Updated March 2020

Overview of Data Related to the Pediatric Medical Home

This summary outlines key publications related to children and youth with special health care needs (CYSHCN) and the pediatric medical home model of care.

The content of Table 1 includes publications released between September 2017 and March 2020.
The content of Table 2 includes publications released prior to September 2017, with a focus on CYSHCN vs non-CYSHCN and the Triple Aim (improved patient experience, increased quality, and decreased costs).

Table 1

Title	References	Background	Key Findings
Pediatric-to-adult healthcare transitions: Current challenges and recommended practices.	Hobart B, Phan H. Pediatric-to-adult healthcare transitions: Current challenges and recommended practices. *American Journal of Health-System Pharmacy*. Volume 76, Issue 19, 1 October 2019, Pages 1544–1554.	Pediatric-to-adult HCT programs should be longitudinal in nature, be patient focused, and be coproduced by patients, caregivers, and care team members. Educational components of HCT programs should include knowledge and skills in disease state management and self-care; safe and effective use of medications, as well as other treatment modalities; and healthcare system navigation, including insurance issues. Interprofessional involvement in HCT is encouraged; however, roles for each discipline involved are not clearly delineated in current guidelines or literature. Possible influencing elements in achieving successful pediatric-to-adult HCT outcomes include those that are related to patient and/or caregiver factors, clinician awareness, availability of resources, and ability to achieve financial sustainability.	The use of structured pediatric-to-adult HCT programs is currently recommended to optimize patient and health-system outcomes. Given the importance of medication-related knowledge and healthcare system navigation skills to successful care transitions, there are opportunities for pharmacists and pharmacy technicians to contribute to HCT programs.

Title	References	Background	Key Findings
Understanding Primary Care Providers' Information Gathering Strategies in the Care of Children and Youth with Special Health Care Needs.	Borbolla D, Taft T, Taber P, et al. Understanding Primary Care Providers' Information Gathering Strategies in the Care of Children and Youth with Special Health Care Needs. *AMIA Annu Symp Proc*. 2018;2018:272-278. Published 2018 Dec 5.	Effective care coordination of children and youth with special health care needs (CYSHCN) is critical but challenging. Objective: To investigate clinicians' information-gathering strategies while preparing for visits with CYSHCN. Methods: Critical incident interviews with primary care physicians and care coordinators	Results: Six themes emerged indicating 1) substantial reliance on the electronic health record; 2) a central role of the problem list in organizing and summarizing information; 3) Medical Home's central role in organizing clinical documentation; 4) universal need to integrate information from external records; 5) lack of well-organized and labeled encounter documentation; and 6) lack of tools reconcile medication lists. Conclusion: Our findings have important implications to the design of informatics tools to support information-gathering in the care of CYSHCN.
EMR Adaptations to Support the Identification and Risk Stratification of Children with Special Health Care Needs in the Medical Home.	Matiz, L.A., Robbins-Milne, L. & Rausch, J.A. EMR Adaptations to Support the Identification and Risk Stratification of Children with Special Health Care Needs in the Medical Home. *Matern Child Health J* **23,** 919–924 (2019).	Children with special health care needs (CSHCN) are a high-risk population with complex medical issues and needs. It is challenging to care for them in a busy, pediatric practice without understanding how many exist and how best to allocate resources. EMRs can be adapted to develop registries and stratify patients to promote population health management Adaptations were made to the EMR in September 2013 to capture CSHCN and the associated risk level during well-child visits prospectively. All physicians were trained on the definition of CSHCN and on risk stratification levels 1, 2, 3A and 3B. An analysis using one-way ANOVA for children ages 0–21, seen between September 1, 2011 and August 31, 2015, who were identified and stratified after September 2013, was conducted to determine utilization patterns on hospital admissions, emergency department (ED), subspecialty, and primary care visits.	A total of 4687 CSHCN were identified during the study period. Of the CSHCN, 45% were Level 1, 41% Level 2, 7% 3A and 7% 3B. There were significant differences in utilization across the tiers of CSHCN with the highest level of stratification (3B) demonstrating the most hospital admissions and primary care visits. Level 3B and level 3A (unstable) had significantly more ED visits. Additionally, as tiers increased from level 1 to 3B there was an increase in subspecialty provider utilization ($p < 0.0001$).

Title	References	Background	Key Findings
Psychosocial Factors in Children and Youth With Special Health Care Needs and Their Families.	Matton G, Kuo D, Gerri Mattson, Dennis Z. Kuo. Psychosocial Factors in Children and Youth With Special Health Care Needs and Their Families. *Pediatrics.* January 2019 143 (1) e20183171.	The purpose of this clinical report is to raise awareness of the impact of psychosocial factors on the health and wellness of CYSHCN and their families.	This clinical report provides guidance for pediatric providers to facilitate and coordinate care that can have a positive influence on the overall health, wellness, and quality of life of CYSHCN and their families.
Access to the Medical Home Among Children With and Without Special Health Care Needs.	Lichstein J, Ghandour R, Mann M. Access to the Medical Home Among Children With and Without Special Health Care Needs. *Pediatrics.* December 2018, 142 (6) e20181795;	In this study, we provide the latest estimates of medical home access among children in the United States	The medical home incorporates elements of care considered necessary for providing comprehensive, quality care. Our results indicate that there is still room to improve access to the medical home among all children.
Supporting the Health Care Transition From Adolescence to Adulthood in the Medical Home	Patience H. White, W. Carl Cooley. Supporting the Health Care Transition From Adolescence to Adulthood in the Medical Home. *Pediatrics.* November 2018, 142 (5) e20182587;	Risk and vulnerability encompass many dimensions of the transition from adolescence to adulthood. Transition from pediatric, parent-supervised health care to more independent, patient-centered adult health care is no exception. The tenets and algorithm of the original 2011 clinical report, "Supporting the Health Care Transition from Adolescence to Adulthood in the Medical Home " are unchanged.	This updated clinical report provides more practice-based quality improvement guidance on key elements of transition planning, transfer, and integration into adult care for all youth and young adults. It also includes new and updated sections on definition and guiding principles, the status of health care transition preparation among youth, barriers, outcome evidence, recommended health care transition processes and implementation strategies using quality improvement methods, special populations, education and training in pediatric onset conditions, and payment options. The clinical report also includes new recommendations pertaining to infrastructure, education and training, payment, and research.

Title	References	Background	Key Findings
Care Coordination Using a Shared Plan of Care Approach: From Model to Practice.	McAllister J, Keehn R, Rodgers R, Lock T. Care Coordination Using a Shared Plan of Care Approach: From Model to Practice. *Journal of Pediatric Nursing*.Volume 43, 2018, Pages 88-96, ISSN 0882-5963/	The studied implementation of the Riley Care Coordination Program (RCCP) set out to: 1) illuminate components of family-centered, interdisciplinary, team-based care/coordination and SPoC, use 2) underscore family participation/engagement 3) reveal implementation processes/lessons learned.	Eliciting/using family goals to drive CC emphasized family priorities; children/families gained interventions, treatments, confidence and navigation skills. Going beyond episodic, reactive care, RCCP achieved better CC with care neighborhood learning partnerships. Investing in this quality care
Disparities in Self-reported Access to Patient-centered Medical Home Care for Children With Special Health Care Needs.	Pérez, Mónica, Thomas, Kathleen. Disparities in Self-reported Access to Patient-centered Medical Home Care for Children With Special Health Care Needs. *Medical Care*. October 2018 - Volume 56 - Issue 10 - p 840-846	Efforts to transform primary care have been underway for over a decade. Yet, we lack understanding of the progress made in scaling up this care model nationwide and on whether patient-centered medical home (PCMH) has benefited every group of children with special health care needs (CSHCNs). The main objective of this study was to examine variation in caregiver service experience concordant with PCMH care over time and by child characteristics.	Despite increased parent perception of care that is concordant with medical home care over time, disparities remain among high-need CSHCNs. Future research may focus on better understanding how clinical settings tailor this care model, particularly on providing increased access and patient-centered care, to better serve children at the highest need.
The Relationship Between the Patient-Centered Medical Homes, Healthcare Expenditures, and Quality of Care Among Children with Special Health Care Needs.	Lin, C., Romley, J.A. & Carlin, C. The Relationship Between the Patient-Centered Medical Homes, Healthcare Expenditures, and Quality of Care Among Children with Special Health Care Needs. *Matern Child Health J* 22, 1751–1760 (2018).	To examine the association between having a patient-centered medical home (PCMH) and healthcare expenditures and quality of care for children with special health care needs (CSHCN). We conducted a cross-sectional analysis of 8802 CSHCN using the 2008-2012 Medical Expenditure Panel Survey. A PCMH indicator was constructed from survey responses. Inverse probability treatment weighting was applied to balance the cohort. CSHCN's annual health care expenditures and quality were analyzed using two-part and logistic models, respectively.	CSHCN who had a PCMH experienced better health care quality and were more likely to access preventive services, with unchanged expenditures. However, they were less likely to use mental health services in office-based settings. As the effects of PCMH varied across services for CSHCN, more research is warranted.

Title	References	Background	Key Findings
Health Care System Factors Associated with Transition Preparation in Youth with Special Health Care Needs.	McKenzie R, Sanders L, Bhattacharya J, Bundorf M. Health Care System Factors Associated with Transition Preparation in Youth with Special Health Care Needs. *Population Health Management.* Feb 2019.63-73	The aim of this study was to assess: (1) the proportion of youth with special health care needs (YSHCN) with adequate transition preparation, (2) whether transition preparation differs by individual, condition-related and health care system-related factors, and (3) whether specific components of the medical home are associated with adequate transition preparation	The majority of YSHCN do not receive adequate transition preparation and younger, male adolescents with medical complexity were less likely to receive transition preparation. Different patterns of disparities were identified for each subcomponent measure of transition preparation, which may help target at-risk populations for specific services. Efforts to improve transition preparation should leverage specific components of the medical home including care coordination, shared decision making, and family-centered care.
Patient-Centered Medical Home and Receipt of Part C Early Intervention Among Young CSHCN and Developmental Disabilities Versus Delays: NS-CSHCN 2009-2010.	Ross, S.M., Smit, E., Twardzik, E. *et al.* Patient-Centered Medical Home and Receipt of Part C Early Intervention Among Young CSHCN and Developmental Disabilities Versus Delays: NS-CSHCN 2009–2010. *Matern Child Health J* **22,** 1451–1461 (2018).	Objective To determine, among a sample of young CSHCN with developmental conditions, (1) characteristics associated with receipt of both patient-centered medical home (PCMH) and Part C early intervention, (2) the association between each PCMH criterion and receipt of Part C generally, and (3) for CSHCN with disabilities versus delays.	Concurrent PCMH and Part C access was low for young CSHCN with developmental conditions affecting their function. Given the overlapping mandates for PCMH and Part C, integrated efforts are warranted to identify if lack of concurrent services in fact reflects unmet service needs.

Title	References	Background	Key Findings
Incorporating Patient- and Family-Centered Care Into Practice: The PA Medical Home Initiative	Mahanty S, Wells N, Antonelli R, Turchi M. Incorporating Patient- and Family-Centered Care Into Practice: The PA Medical Home Initiative. *Pediatrics*. September 2018, 142 (3) e20172453.	The medical home model is the standard of health care delivery in primary care that is used to provide comprehensive and continuous medical care to patients by enhancing access to care, increasing patient satisfaction, and improving health outcomes. Promoting effective partnerships between families and clinical practice teams by engaging parents as partners in their children's care ensures that families receive all the needed services by creating mechanisms for parental and/or caregiver input3 and embodying the quadruple aim of the health care framework (assessing patient and family experience, provider experience, reduced costs, and population health outcomes).	Engaging parents and/or caregivers as partners promotes patient- and family-centered care, which is associated with better health status (psychological functioning, quality of life, and symptom severity) and family functioning (cost and parents' missed work days). Understanding experiences and models of engaging parents and/or caregivers in clinical practice can be useful to pediatricians and clinical providers.
Benefits of Medical Home Care Reaching Beyond Chronically Ill Teens: Exploring Parent Health-Related Quality of Life.	Chavez L, Grannis C, Dolce M, Chisolm D. Benefits of Medical Home Care Reaching Beyond Chronically Ill Teens: Exploring Parent Health-Related Quality of Life. *Academic Pediatrics*. Volume 18, Issue 6, 2018, Pages 662-668, ISSN 1876-2859,	Caring for teens with special health care needs places physical and mental health burdens on parents, which can be exacerbated by the stresses of transitions to independence. Medical homes can improve teen transitions to greater self-management and reduce health care-related time and financial burdens for families. We examined the association between parent-reported teen medical home status and caregiver health-related quality of life (HRQOL).	Teen medical home status was positively associated with caregiver HRQOL, suggesting that the medical home may benefit overall caregiver well-being. In particular, receiving care that was family centered and coordinated appeared to be the most beneficial.

Title	References	Background	Key Findings
Methodologic Considerations for Transition Research Using the National Survey of Children with Special Health Care Needs: A Systematic Review of the Literature.	Coyne B, Hallowell S, Keim-Malpass, J. Methodologic Considerations for Transition Research Using the National Survey of Children with Special Health Care Needs: A Systematic Review of the Literature. *Journal of Pediatric Health Care*. Volume 32, Issue 4, 2018, Pages 363-373, ISSN 0891-5245.	The purpose of this review was to describe methodologic considerations in using the National Survey of Children With Special Health Care Needs (NS-CSHCN) for transition research in terms of variable inclusion and definition of transition outcomes and to provide suggestions for using NS-CSHCN for transition research.	Using the NS-CSHCN, it is recommended to analyze all variables related to the Maternal and Child Health Bureau core outcome for transition, variables related to patient-centered medical home, and further analysis of specific health conditions.
Care Coordination: Empowering Families, a Promising Practice to Facilitate Medical Home Use Among Children and Youth with Special Health Care Needs.	Ufer, L.G., Moore, J.A., Hawkins, K. *et al.* Care Coordination: Empowering Families, a Promising Practice to Facilitate Medical Home Use Among Children and Youth with Special Health Care Needs. *Matern Child Health J* 22, 648–659 (2018).	This paper describes the care coordination training program and results of an evaluation from its pilot in seven states. Despite the importance of practice-based care coordination, only 42.3% of children with special health care needs (CYSHCN) met all needed components of care coordination as defined by the Maternal Child Health Bureau. Recognizing that children with medically complex conditions often have lower rates of achieving care coordination within a medical home, the Region 4 Midwest Genetics Collaborative worked with families to develop a training to empower families in care coordination. The Care Coordination: Empowering Families (CCEF) training provides families with the knowledge, tools, and resources to engage with health, education and family support systems. This article gives an overview of the training and comprehensive evaluation.	Families who attended the training report being the primary source of care coordination for their children and 83.7% see their role in their child's healthcare changing as a result of the training. The findings suggest that peer support and communication with providers increased as a result of the training over the course of the study. The data suggest that the training impacted how the family interacts with the child's doctor, including initiating conversations to prepare their child for transition to adult health care. Further, families report system-level improvements 1 year later compared to the pre-training assessment. Discussion CCEF training is a promising practice for facilitating medical home use among CYSHCN.

Title	References	Background	Key Findings
How Well is the Medical Home Working for Latino and Black Children?	Guerrero, A.D., Zhou, X, Chung, P.J. How Well is the Medical Home Working for Latino and Black Children?. *Matern Child Health J* 22**,** 175–183 (2018).	To examine the benefits of having a medical home among Latino and Black school-aged children, both with and without special health care needs (CSHCN). Methods Data from the 2011-2012 National Survey of Children's Health (NSCH) were analyzed to examine the associations of preventive dental and medical care, unmet dental or medical care, or missed school days with having a medical home among Latino and Black children compared to White children. Multivariate logistic regression with survey weights was used to adjust for child, parent, home, and geographic characteristics and an interaction term to estimate differences in outcomes among Black or Latino children receiving care in a medical home compared to White children with a medical home.	Medical homes may not be effective in delivering health services to the majority of Latino children but provide some benefit to Black children with and without CSHCN. Alternatively, the medical home may function differently for Latinos due to the specific medical home components measured by NSCH.
Incentivizing Care Coordination in Managed Care	Chung P, Lerner C. Incentivizing Care Coordination in Managed Care. *Pediatrics*. September 2017, 140 (3) e20172090.	Care coordination for children remains one of the least-understood, widespread practice and policy interventions in pediatrics. This article examines the degree to which state penetrance of Medicaid managed care structures (specifically, health maintenance organizations [HMOs] versus primary care case management [PCCM]) may incentivize care coordination.	States with lower HMO and higher PCCM penetrance exhibited greater care coordination on 2 parent-reported National Survey of Children's Health (NSCH) metrics: access to care coordination and receipt of care coordination when needed. Given that NSCH data were cross-sectional and penetrance data were aggregated by state, no causal inferences can be made.

Title	References	Background	Key Findings
Information needs of physicians, care coordinators, and families to support care coordination of children and youth with special health care needs (CYSHCN).	Ranade-Kharkar P, Weir C, Norling, C, Collins S, Scarton L, Baker B, Borbolla D, Taliercio V, Del Fiol. Information needs of physicians, care coordinators, and families to support care coordination of children and youth with special health care needs (CYSHCN). *Journal of the American Medical Informatics Association*. Volume 24, Issue 5, September 2017, Pages 933–941.	Identify and describe information needs and associated goals of physicians, care coordinators, and families related to coordinating care for medically complex children and youth with special health care needs (CYSHCN).	Caring for CYSHCN generates a large amount of information needs that require significant effort from physicians, care coordinators, parents, and various other individuals. CYSHCN are often chronically ill and face developmental challenges that translate into intense demands on time, effort, and resources. Care coordination for CYCHSN involves multiple information systems, specialized resources, and complex decision-making. Solutions currently offered by health information technology fall short in providing support to meet the information needs to perform the complex care coordination tasks. These findings present significant opportunities to improve coordination of care through multifaceted and fully integrated informatics solutions.

Title	References	Background	Key Findings
Adapting Pediatric Medical Homes for Youth in Foster Care: Extensions of the American Academy of Pediatrics Guidelines.	Espeleta HC, Bakula DM, Sharkey CM, et al. Adapting Pediatric Medical Homes for Youth in Foster Care: Extensions of the American Academy of Pediatrics Guidelines. *Clin Pediatr (Phila)*. 2020;59(4-5):411-420.	This article provides recommendations for adapting the pediatric medical home (PMH) model for health care needs of youth in foster care. Recommendations are based on key informant interviews regarding experiences at an established PMH for youth in foster care. Major clinic recommendations include expanding the PMH framework to include proficiency in Medicaid billing, promoting true interdisciplinary care teams, improving care accessibility via phone consultation, providing a stable place for medical records to be housed, delivering services throughout stages of the child welfare case, incorporating all family members, and implementing trauma-informed practice. Preliminary evidence suggests that the PMH model of care may be ideal for addressing the complex and often underserved needs of youth in foster care and their families.	The present recommendations provide a logistical framework for establishing a clinic that thoughtfully considers the unique needs of this population. Future research is needed to examine best practices for implementation.
Principles of Financing the Medical Home for Children.	Price J, Brandt M, Hudak M. Principles of Financing the Medical Home for Children. *Pediatrics.* January 2020, 145 (1) e20193451.	A well-implemented and adequately funded medical home not only is the best approach to optimize the health of the individual patient but also can function as an effective instrument for improving population health. Key financing elements to providing quality, effective, comprehensive care in the pediatric medical home include the following: (1) first dollar coverage without deductibles, copays, or other cost-sharing for necessary preventive care services as recommended by Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents; (2) adoption of a uniform definition of medical necessity across payers that embraces services that promote optimal growth and development and prevent, diagnose, and treat the full range of pediatric physical, mental, behavioral, and developmental conditions, in accord with evidence-based science or evidence-informed expert opinion; (3) payment models that promote appropriate use of pediatric primary care and pediatric specialty services and discourage inappropriate, inefficient, or excessive use of medical services; and (4) payment models that strengthen the patient- and family-physician relationship and do not impose additional administrative burdens that will only erode the effectiveness of the medical home	These goals can be met by designing payment models that provide adequate funding of the cost of medical encounters, care coordination, population health services, and quality improvement activities; provide incentives for quality and effectiveness of care; and ease administrative burdens.

Title	References	Background	Key Findings
School-Based Health Centers as the Pediatric Expanded Medical Home.	Beem, A., Batlivala, Norwood, A. School-Based Health Centers as the Pediatric Expanded Medical Home. *J School Health* 2019. 89: 934-937.	School-based health centers (SBHCs) provide primary and preventive health services and have been debated as possible medical homes for the pediatric population. The effect of a SBHC as an expanded medical home has yet to be determined. The purpose of this paper was to review the research evaluating the use of SBHCs as a pediatric patient's expanded medical home.	SBHCs provide care that is accessible, coordinated, comprehensive, continuous, family-centered, compassionate, and mildly culturally effective for adolescents. Community health systems and primary care providers should partner with SBHCs to establish an expanded medical home and promote greater coordination and continuity of care for adolescents.
Integrating behavioral health in the pediatric medical home.	Lauerer, JA, Marenakos, KG, Gaffney, K, Ketron, C, Huncik, K. Integrating behavioral health in the pediatric medical home. *J Child Adolesc Psychiatr Nurs*. 2018; 31: 39– 42.	Behavioral health disorders (psychiatric illness and substance abuse disorders) represent a significant burden across the nation's health care system. The number of children and adolescents requiring behavioral health care has increased while at the same time the behavioral health workforce continues to experience a shortage of providers. The current model of care is failing to meet the behavioral health needs of children and adolescents. Initiatives are underway that call for improved integration of behavioral health services into primary care. Patients and families often seek behavioral health care in the primary care setting. The purpose of this article is to describe how one large urban pediatric practice began to integrate behavioral health services. Opportunities and challenges are discussed along with a review of three integrated care delivery models.	The purpose of this article is to describe how one large urban pediatric practice began to integrate behavioral health services. Opportunities and challenges are discussed along with a review of three integrated care delivery models.

Table 2

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Leyenaar J, O'Brien E, Leslie L, Lindenauer P, Mangione-Smith R. Families' Priorities Regarding Hospital-to-Home Transitions for Children With Medical Complexity. *Pediatrics*. 2017; doi: 10.1542/peds.2016-1581	Study aimed to systematically examine the scope of preferences, priorities, and goals of parents of children with medical complexity regarding planning for hospital-to-home transitions and to ascertain health care providers' perceptions of families' transitional care goals and needs	• Study found higher satisfaction rates for parents and caregivers when priorities, preferences, and goals for hospital-to-home transitions aligned with seven outlined domains.	
Kan K, Choi H, Davis M. Immigrant Families, Children With Special Health Care Needs, and the Medical Home. *Pediatrics*. 2016; doi: 10.1542/peds.2015-3221	Study assessed the medical home presence for children with special health care needs by immigrant family type and evaluates which medical home		

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	components are associated with disparities		
Han B, Hao Y, Friedberg M. Evaluating the Impact of Parent-reported Medical Home Status on Children's Health Care Utilization, Expenditures, and Quality: A Difference-in-Differences Analysis with Casual Inference Methods. *Health Services Research*. 2016. Doi: 10.1111/1475-6773.12512	The study utilized data from the Medical Expenditure Panel Survey (MEPS) to examine how changes in parent-reported medical home status over a 2-year period affect children's health care utilization, expenditures and quality. Medical home was defined by using 22 MEPS questions, including asking whether a child has a usual source of care. In order to qualify as having a medical home, a child must have a usual source of care and no less than 75 points in four medical home domains (accessible care, comprehensive care, family-centered care, and compassionate care).	• Study found that having a medical home may lead to higher perceived quality of care for children.	• Losing medical home status may cause children to have more Emergency Department visits (seven more visits per year per 100 children).
Raphael, L, Cooley, W, Vega, A, et al. Outcomes for Children with Chronic Conditions Associated with Parent- and Provider-reported Measures of the Medical Home. *J Health Care*	The study had two aims: 1) to assess the medical home experience of low-income children with chronic conditions, using questions from the National Survey of		• Having a usual source of care was associated with a lower rate of documented Emergency Department visits and hospitalizations.

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Poor Underserved. 2015; 26(2):358 -376.	Children with Special Health Care needs (2005-2006), and 2) to determine associations with health care utilization, using a combination of parent-report, primary care practice self-assessment, and administrative claims data. The Medical Home Index was utilized as an instrument for practice self-assessment.		• Higher organizational capacity scores on the Medical Home Index were associated with lower rates of Emergency Department encounters.
Matiz LA, Robbins-Milne L, Krause MC, Peretz PJ, Rausch JC. Evaluating the Impact of Information Technology Tools to Support the Asthma Medical Home. *Clin Pediatr*. 2015. doi: 10.1177/0009922815596070	Study evaluating impact of information technology tools on outcomes of children diagnosed with asthma as part of the launch of a patient-centered medical home model for patients with asthma. Specific changes to an electronic health record included modifications to notes, care plans and orders.		• Retrospective analysis of health care system utilization over a 3-year period showed a 17% decrease in emergency department utilization and 47% decrease in inpatient admissions.
Miller J, Nugent C, Russel L. Which components of medical homes reduce the time burden on families of children with special health care needs? *Health Services*	Study utilized data from the 2009-2010 National Survey of Children with Special Health Care needs to identify specific components of the medical home that reduce	• Families whose child with special health care needs had a medical home had reduced odds of having a time burden of arranging/coordinating care, providing care, or both, for their child.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Research. 2015; 50(3):440-460.	time burden for families of children with special health care needs. Study utilized the survey definition of medical home, including the following components: usual source of care; personal doctor or nurse; family-centered care; coordinated care; and obtaining needed referrals.	• Medical homes were associated with 20% lower odds of spending more than 6 hours/week providing care at home to a child with special health care needs. • Family-centered care, care coordination, and no problem obtaining needed referrals were associated with reduced odds of time burden for families. • A rigorous test examining if all five components of a medical home needed to be in place before affecting time burden for families suggested that a complete medical home (all 5 components) provide "something above and beyond the individual components." Missing just one component of the medical home was associated with increased odds of time burden.	
Christensen A, Zickafoose J, Natzke B, McMorrow S, Ireys H. Associations between practice-reported medical homeness and health care utilization among publicly insured children. *Academic Pediatrics*. 2015;15(3):267-274.	Study aimed to analyze the relationship between practice-reported medical homeness and health service utilization by children enrolled in Medicaid in 3 states. The study also aimed to examine if this utilization varied between children with special health care needs versus all other children. Medical homeness was assessed through the Medical		• Children receiving care with high medical homeness were less likely to have non-urgent, preventable, or avoidable Emergency Department visits than children in practices with low medical homeness and marginally less likely than children in practices with medium medical homeness.

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	Home Index (North Carolina), the Medical Home Index Revised Short Version (South Carolina), and the National Committee for Quality Assurance medical home self-assessment (Illinois). All states/practices were members of the Children's Health Insurance Reauthorization Program Demonstration Projects.		
Boudreau A, Goodman E, Kurowski D, Perrin J, Cooley C. Care coordination and unmet specialty care among children with special health care needs. *Pediatrics*. 2014; 133(6): 1046 – 1053.	Study examines association of care coordination with family-perceived unmet specialty care needs for Children with special health care needs. Analysis conducted from 2009-2010 National Survey of Children with Special Health Care Needs. A child was determined to have effective care coordination if: 1. The family usually or always receives sufficient help coordinating care when needed	• The presence of care coordination without and within a medical home was associated with decreased unmet specialty care needs (across all income levels). • Children whose care coordination was delivered within a medical home were significantly less likely by a third to have unmet specialty care needs, when compared to those receiving care coordination without a medical home.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	2. The parent/guardian was very satisfied with communication between the specialist/specialty program and the provider if needed Medical home status was determined by presence of the following: personal doctor or nurse; usual source for sick and well care; family-centered care; problems getting needed referrals; effective care coordination.		
Knapp C, Chakravorty S, Madden V, et al. Association between medical home characteristics and staff professional experiences in pediatric practices. *Archives of Public Health*. 2014;72:36.	Study focuses on staff at 20 pediatric practices participating in the Florida Pediatric Medical Home Demonstration Project. Study measures how pediatric medical home transformation affect staff satisfaction and burnout across practices. Medical Home Index was utilized to measure medical home characteristics. Staff surveys were distributed to measure staff satisfaction and burnout. 31.3% of practice patients	• Different medical home characteristics are associated differently with provider satisfaction and burnout. • Characteristics of individual staff, namely adaptive reserve, are more strongly associated with job satisfaction and burnout than medical home characteristics. • Increases in care coordination were associated with greater overall scores for job satisfaction while increases in community outreach were negatively associated with job satisfaction. • Increased chronic care management scores are associated with lower provider exhaustion while increased quality improvement scores are associated with greater odds of exhaustion.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	had special health care needs.	• Increased data management is associated with increased professional efficacy.	
Mosquera R, Avritscher E, Samuels S, et al. Effect of an enhanced medical home on serious illness and cost of care among high-risk children with chronic illness: A randomized clinical trial. *JAMA*. 2014;312(4): 2640-2648.	Study conducted a randomized clinical trial to assess whether comprehensive care for high-risk children with chronic illness provided by an enhanced medical home would reduce serious illness, medical costs, or both, from a health system perspective. • Usual care was provided by primary care pediatrician in out-patient office settings; same day care was not always available. Chronic problems were treated at subspecialty clinics that were referred from the primary care pediatrician's office. • Comprehensive care was provided at a high-risk children's clinic through a medical home model. The clinic co-located primary and specialty	• Access to care and parental satisfaction increased for the comprehensive care/medical home group.	• Comprehensive care, versus usual care, within a medical home decreased total hospital and clinic costs ($16, 523 vs $26,781 per child per year). • Comprehensive care, versus usual care, within a medical home reduced the rate of ED visits, hospitalizations, number of days in the hospital, ICU admissions, and days in the ICU.

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	care physicians and other clinical staff including social workers and dietitians. Same day appointments were available and parents could call primary care clinicians at all hours. A parent advisory board was implemented.		
Farmer J, Clark M, Mayfield W, et al. The relationship between the medical home and unmet needs for children with autism spectrum disorders. *Maternal and Child Health Journal.* 2014;18(3):672-680.	Study examined the relationship between having a medical home and children's unmet specialty care needs, specifically related to children with Autism Spectrum Disorder. Defined medical home using the components of the National Survey of Children with Special Health Care Needs, including the following: usual source of care; personal doctor or nurse; family-centered care; coordinated care; and obtaining needed referrals.	• Children with autism spectrum disorder who had a medical home had significantly fewer unmet specialty care needs than those without a medical home. • Parents who indicated lower rates of family-centered care reported higher rates of unmet specialty care needs for their child. • Children with a usual source of care only have more unmet needs than children with both a usual source of care and other medical home components.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Butcher J, Wolraich M, Gillaspy S, Martin V, Wild R. The impact of a medical home for children with developmental disability within a pediatric resident continuity clinic. *Journal of the Oklahoma State Medical Association*. 2014; 107(12):632-638.	Study examined the impact of the Oklahoma Family Support 360 program, a medical home program within a pediatric primary health care resident continuity clinic serving low-income families of children with development disabilities. Medical home was defined using the American Academy of Pediatrics definition, with key attributes including: accessibility; compassion; comprehension; family-centered; coordinated; culturally effective.	• Patient and family satisfaction with services received through the medical home were rated highly, particularly related to timeliness of service and less unmet medical needs. • Increases in patient and family satisfaction were associated with increased care coordination. • Assistance with identifying and accessing resources and helping with paperwork were two activities of the medical home that had the highest impact on quality of life. • Patient and family satisfaction with the primary care provider decreased, yet the overall rating remained at "very good."	• Results showed statistically significant decreases in emergency service use with medical home activities. • Findings showed significant increases in dental service use among children with a medical home. • Results also showed the rate of preventive service use decreased.
Hamilton L, Lerner C, Presson A, Klitzner T. Effects of a medical home program for children with special health care needs on parental perceptions of are in an ethnically diverse patient population. *Maternal Child Health J*. 2013; 17(3):463-469.	Evaluation of data from the Pediatric Medical Home Program at UCLA, which includes 41 medically complex, ethnically diverse children with special health care needs. The Medical Home Family Index was administered to 22 participating parents in	• A primary care model focused on providing intensive care coordination, using medical home principles, to low-income, ethnically diverse children with complex health care needs can produce positive parental experiences for patients and families, independent of primary language. • Utilization of the American Academy of Pediatrics' medical home model resulted in higher satisfaction scores among Spanish	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	the family's primary language, and survey data were analyzed related to parental satisfaction.	speaking parents as compared to English speaking parents.	
Knapp C, Hinojosa M, Baron-Lee J, Fernandez-Baca D, Hinojosa R, Thompson L. Factors associated with a medical home among children with ADHD. *Maternal Child Health J*. 2012; 16(9):1771-1778.	Analysis of data from the 2007 National Survey of Children's Health and analysis of data related to the 5,495 children in the study whose parents indicated they currently had an ADHD diagnosis. A medical home was defined by the following five sub-components: having a personal doctor, having a usual source of care, receiving family-centered care, having no problem getting referrals, and having effective care coordination.	• Having a medical home was significantly associated with being less likely to have an unmet health need and having fewer missed school days but also being less likely to have received needed mental health care.	
Cohen E, Lacombe-Duncan A, Spalding K, et al. Integrated complex care coordination for children with medical complexity: A mixed-methods evaluation of tertiary care-community collaboration. *BMC Health Services Research.* 2012;12:366.	Research conducted in Canada looked at enhanced care coordination provided by a nurse practitioner who was affiliated with tertiary care center. Coordination took place within community-based	• Families and health care providers were highly satisfied, and self-reports of family-centeredness of care improved. • Child quality of life improved between baseline and 6 months in several domains.	• Families experienced increase in short-term out-of- pocket costs initially (in the first 6 months) – likely due to recognition of unmet needs by nurse practitioner – but costs had decreased at 12 months.

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	medical home. Clinics were conducted weekly with a focus on care coordination, complex symptom management, and goal setting for medically complex children.		• Overall mean PMPM costs went from $1,429 to $369. • ER costs went from $23 to $15
Casey P, Lyle R, Bird R, et al. Effect of hospital-based comprehensive care clinic on health costs for Medicaid-insured medically complex children. *Arch Pediatr Adolesc Med*. 2011; 165(5): 392-398.	Study of Medicaid costs in tertiary care children's hospital in a rural state (Arkansas) pre-/post-implementation of coordinated care by multidisciplinary team for 225 medical complex children (at least 2 chronic medical conditions followed-up by at least 2 pediatric subspecialists).		• Mean annual cost PMPM decreased by $1766 for inpatient care and $6 for ED care. • Outpatient claims and prescriptions increased, but overall costs to Medicaid PMPM decreased by $1179.
Raphael J, Mei M, Brousseau D, Giordano T. Associations between quality of primary care and health care use among children with special health care needs *Arch Pediatr Adolesc Med.* 2011;165(5):399-404.	Results of a survey of 1591 parents of children with special health care needs to determine if parent reported quality of care (as defined by family-centeredness of care, timeliness of care, and realized access) was associated with subsequent health care use.		• Parent-reported low quality family centeredness of primary care was associated with higher rates of non-urgent emergency room visits for publically and privately insured children with special health care needs. • Low quality family centeredness was also associated with higher rates

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
			of hospitalizations among privately insured children.
Porterfield S, DeRigne L. Medical home and out-of-pocket medical costs for children with special health care needs. *Pediatrics*. 2011;128(5):893-900.	Using data from 2005 – 2006 National Survey of Children with Special Health Care Needs (n=31,808), this article aimed to find a relationship between out-of-pocket medical expenditures for children with special health care needs and presence of a medical home. Medical home is defined using the American Academy of Pediatrics definition as being accessible, family-centered, coordinated, comprehensive, continuous, compassionate, and culturally effective. Children included were covered by public health insurance (n=8633) and private health insurance (n= 23,175).		• In both publicly and privately insured children, families whose children had medical homes spent less (out-of-pocket) than families without a medical home (1.6% of income for private insurance, 1% of income for public insurance). • Children receiving care coordinated services were less likely to have out-of-pocket costs. If costs did appear, they were 32% lower for children with care coordinated services than those without. • Medical home presence was particularly important in lowering out of pocket costs for children with public insurance.
Dummond A, Looman w, Phillips A. Coping among parents of children with special health care needs with and without a health	Secondary analysis of National Survey of Children's Health (n=18,352) was conducted to explore the relationship between	• Children who received higher mean scores on the family centered care scale were more likely to have parents who were coping "well" or "somewhat well" with day-to-day demands of parenthood (p<.001)	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
care home. 2011; 26(4):266-275.	child and household factors and parental coping among children with special health care needs living with and without a medical home. Medical home is defined using the American Academy of Pediatrics definition: accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective.	• The proportion of parents "not coping well" decreased as satisfaction with communication among health care providers increased.	
Klitzner T, Rabbitt L, Chang R. Benefits of care coordination for children with complex disease: A pilot medical home project in a resident teaching clinic. *J Pediatr*. 2010;156(6):1006-1010.	Study examined encounter data on 30 medically complex patients in a resident education/pediatric continuity clinic at UCLA. Patients were provided with enhanced care coordination via a "health navigator", which was an administrative level employee who spoke the family's native language and helped clients navigate the health care system.		• Reduction in ED visits seen post-intervention. • The following showed no difference in the year following enrollment: number of scheduled outpatient visits, urgent care visits, hospital admissions, average hospital days, and average length of hospital stay.
McAllister J, Sherrieb K, Cooley W. Improvement in	Study describes ten practice teams that were	• Practices were successful in increasing their scores on the Medical Home Index, which	• Decrease in separate hospitalizations

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
the family-centered medical home enhances outcomes for children and youth with special healthcare needs. *J Ambulatory Care Manage.* 2009; 32(3):188-196.	selected to take part in a quality improvement learning collaborative related to family-centered, quality care processes, and office efficiencies for children and youth with special health care needs.	resulted in significant clinical, functional, satisfaction, and utilization outcomes for 82 families of children and youth with special health care needs who used the practices during the 3 years of the project. Improvements were seen in the following outcome measures: • Seen by PCP in last year • Seen by specialists in past year • Absent school days • Parental worry about child's health • Parental view of child's health • Have a written care plan • Family feedback sought used	• Decrease in number of hospital nights
Cooley W, McAllister J, Sherrieb K, Kuhlthau K. Improved outcomes associated with medical home implementation in pediatric primary care. *Pediatrics.* 2009;124(1):358 – 356.	Study analyzed utilization data of medical home practices for 42 children with 6 chronic conditions.		• Higher medical home scores, specifically related to organizational capacity, care coordination, and chronic condition management were associated with significantly fewer hospitalizations. • Medical home composite scores were not significantly correlated with emergency department visit rates. However, visit rates significantly decreased with an increase in the scores for chronic condition management and care coordination specifically.

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
			• Higher chronic condition management scores were associated with lower emergency department use.
Strickland b, Singh G, Kogan M, Mann M, van Dyck P, Newacheck P. Access to the medical home: New findings from the 2005 – 2006 National Survey of Children With Special Health Care Needs. *Pediatrics* 2009; 123(6); 2008 – 2504.	Study outlines results from the National Survey of Children with Special Health Care needs, specifically data related to parental perception of medical home access. Medical home is defined by five components: having a usual source of care, having a personal doctor or nurse, receiving all needed referrals for specialty care, receiving help as needed in coordinating health-related care, and receiving family-centered care.		• 11.7% of children without medical home reported having foregone or delayed care, vs. 4.1% of children with a medical home. • Parents of children with a medical home reported modest but significant decrease in likelihood of missing > 10 days of school. • 7.7% of parents of children without a medical home reported to have unmet needs for family support services, vs. 1.3% of children with a medical home. • 22.5% parents of children living without a medical home reported unmet health care needs vs. 8.1% of children with a medical home.
Gordon J, Colby H, Bartelt T, Jablonski D, Krauthoefer M, Havens P. A tertiary care-primary care	Study conducted at Medical College of Wisconsin and Children's Hospital of Wisconsin.	• No formal investigation of the impact of the intervention on quality of life or satisfaction was done, but anecdotal reports indicated a high level of family satisfaction.	• 50% decrease in hospital days

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
partnership model for medically complex and fragile children and youth with special health care needs. *Arch Pediatr Adolesc Med*. 2007;161(1):937-944.	Established a special needs program where 227 medically complex children (seeing 5 of more subspecialists and with 3 or more involved organ systems) received enhanced care coordination from a single point of contact, but specifically (1) partnership between family and PCP, (2) familiarity with the child's condition, (3) close involvement during hospitalization, (4) proactive outpatient care.		• $10.7 million decrease in tertiary care center payments
Benedict R. Quality Medical Homes: Meeting Children's Needs for Therapeutic and Supportive Services. *Pediatrics*. 2007; 121(1)e127-134.	Study aimed to determine whether among children with special health care needs, the quality of a medical home is associated with access to therapeutic and supportive services. Based on the National Survey of Children with Special Health Care Needs. Study included only those children who required supportive (n=23,376) or therapeutic (n= 15,793) services.	• Children with high-quality medical homes were less likely to have unmet needs for therapeutic (64%) and supportive (70%) services than children whose medical homes didn't have all of the medical home criteria. • Percent of children with unmet needs were consistently higher for children whose families reported more characteristics of the medical home missing.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	Medical homes were defined as being preventative, accessible, continuous, comprehensive, coordinated, culturally sensitive, and family-oriented.		
Lewis C, Robertson A, Phelps S. Unmet dental care needs among children with special health care needs: Implications for the medical home. *Pediatrics*. 2005;116(3):e426-432.	Using data from the National Survey of Children with Special Health Care Needs, this study examined if presence of a medical home was associated with a child needing dental care, receiving dental care, and if the child needed care and did not receive it. n=38,866. The Medical Home is not defined, however it specified that medical homes provide children with special health care needs with access to regular, ongoing, comprehensive care. Comprehensive care is defined as "encompassing acute and chronic medical care, preventive care, subspecialty medical care, and surgical care."	• Having a regular doctor or nurse who knew the child/children best was associated with significantly less unmet health care needs (even after controlling for other factors such as income, insurance, etc.). This implies that children with a medical home may have less unmet health care needs, particularly dental.	

Reference	Background	Increased Quality, Patient Experience and/or Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Palfrey J, Sofis L, Davidson E, Liu J, Freeman L, Ganz, M. The pediatric alliance for coordinated care: Evaluation of a medical home model. *Pediatrics*. 2004;113(5 Suppl): 1507-1516	Study examined an intervention in 6 pediatric practices in Boston, who identified their medically complex children and provided a designated PNP case manager, development of an individualized health plan for each patient and continuing education for health care professionals.	• Increase in parent satisfaction.	• Decrease in parents missing >20 work days (26% baseline vs. 14.1%) • Decrease in hospitalizations (58% baseline vs. 43.2%) • No change was seen in the report of missed days of school or emergency department visits.

CHILDREN AND YOUTH WITHOUT SPECIAL HEALTH CARE NEEDS

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Byczkowski T, Gillespie G, Kennebeck S, Fitzgerald M, Downing K, Alessandrini E. Family-Centered Pediatric Emergency Care: A Framework for Measuring What Parents Want and Value. *Academic Pediatrics*. 2016; doi: 10.1016/j.acap.2015.08.011	Study identified and described dimensions of family-centered care important to parents in pediatric emergency care and compare them to those currently defined in the literature	• Compared to those published in the literature, the most notable differences were combining involving family and respect for preferences into a single dimension, and separating physical comfort into 2 dimensions: pain management and safe/child-focused environment.	
Stevens G, Kim A. National Trends in Indicators of a Medical Home for Children. *Maternal and Child Health Journal*. 2016; doi: 10.1007/s10995-015-1902-z.	Study examined whether children's primary care experiences nationally have become more aligned with the medical home model over time, and how this may have varied for vulnerable children.	• Children with more risk factors experienced more volatile changes, suggesting a particular need to attend to the primary care experiences of the most vulnerable children	

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Beck A, Tschudy M, Coker T, Mistry K, Cox J, Gitterman B, Chamberlain L, Grace A, Hole M, Klass P, Lobach K, Ma C, Navsaria D, Northrip K, Sadof M, Shah A, Fierman A. Determinants of Health and Pediatric Primary Care Practices. *Pediatrics*. 2016; doi: 10.1542/peds.2015-3673	Study describes how care structures and processes can be altered in ways that align with the needs of families living in poverty.		
Christensen A, Brown J, Wissow L, Cook B. Spillover of Ratings of Patient- and Family-Centered Care. *Journal of Ambulatory Care Management*. 2016; doi: 10.1097/JAC.0000000000000133	Study aimed to describe parent perceptions of patient- and family-centered care (PFCC) by medical assistants (MA) and assess associations between MA PFCC and other perceptions of their care experience	• Perceptions of PFCC by MAs were significantly associated with 6 of 7 other measures of patient experience, including PFCC by the physician, treatment by the receptionist, and satisfaction with wait time.	

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Christensen EW, Payne NR. Effect of Attribution Length on the Use and Cost of Health Care for a Pediatric Medicaid Accountable Care Organization. *JAMA Pediatr*. 2015; doi:10.1001/jamapediatrics.2015.3446	Study examined the assumption that children who received their primary care at a facility within the Children's Hospitals and Clinics of Minnesota pediatric Medicaid ACO would have better consistency and coordination of care thus decreased use of high cost services.		• Consistent primary care within the ACO for more than 2 years was associated with a 40.6% decrease in inpatient days and an increase of 23.3% in outpatient office visits; 5.8% in emergency department visits; and 15.3% in use of pharmaceuticals. • Increased length of time receiving care in the ACO was associated with decreased annual costs; the above changes in use of health care services resulted in a cost reduction of 15.7%.
Coller RJ, Klitzner TS, Saenz AA, et al. The Medical Home and Hospital Readmissions. *Pediatrics*. 2015;136(6): e1550-e1560.	Study tests the hypothesis that patients with medical homes are less likely to have early postdischarge hospital or emergency department visits. The prospective study cohort includes 701 randomly selected patients during an acute hospitalization at a children's hospital during 2012-2014.		• Lacking a usual source for sick and well care was significantly associated with readmissions. • Lack of parent confidence was associated with readmissions and emergency department visits.

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Friedberg M, Rosenthal M, Werner R, et al. Effects of a medical home and shared savings intervention on quality and utilization of care. *JAMA Intern Med.* 2015;175(8):1362-1368.	Study measures associations between participation in the Northeastern Pennsylvania Chronic Care Initiative and changes in quality and utilization of care. The study included 27 volunteering small primary care practice sites, including pediatrics.	• Participation in the pilot was statistically significantly associated with higher performance on measures of quality of care and screening related to chronic conditions.	• Pilot participation was statistically significantly associated with lower rates of all-cause hospitalization, all-cause emergency department visits, ambulatory care–sensitive emergency department visits, and ambulatory visits to specialists and with higher rates of ambulatory primary care visits.
Friedberg M, Schneider E, Rosenthal M, et al. Association between participation in a multipayer medical home intervention and changes in quality, utilization, and costs of care. *JAMA*. 2014;311(8):815-825.	Study measures associations between participation in the Southeastern Pennsylvania Chronic Care Initiative and changes in quality, utilization, and costs of care. Thirty-two primary care practices voluntarily participated in the pilot, including 7 pediatric practices.	• Pilot participation was associated with statistically significantly greater performance improvement, relative to comparison practices, on 1 of 11 investigated quality measures.	

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Tom J, Mangione-Smith R, Grossman D, Solomon C, Tseng C. Well-child care visits and risk of ambulatory care-sensitive hospitalizations. *Am J Mang Care.* 2013; 19(5):354-360.	Study analyzed claims and administrative data for 20,065 children 2 months to 3.5 years of age enrolled in Group Health Cooperative.		• Children with lower well-child visit adherence had increased hazard ratio of 1.4-2.0 for ambulatory care-sensitive hospitalization. • Children with ≥ 1 chronic disease with lower well-child visit adherence also had an increased hazard ratio of 1.2-3.2 for ambulatory care-sensitive hospitalization. • Children with low well-child visit adherence might represent a subset of patients who might benefit from case management intervention.
Margolius F. Less tinkering, more transforming: How to build successful patient-centered medical homes. *JAMA Internal Medicine.* 2013;173(18);1702-1703.	Study outlines PCMH studies that took place in Los Angeles, CA and Anchorage, AK.	• Improved care delivery (empanelment, team-based care, open access). • Improved patient/provider satisfaction. • Increased access to care.	• 50% reduction in ED visits and hospitalizations in the Anchorage study.

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
Aysola J, Bitton A, Zaslavsky A, Ayanian J. Quality and equity of primary care with patient-centered medical homes: Results from a National Survey. *Medical Care.* 2013;51(1):68-77.	Study used national survey to see if PCMH reduces disparities in the quality of primary care in children (based on AAP definition of the medical home include in the National Survey for Children's Health dataset) 2007-2008 data. Based the quality of primary care on 10 quality indicators which included preventative medical services, dental services, unmet medical needs, mental health services, developmental screening, tetanus booster, vaccinations, HPV information (for girls).	• Quality of care differed significantly between children with and without a MH for 7/10 of the quality measures examined. • Children with a medical home had significant lower rates of unmet health care needs (P<.001, reduction by 75% as compared to children without). This was true among all racial/ethnic groups as well. • Children with asthma had fewer missed schools days when they had a medical home as compared to those who did not.	
Cox J, Buman M, Woods E, Famakinwa O, Harris S. Evaluation of raising adolescent families together program: a medical home for adolescent mothers and their children. *Am J Public Health*. 2012; 102(10):1879-1885.	Study of a teen-tot medical home model program located in a large primary care practice that is hospital based. 181 eligible adolescent	• Family-centered medical home model was effective in engaging adolescent parents and their children in a wide range of medical and social services. ○ Saw higher rates of childhood immunization (above national, state, and local benchmarks).	

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	mothers were enrolled.	○ Rates of well-child care were higher than rates reported for adolescent parent clinics and improved over time. ○ Rates of DMPA use were higher which led to reduced repeat pregnancy rates.	
Long W, Auchner H, Sege R, Cabral H, Garg A. The value of the medical home for children without special health care needs. *Pediatrics*. 2012; 129(1):87-98.	Analysis of data from the 2003 National Survey of Children's Health and analysis of data related to the 70,007 children who did not have special health care needs and had a personal doctor or nurse.	• Parents of children who had a medical home were more likely to assess their child's health as excellent/very good. • Children with medical homes had significantly greater odds of health promotion activities such as: being read to daily, getting sufficient sleep daily, always using a helmet and watching < 2 hours of screen time daily.	• Children with a medical home were more likely to have preventive health visits, less outpatient sick visits, and less ED sick visits. (These results were robust ~30%.)
DeVries A, Li C, Sridhar G, Hummel J, Bredbart S, Barron J. Impact of medical homes On quality, healthcare utilization, and costs. *The American Journal of Managed Care*. 2012;18(9):534-544.	The main objective of this study was to compare PCMH practices during their pre-recognition phase with non-PCMH practices to assess important quality differences in healthcare delivery and costs that may already be evident during the transformative baseline period. The study examined 10	• Significantly larger portion of PCMH treated pediatric patients had pharmacy benefits through their health insurance than non-PCMH patients (p<0.001). • Antibiotic use was significantly lower for pediatric patients in the PCMH group when compared to non PCMH group (p=.001).	• Both pediatric and adult patients had significantly fewer ED and hospitalization visits in PCMH cohort (p<0.001). • In pediatric patients, PMPM medical costs for PCMH treated patients were lower than those of non PCMH patients (6.8% vs. 12.7% adjusted for risk).

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	PCMH practices (n=31,032) and 202 non-PCMH practices (n=350,015), of which the pediatric population in PCMH practices was 14,434, and in non-PCMH practices 77,810.		
Raskas R, Latts L, Hummel J, Wenners D, Levine H, Nussbaum S. Early results show WellPoint's Patient-Centered Medical Home pilots have met some goals for costs, utilization, and quality. *Health Affairs*. 2012; 31(9);2002-2009.	Article outlines results from 3 WellPoint pilot studies in CO, NH, and NY.	New York results details a few pediatric-specific findings: • Rates of inappropriate use of antibiotics for pediatric patients was lower in the PCMH practices compared to control practices (27.5% vs. 35.4%).	• Patients in PCMH had fewer ER visits (17% fewer for children). • Risk adjusted total PMPM costs for PCMH population was lower than costs for patients in control population (8.5% lower for children).
Romaire M, Bell J. The medical home, preventive screenings, and counseling for children: Evidence from the Medical Expenditure Panel Survey. *Acad Pediatr.* 2010;10(5):338-345.	Cross-Sectional data analysis of Medical Expenditure Panel Survey (2004-2006), n=21,055 children aged 0-17. Look to estimate prevalence of medical homes (MH) for all US children, examine association between having a MH and receipt of age-appropriate, health related screenings and anticipatory guidance. MH is defined by a	• 49% of children have MH (when defined source of care defined as person or facility), 19% have MH (when source defined as a person). • Children with MH and source of care as person or facility are more likely to have height/weight/blood pressure checked and report receipt of anticipatory guidance topics when compared to children without a MH. • Children with MH and source of care as person or facility had increased odds of receiving at least 1 screening in the last year.	

Reference	Background	Increased Quality and/or Patient Experience and Improved Health Outcomes	Health Care Cost and Acute Care Service Outcomes
	usual source of care that is accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective		
Smith P, Santoli J, Chu S, Ochoa D, Rodewald L. The association between having a medical home and vaccination coverage among children eligible for the vaccines for children program. *Pediatrics* 2005; 116 (130); 2004 – 1058.	Article outlines results of National Immunization Survey, surveying a total of 24,514 children between 19 and 35 months to evaluate Vaccines for Children (VFC) program eligibility and medical home access Medical home was defined using AAP definition as being accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective.	• VFC eligible children with medical homes had significantly higher vaccination coverage rate than those that were VFC eligible but did not have a medical home.	