family Nurse Practitioner (FNP), Doctor of Nursing Practice (DNP) project, we collaborated with a small primary care clinic struggling to meet a CCO quality metric for early childhood developmental screening. This article describes the creation and implementation of a multidisciplinary developmental screening

workflow using the Ages and Stages-3 (ASQ-3) questionnaire, and a discussion of the potential for future collaboration between DNP-prepared students and CCOs.

### **Methods**

In the summer of 2015, we initiated communication with the manager of a small, independently operated primary care clinic in the Yamhill CCO about partnering on a quality improvement project. The manager identified that her clinic was struggling to meet a CCO quality metric requiring yearly screening for developmental delay in the first 36 months of life for at least 50% of OHP members (OHA, n.d.). The clinic had pre-selected the state-approved ASQ-3 screening tool but had not formally developed a workflow for this tool. As a result, the clinic had only successfully completed and documented one screening on a CCO member aged 0-3 years. Although this reached the 50% metric for the primarily adult and geriatric clinic (representing 1 out of 2 eligible pediatric CCO members), the manager was anticipating accepting new pediatric patients and needed to develop a more formal process of screening.

There is no universally accepted developmental screening tool appropriate for all ages and populations, but the ASQ-3 is consistently referenced by numerous professional guidelines. The ASQ-3 is a parent-completed screening tool for children ages 2 months to 5 years, and examines five developmental domains: communication, gross motor, fine motor, problem solving, and personal-social (ASQ-3, 2014). We evaluated literature on the validity and reliability of the ASQ-3 and, for comparison, the Parents' Assessment of Developmental Status (PEDS) tool. Sensitivity and specificity of ASQ-3 was found to be strong, respectively between .75-.98 and .78-.83 across test domains (Limbos & Joyce, 2011). Additionally, the ASQ-3 had both a superior sensitivity and specificity when compared to the PEDS (.44-.78 and 0.63-0.81) across test domains (Limbos & Joyce, 211).

Studies examining the use of ASQ-3 screening in clinical settings have also found the tool to be effective. A study by Roan, Valleley and Allen (2012) demonstrated that physicians were more likely to initiate referrals to specialists if given hypothetical vignettes with positive ASQ-3 scores indicating possible developmental delay. Another study found that the use of ASQ-3 screening at 12- and 24-month well-child visits within the PeaceHealth Medical Group in the Pacific Northwest increased referral rates by 224% (Hix-Small, Marks, Squires, & Nickel, 2007). Furthermore the ASQ-3 was found to be more sensitive than provider judgment, and 67.5% of children identified as needing further evaluation based on ASQ-3 scores would have been overlooked based on clinical observation alone (Hix-Small et al., 2007). Based on this evidence, we determined that the pre-selected ASQ-3 screening tool was appropriate for implementation at the clinic.

ASQ-3 workflow and training materials for this project were developed out of multiple interviews with key clinic stakeholders, such as the manager and lead medical assistant, about the characteristics and needs of the clinic. The Yamhill CCO Primary Care Innovation Specialist, responsible for acting as a coach and liaison between the CCO and its clinics, provided an example workflow and a training PowerPoint used at another site that was modified based on input from staff interviews (see Appendix A, Figure A1). After key staff had approved the modified workflow, a template was created in the clinic's electronic health record to document and track ASQ-3 screening scores in patients' medical record. In order to adhere to best practice and capture as many pediatric patients as possible, the scope of the project was expanded to include children ages 0-5 years, as well as those who were not CCO members and had private insurance coverage. Two project goals were established: 1) screen at least 75% of all children aged five years and younger at routine wellness exams, and 2) establish a monitoring or referral

plan for 100% of children identified to be at risk for developmental delay. Approval was then obtained from the university's IRB.

An overview of the project was provided to clinic staff during an all-staff meeting and was followed by role-specific training sessions for medical assistants, reception staff, and providers. Refer to Appendix A, Figure A1 for information on role-specific duties. Training curriculum consisted of didactic training and hands-on practice guided by DNP-student project leaders. Three copies of a resource binder were also provided to staff and included clinic-specific workflow instructions, a copy of the training PowerPoint, as well as general information on ASQ-3 screening made publically available by the publisher. The workflow was implemented one week after training occurred on the following Monday. The data collection period lasted 10 consecutive weeks and included weekly visits to the clinic by DNP-student project leaders who provided staff the opportunity to receive support and ask questions about the workflow. Anonymous formative and summative surveys were collected from staff midway and at the end of the data collection period. These surveys were distributed in order to collect staff input on the training and implementation process and to help create recommendations for future sustainability of the practice change.

### **Results**

Five children eligible for developmental screening had appointments during the 10-week data collection period. Of those five, all were appropriately screened with results documented in the electronic health record. One child's ASQ-3 screening results were suggestive of a possible developmental delay, however this child was already receiving services for the identified problem areas and did not require additional referrals. The remaining four children met their developmental targets and did not require further monitoring or referrals.

### **Discussion**

Results from this project indicate that the clinic successfully incorporated an ASQ-3 screening workflow into their clinic operations. Data collected by the CCO in the weeks succeeding the DNP project timeline revealed that the clinic had increased its overall CCO member screening rate to 91% (10 out of 11 eligible pediatric CCO members), effectively sustaining the practice change even as its pediatric population grew. This practice change allowed the clinic to exceed CCO metric requirements and helped them remain eligible for critical monetary incentives. The small sample size of this project may be due to a number of factors. The clinic historically served adult and geriatric patients, the manager was expecting an influx of new pediatric patients after the expected close of a nearby pediatric office. The timing of the data collection period occurred just after the start of the school year and coincided with winter holidays, thus, missing the busiest time for pediatric appointments. In addition, one of the three providers left the clinic, leaving a staffing shortage requiring the clinic to prioritize acute over routine appointments. Qualitative data collected during the implementation period suggested that staff were generally very satisfied with the workflow and felt supported throughout the process. One reception staff member suggested that more training may have been helpful and a medical assistant noted that the ASQ-3 screening tool might be long and cumbersome for parents to complete. All staff indicated that the practice change was likely to be sustained in the clinic.

### **Implication for Practice**

Undiagnosed and untreated developmental delays can set the stage for years of academic and social setbacks, preventing children from reaching their full potential and perpetuating social disparities (Ozkan, Senel, Arslan & Karacan, 2012). Yet, early identification and treatment of



developmental delays, particularly in the first three years of life, can significantly improve outcomes for children (Sices, 2007). Oregon has established developmental screening as a priority for children served by its Medicaid program by adopting screening rates as one of 17 incentive metrics. While the data tracking and monetary incentives provided by the CCO are strong motivators, some clinics may struggle with initiating practice change while managing the pressures of routine clinic operations. The state has established ambitious timelines for cost savings, and some clinics lack operational plans to meet these goals (Stecker, 2014). In particular, solo and small group practices may lack the infrastructure or capital needed to easily tackle significant practice changes. Yet, the pace of change also provides rich opportunities for collaboration and innovation between community partners and CCOs.

Organizational and systems leadership is one of the core essentials of DNP preparation. Specifically, DNP graduates are expected to be knowledgeable in quality improvement strategies, skilled in evaluating the impact of policies, and able to develop innovative practice delivery models to meet emerging needs (American Association of Colleges of Nursing, 2006). In terms of numbers and patients served, the scope of this practice change is modest. However, the project has the potential to broadly impact the growing pediatric population served by the YCCO clinic by establishing a sustainable structure for developmental screening. The success of Oregon's Medicaid reform will be determined by macro and meso-systems level data, but ultimately the core of quality improvement begins with these micro-level changes in individual clinics.

There is rich potential for future collaboration between DNP students and CCOs. From the student perspective, the YCCO site in this project provided a valuable opportunity to develop experience leading multidisciplinary practice change with real-life parameters and

constraints. While some student colleagues have had difficulty finding project sites receptive to practice change or committed to sustaining a project, clinic leaders in this project were eager to develop mutually beneficial practice change goals and viewed DNP student involvement as a valuable resource rather than an imposition. CCOs are also typically connected with a Primary Care Innovation Specialists or a practice coach who is responsible for providing technical assistance and training in areas related to primary care medical home development. These specialists are vital resources who maintain relationships with each site and can identify those clinics that might benefit most from DNP student led practice change. Prior to engaging in a practice change partnership, however, DNP students should be aware that CCOs have set priorities and quality measures that may or may not align with student objectives. Although it may be enticing to utilize a CCO quality metric as an external motivator to drive a project, DNP students will need to independently evaluate CCO initiatives and supporting evidence prior to engaging in a partnership.

### **Conclusion**

Collaboration between DNP students and CCOs can be a mutually beneficial experience that creates micro-level changes supporting statewide improvements in population health outcomes. As Oregon's new Medicaid system continues to develop and grow, collaboration is likely to become even more impactful. Data from mid-2015 indicates that Oregon's CCOs have demonstrated improvements in areas such as reduced emergency department visits, increases in pediatric development screening, and increases in alcohol and substance abuse screening (Oregon Health Authority, 2016). However, some of these preliminary successes might be attributed to a declining trend in overall healthcare spending and the use of more easily achievable quality goals as the first CCO metrics (McConnell, 2016). Future metrics will likely

require more robust changes in health delivery systems in order to maintain long-term cost reductions and improvements in quality outcomes (McConnell, 2016). DNP students seeking opportunities to demonstrate leadership and practice change experience as part of graduate program requirements are ideally situated to become important ground-level partners helping improve quality and transform care delivery at the forefront of Oregon's Medicaid reform.

### **Acknowledgements**

Thank you to Susan B. Stillwell, DNP, RN, CNE, ANEF, FAAN, Associate Dean of Graduate Education, School of Nursing at University of Portland, for her guidance in the development of the project and thoughtful review of this paper. Thank you also to Marcelle Thurston, Primary Care Innovation Specialist with the Yamhill Coordinated Care Organization, for her contributions and support throughout the project. Finally, we express our sincere appreciation and gratitude to the YCCO clinic for their participation in this project.

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Appendix A

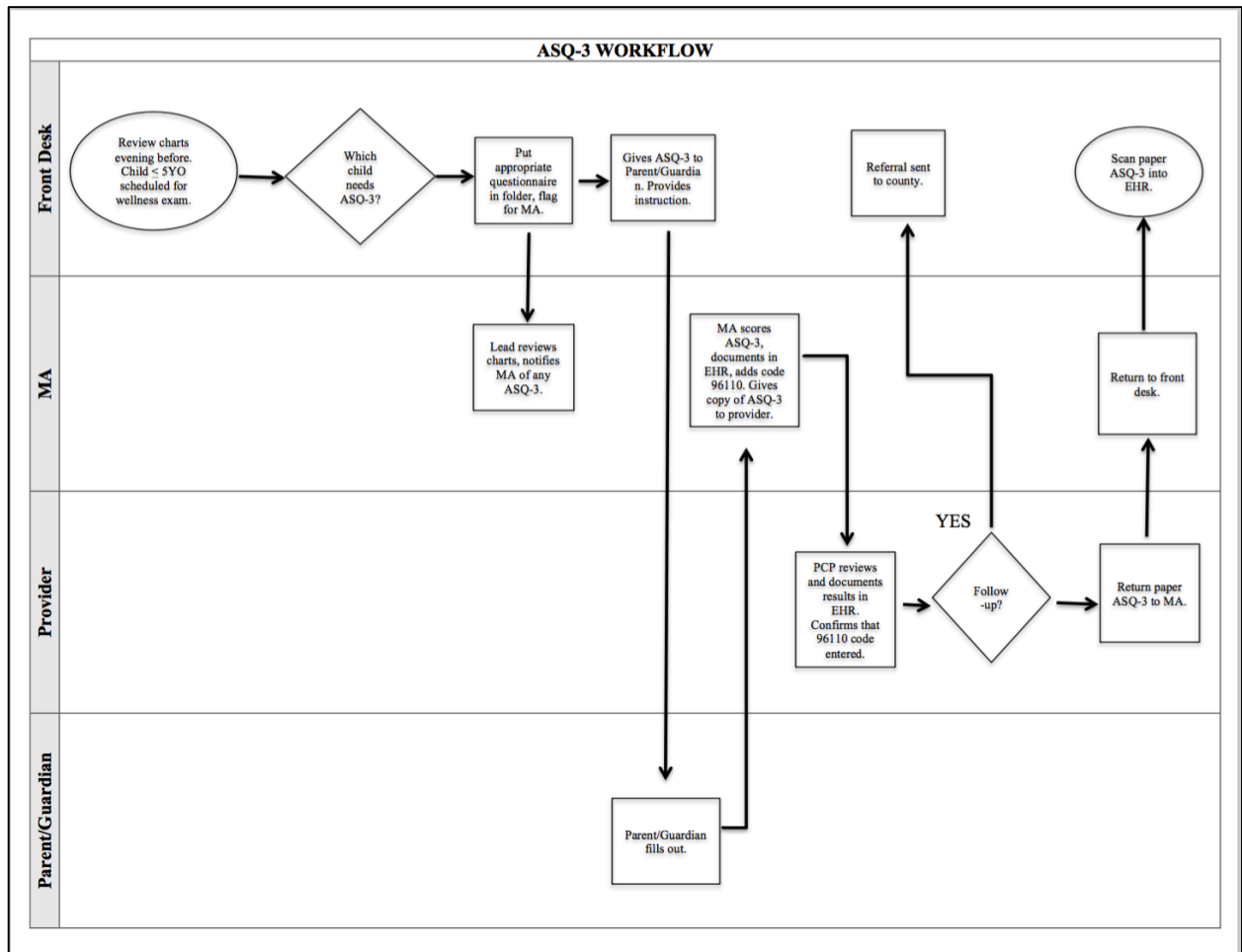


Figure A1. ASQ-3 Workflow