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# INTER PROFESSIONAL COLLABORATION: THE FUTURE OF PEDIATRIC DENTAL PRACTICE

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**ABSTRACT**

Inter- professional collaboration is defined as "when multiple health workers from different professional backgrounds work together with patients, families, caregivers, and communities to deliver the highest quality of care,with the triple aim of improving patient experience and satisfaction, improving the health of the population, and reducing costs.[1] However, IPC is where health care is still not a reality right now and IPC is the exception, not the rule. It is the need of the hour for each of the health professions to shift its focus toward collaboration, partnerships, and sharing, rather than operate in silos. pediatric dentistry is one such domain of health sciences which needs intricate and interdependent treatment planning and delivery as many specialties come under this branch and unequivocally children in growing age needs monitoring by different specialists and an orchestral confluence of treatment that cascades in a flawless and seamless way,as any wrong doing in this age can spoil the masticatory as wellas complete general health including the psychological aftermath,it is of great importance asin casepatients are "handed off" with each transition, there is increasing risk for error to the patient with each handoff so with efficient transfer of essential information; IPC can mitigate some of the risk associated with these transitions. However there are several challenges that include traditional culture of healthcare training and practice to work in silos, Professionals are not used to working collaboratively across disciplines; hence there is little exposure to each other's role and perspective, this fosters miscommunication, mistrust, conflict, and a lack of coordinated care. [2]Also physicians historically have been autonomous and dominant of other health professions, rather than collaborative. Lastly patients themselves have traditionally not been a part of the decision making related to their care. With the greater challenge that is resistance to change, as health professionals may be reluctant to adopt an IPC culture. Despite all these the benefits of IPC stands tall so it is time to take a call. In this paper we showcase inter- professional case-centered collaborative practice focusing onpediatric population.It is all about how we can collaborate inter-professionally? What opportunities exist to collaborate inter -professionally? What disciplines outside of ourspecialtycould you collaborate with? What cases in pediatric dentistry comes under whom could you collaborate with? Examplesare provided to assist in showing the conditions for collaborative teamwork to develop in an institutional and hospital setting, this series will emphasize why inter - professional collaboration (IPC) is important, and it will provide concrete examples of how to make IPC work in pediatric multiple settings.



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# INTRODUCTION

Before inter - professional collaboration practices were adopted, professionals would simply look at a patient's chart to review treatments and patient history, Working independently could lead to missed symptoms or miscommunication about patient needs with increased collaboration, medical professionals are interacting on a personal level, sharing ideas about patient treatment and working together to maintain continuity of care. This Enable Comprehensive Patient Care as team members from different disciplines work jointly, it's easier to form a more

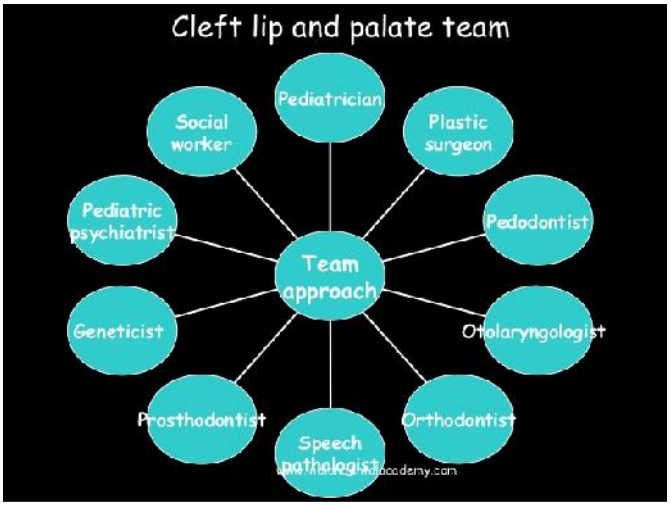
comprehensive view of patient care. Each professional as holding a piece to the puzzle, bringing all these pieces together enables a better understanding of the patient's needs. It Minimizes Readmission rates.With better care and the closure of communication gaps, patient outcomes are better. Inter- professional collaboration combats ongoing patient care problems such as misdiagnosis. When a patient is misdiagnosed, he or she will probably be back in the hospital soon, at a high cost both to the patient and the medical facility. By increasing collaboration, patients are treated effectively the first time. Patients aren't the only ones who benefit from inter-professional collaboration. Working independently puts pressure on medical professionals, by working together, professional's support each other, breaking down the silos of different disciplines,this team mentality raises morale and encourages camaraderie ultimately; provide patients with the best care possible. Instead of having individuals take turns caring for them, patients have a team on their side from the start, working together to provide care that has lasting results.IPC is critical for the success of patient-centered care that is "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions."[3] This replaces the traditional physician-centered system with one that revolves around the patient. With IPC, team members focus on the needs of the patient rather than on the individual contributions of each professional. Collaborative leadership in medical setup will improve safety and healthcare delivery, as well as reduce costs. Puts the patient at the center of the healthcare team's focus and allows all health professionals, with the patient, to collaboratively provide input, be part of the decision making, and improve outcomes. Adopting this team-based culture of mutual respect and understanding and it can improve safety and healthcare delivery, until the rise of inter-professional collaboration, and even now in some medical environments, the doctor was viewed as the "quarterback" of patient care. The doctor made most major decisions about how a patient was treated and cared for. With an increased emphasis on inter-professional collaboration, other members of a patient's medical team, such as nurses, radiologists, ENTs, social workers and professionals from any number of other disciplines, are empowered to make recommendations about patient care. When all medical and healthcare professionals are working together, a more communicative environment develops. Patient-centered care is "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions." This replaces the traditional physician-centered system with one that revolves around the patient. With IPC, team members focus on the needs of the patient rather than on the individual contributions of each professional. This is possible with a good leader's quality that mentors all the members of the team to unleash the various potential and creativity of the members of the team and encourage them with good communication and focus on the following qualities.[4]

1. It Empowers Team Members
2. It Closes Communication Gaps.
3. It Enables Comprehensive Patient Care
4. It Minimizes Readmission Rates
5. It Promotes a Team Mentality
6. It Promotes Patient-Centered

**Care** Each health care profession must concentrate on collaboration, alliances, and sharing rather than on silos.The quality and safety of care, and the need to curtail costs, require all professions to operate together in a respectful atmosphere. pediatric dentistry is one such branch that has to essentially has to work with inter-professional collaboration,as most of the specialty come under the age defined specialtyhave high emphasize on IPC asif the team's professionals do not communicate and collaborate, their performance in return will be poor between team members. In the healthcare field, poor communication is often cited as a root cause of medical errors.[5]Effective teamwork and good working relationships can reduce errors and improve outcomes. In silos, patients are "handed off" with each transition in care, increasing the risk for error to the patient with each handoff. With efficient transfer of essential information, IPC can mitigate some of the risk associated with these transitions to work seamlessly & deliver flawless treatment. IPC optimizes patient outcomes by improving communication and teamwork. This paper gives concrete examples of how to make IPC work across multiple settings in pediatric patients reporting with multiple dental conditions. The need for highly specialized knowledge and skills can become a problem when it is not paralleled by the knowledge and skills on how to work effectively together. The growing focus on prevention and on continuity in health care delivery requires that a good quality of inter-professional collaboration is not only present in highly specialized hospital settings but also in primary and community-based health care. We emphasize a teamwork in aiding both primary and comprehensive, preventive and therapeutic oral health care for infants and children through adolescence including those with special health care needs. To quote few examples:

**Cleft Lip and Palate**

**A multidisciplinary approach:** Theattitude of care in the clip and palate population must be viewed in terms of the final result of the total treatment plan rather than by considering the effect of any single treatment. Successful long-term outcomes depend on individualized, fullyintegrated, long-term treatment provided in an effective and coordinated manner by a multidisciplinary team of experts in the field, from before birth through adolescence.



3. Responsibilities of Members of the IP team

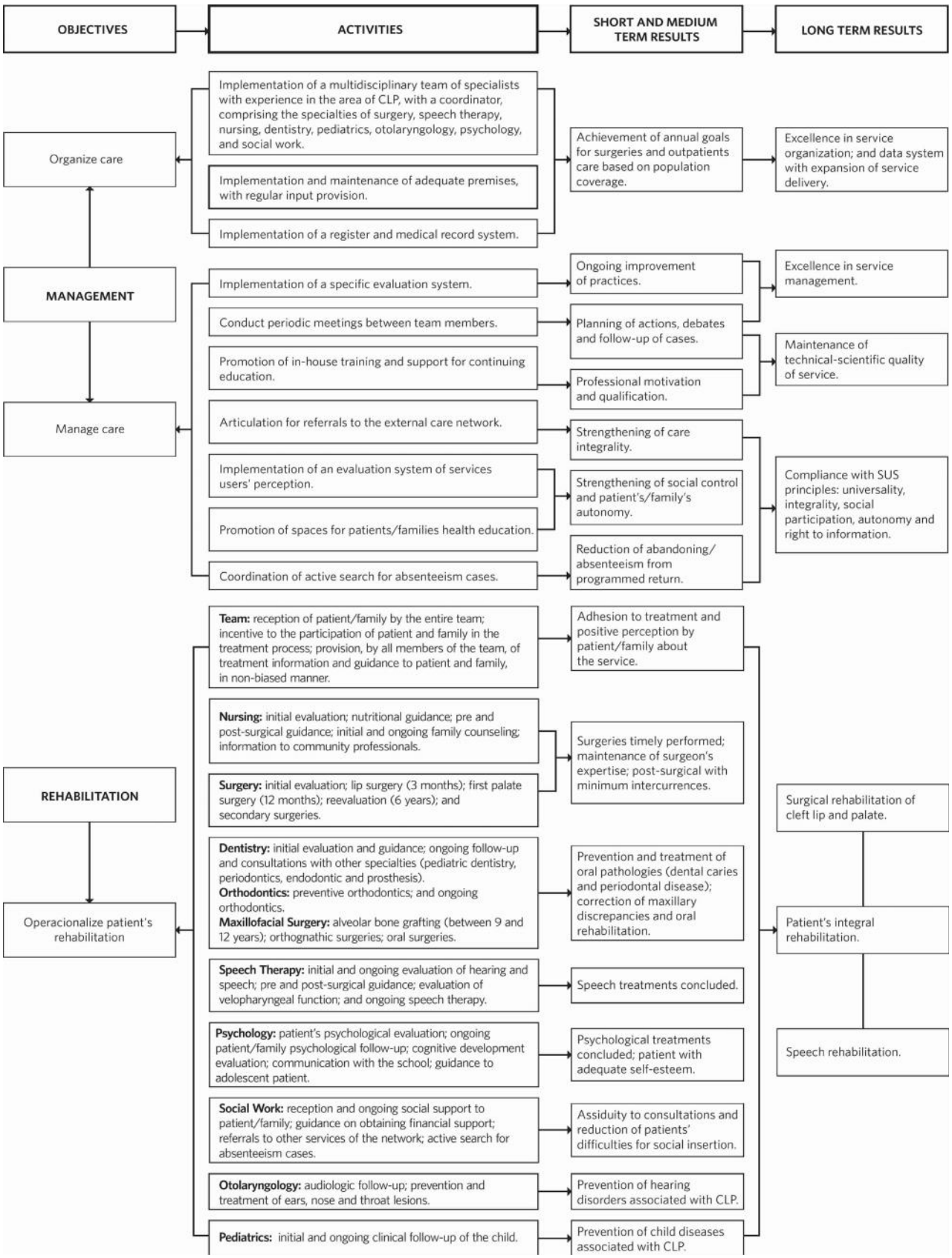
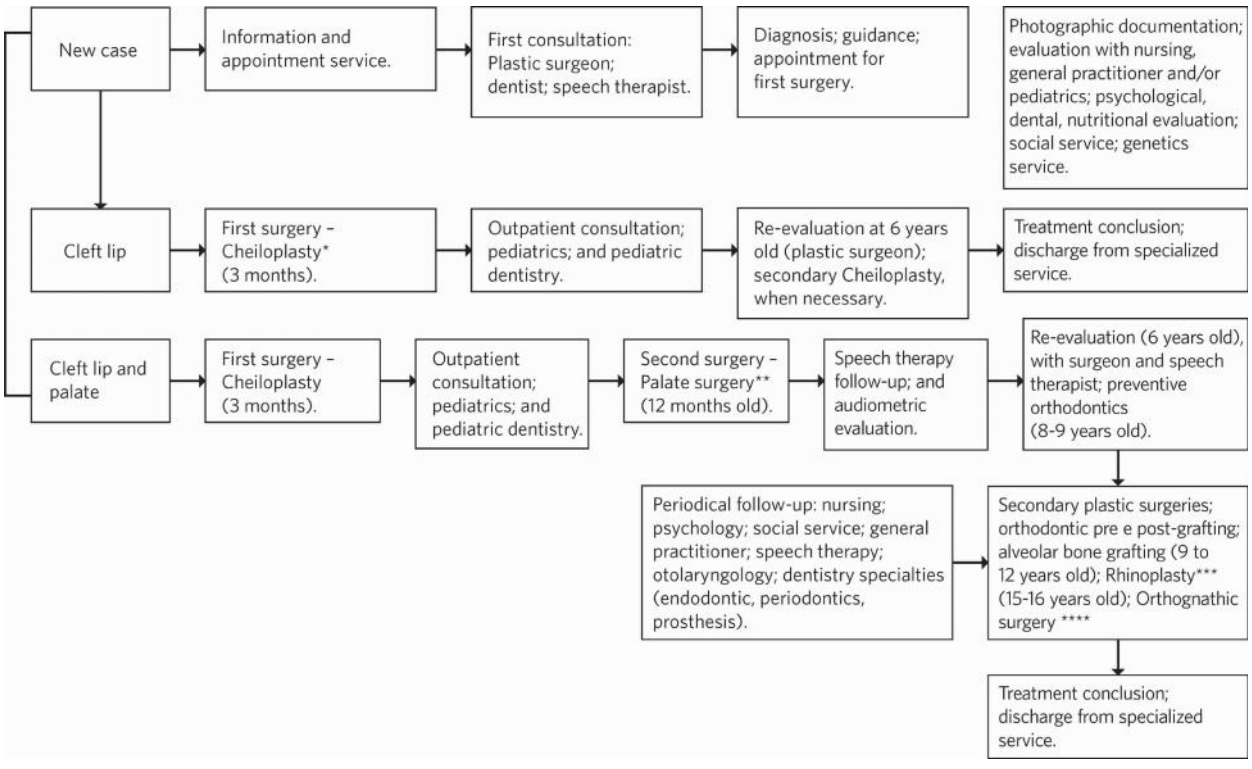



**Figure 2. Logic model of care for individuals with cleft lip and palate (CLP) according to guidelines from WHO (2002), ACPA (2009; 2015)**

**Chart 1. Main international guidelines and recommendations for care services for individuals with CLP**

| WHO (2002) | ACPA (2015) |
|---|---|
| Part 1: Health care<br>Neonatal emotional support and professional counseling;<br>Neonatal nursing;<br>Surgery: team agreed protocol;<br>Orthodontics;<br>Speech therapy;<br>Otolaryngology;<br>Clinical genetics/Pediatrics;<br>Emotional support and professional counseling for patient and family;<br>Periodical dental care;<br>National register. | 1. Team composition<br>Presence of one coordinator; Minimum team with speech therapy, surgery and orthodontic specialties; Access to professionals in the areas of psychology, social work, audiology, general and pediatric dentistry, otolaryngology, pediatrics and nursing;<br>The craniofacial team should include a surgeon trained in craniofacial surgery and access to a psychologist for the evaluation of cognitive and neurological development;<br>The team should facilitate access to a neurosurgeon, an ophthalmologist, a radiologist and a geneticist. |
| Part 2: Service organization<br>Multidisciplinary team of specialists;<br>Team members should have specific training and experience with cleft care;<br>Team should agree upon the phases of treatment, including analysis, register collection and general protocols;<br>There should be one person responsible for the improvement of quality and communication within the team;<br>The coordination of patient's care is important;<br>The number of patients referred to the team should be sufficient to sustain the experience and specialized competences of all team members, and to allow evaluation/team performance audit within a reasonable time period. It has been recommended that surgeons, dentists and speech therapists should treat at least 40-50 new cases per year. | 2. Team management and responsibilities<br>Periodical meetings of team members; Mechanism of referral and communication with other professionals; Subsequent evaluations of patients at periodical intervals, based on team recommendations; Central registries shared by the team.<br>3. Communication with patient and family<br>The team should provide adequate information to family/caregiver on the evaluation and treatment procedures; The team should stimulate the participation of patient and family/caregiver in the treatment process; The team should support families/caregivers in obtaining the necessary financial resources to meet the demands of each patient. |
| Part 3: Funding<br>Resources should be available to cover the following care aspects:<br>Neonatal emotional support and professional counseling;<br>Neonatal nursing;<br>Surgery;<br>Orthodontics/Orthopedics;<br>Speech evaluation and therapy;<br>Otolaryngology treatment;<br>Clinical genetics/Pediatric medicine;<br>Emotional support for child and parents;<br>Travel expenses;<br>General dental care, including prostheses. | 4. Cultural competence<br>The team demonstrates sensibility for the individual differences that affect the relationship between its dynamics and that of the patient and the family/caregiver; The team treats patients and families/caregivers in a non-biased manner.<br>5. Social and psychological services<br>The team has a mechanism to evaluate and treat, initially and periodically, if needed, the psychological and social needs of patients and families/caregivers, and submit them to posterior treatment, if necessary; The team has a mechanism to evaluate the cognitive development.<br>6. Evaluation of results<br>The team uses a process to evaluate its own performance, regarding the evaluation of the patient, treatment, or satisfaction, and a program of improvements based on the results of these evaluations; The team registers its treatment results, including the performance and changes throughout time; The team should also have a quality management system to evaluate the satisfaction of the patient/family. |



**Hemophilia**

For thisIPC, an expert multidisciplinary panel comprising pediatric dentist, parents, hematologists, pediatrician, anesthetist to develop practical approaches to implement the principles of multidisciplinary management of dental problems in children with hemophilia (cwh). Careful preoperative planning is paramount for successful dental procedures, including dental examinations, rehabilitation, laboratory testing and the development of hemostasis and pain management plans. A coordinator may be appointed from the multidisciplinary team to ensure that critical tasks are performed and milestones met to enable treatment to proceed. At all stages, the patient and their parent/caregiver, where appropriate, should be consulted to ensure that their expectations and functional goals are realistic and can be achieved. The planning phase should ensure that dental treatment proceeds without incident, but the multidisciplinary team should be ready to handle unanticipated events. Similarly, the broader multidisciplinary team must be made aware of events in treatment that may require postoperative plans to be changed. Post -operative rehabilitation should begin soon after dental surgery, with attention paid to management of hemostasis and pain. Dental surgery in patients with inhibitors requires even more careful preparation and should only be undertaken by amultidisciplinary team experienced in this area, at a specialized hemophilia treatment center with a comprehensive care model.[10]

**Key features:**

- Expertise in coagulation disorders
- Development and provision of individualized treatment plans
- Preventive medicine
- Access to multiple health care disciplines
- Optimized care

Health Resources and Services Administration (HRSA) recognized that individuals with bleeding and clotting disorders has difficulty obtaining quality care due to the rarity and complexity of their disease.This realization should lead to the development of IP team to improve expertise, access to care, and outcomes

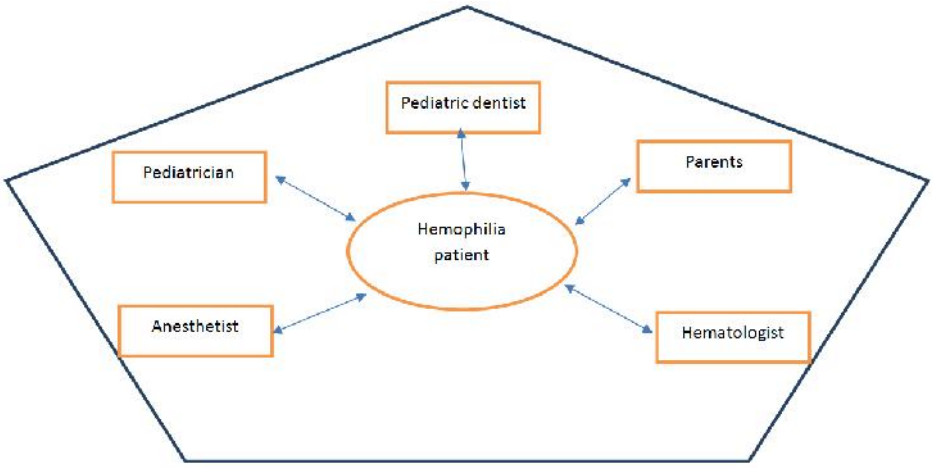



**Figure 1. Kidznteenz pediatric pentagon**

Additional Team Members

- Other physicians
- Primary care providers
- Orthopedics
- Pharmacist
- Genetics
- Nutritionist
- Educational/vocational counselors

**Defining the Role of IP team**

Coordinate state-of-the-art medical treatment for persons with hemophilia throughout their life span

- Education
- Research
- Outreach
- Emotional support
- Ensure optimal therapy for patient (age, activity level, medical background)
- Prepare patient and families for home treatment

- Identifying candidates
- Teaching concepts and skills
- Oversight

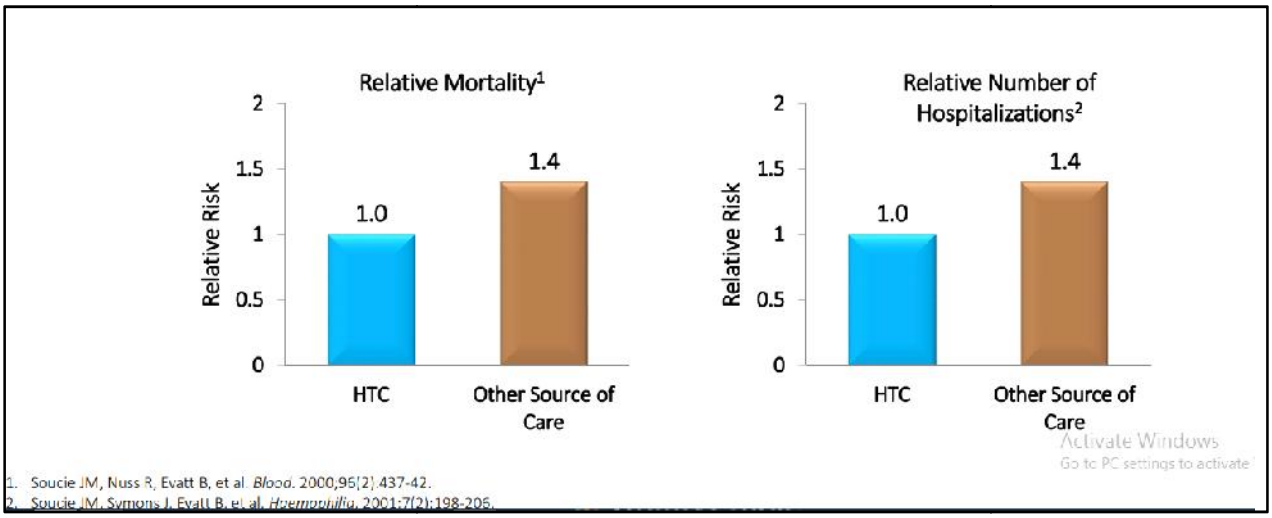
**Improving Hemophilia Outcomes through Comprehensive Care:** Comprehensive care for hemophilia is defined as the continuous supervision of all medical (including factor replacement utilization) and psychosocial aspects affecting the patient and his family.

Optimal treatment is based on:

- Early diagnosis
- Prevention and early treatment of bleeding episodes and any complications, particularly hemophilic arthropathy
- Detection and management of inhibitors
- Psychosocial and educational support
- Monitor for treatment-related comorbidities
- Coordination of care with other providers involved in management of the patient

**Reduced Morbidity and Mortality Derived via IP team-delivered Care:**

**Patients Receiving Care by an IP team show 40% Reduction in Mortality and Hospitalization**




**IP Care Minimizes Hospitalizations for Bleeding Complications:**

**IPC Help Manage the Cost of Care**

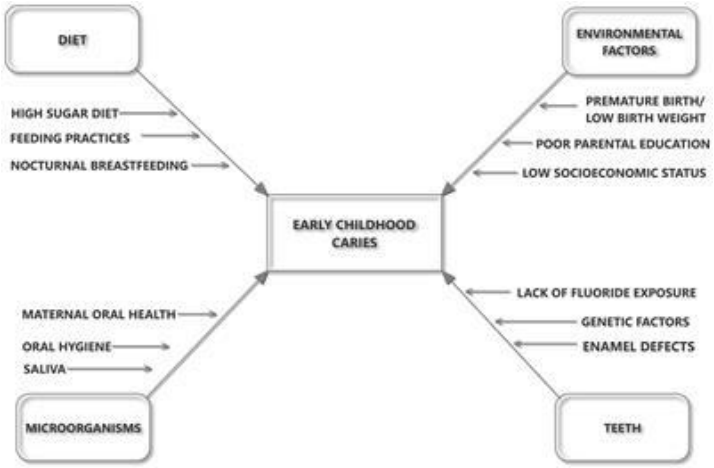
- Many unbilled, ancillary services often included as part of comprehensive care
- Expert care decreases complications
- Minimizes number of visits
- Promotes adherence and independence
- Complete medical history readily available
- Optimal, collaborative decision making
- Collaborative relationships with expert subspecialists

**Complications if there is lack of coordination of IP team:** The treatment of hemophilia has involved risk for patients if the IP team is not coordinated well. Factor therapy in the form of cryoprecipitate and clotting factor concentrates was an improvement over plasma transfusion and improved the quality of life (QOL) for patients with severe hemophilia by allowing home treatment, but the use of this treatment modality will be hampered if there is no proper monitoring by hematologistresulting widespread infection by hepatitis viruses and human immunodeficiency virus (HIV) .Approximately 90% of patients with hemophilia were infected with the hepatitis C virus (HCV), and more than 55% of this cohort was coinfected with HIV in the past.[19]To achieve optimal long-term results, the treatment of patients with hemophilia requires a comprehensive approach coordinated by a multidisciplinary team of specialists.

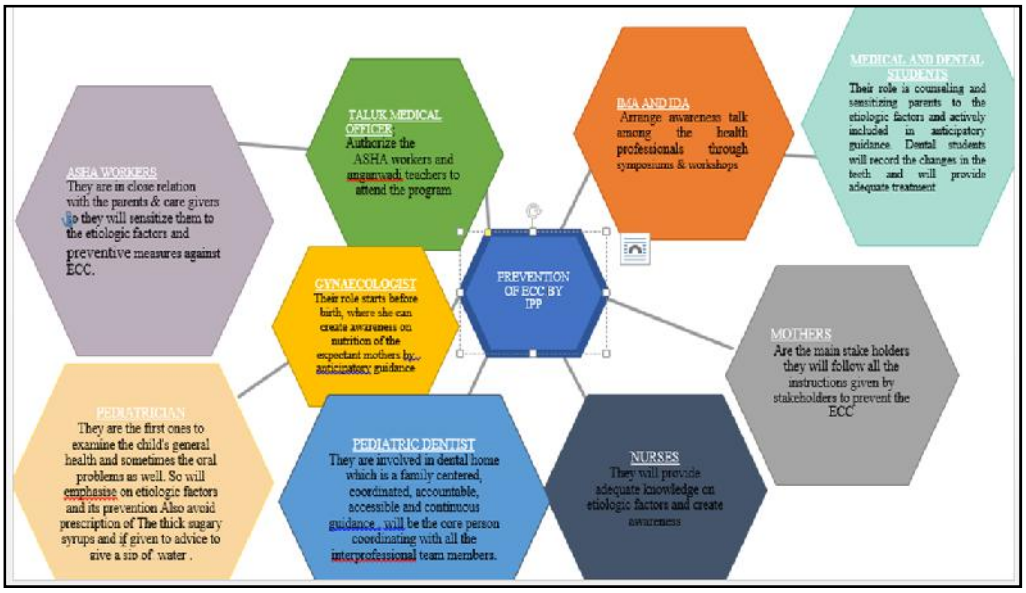
**Early Childhood Caries**

**Definition:** The disease of early childhood caries (ECC) is the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger. (AAPD 2008).

bad oral health" habits.




**Different IP members to be involved in prevention:** The impact of prevention and management of ECC requires the attention of health care professionals and decision makers and extends well beyond the dental office to regulatory and child advocacy agencies as well as public health officials and legislators.[6]




**Pedodontists:** They are the main coordinator in prevention and treatment of ECC. Pedodontists are involved in dental home which is a family centered, coordinated, accountable, accessible and continuous guidance by the pediatric dentist begins with age 1 for laying the overall foundation of 10 / 55 the general health. Hence the pedodontist can implement the AAPD recommendation to prevent ECC bycollaboration with Indian academy of pediatric dentists and Indian academy of pediatricians.Parents are the main stakeholders who could be counselled regularly to prevent the various etiologic factors and actively included in the anticipatory guidance. They should notice any minor changes in the teeth and should provide adequate cleansing of the tooth of their infant with moist gauze/cotton or using tooth brush as advised by the pedodontist. Recent data, for example, from Australia show a prevalence of more than 50% of 6-year-old children with caries on deciduous teeth.Data from different parts of the world show up to 89.2% of children with ECC in Qatar and 36% in Greece, 40% prevalence has been reported in the USA among 2–11 year old children, 10% in Germany and up to 26% with initial lesions among 3-year-old children with ECC and an increase up to about 50% in 6-/7-year-old children. (Meyer et al, 2018).

**Gynecologist:** Their role starts before birth, to create awareness on nutrition of the expectant mothers on the prevention of developmental anomalies and importance of nutrition in healthy teeth.

**Pediatricians:** They are the first ones to examine the child's general health and the oral problems as well. Also awareness on the prescription of the thick sugary syrups given for the infections are a main culprit. Proper Feeding practices are generally advised by pediatricians. To wean from bottle when the first tooth erupts and to notice anydiscoloration or caries and refer to pedodontist instructions on proper feeding practice adds on to prevention.

**ASHA workers**: They are in close in relation with the parents & care givers so they can provide educational awareness related to child's, oral health & feeding practices which will ensure the care givers to provide necessary preventive measures against ECC.

practical developmentally appropriate information on children's health & to prepare parents for significant problems

**Complications if there is lack of coordination of IP team:**

Poor appetite
Disturbed sleep
Emergency visits and possibly hospitalizations
Loss of school days with restricted activity
Reduced ability to learn and concentrate
Need for extractions
Need for treatment under general anesthesia
Premature loss of primary molars predisposing to malocclusion

Long term

Poor oral health and dental disease often continue into adulthood
Higher risk of new carious lesions in the other primary teeth and the succeeding permanent dentition
Affect child's general health, resulting in insufficient physical development especially in height and weight
Increased treatment costs and time for parents
Potential to affect speech, nutrition, and quality of life

Rare sequelae

Sub-orbital cellulites
Brain abscesses
Unexplained recurrent fevers
Acute otitis media

## CONCLUSION

**The future of patient centered practice in pediatric dentistry must utilize the**benefits of inter-professional collaboration healthcareprofessionals, toget improved patient outcomes, fewer preventable errors, reduced healthcare costs, and improved relationships with other disciplines. It is time to change the narrative if pediatric dental practice and it is possible byinter-professional client-centered collaborative practice are resonate within both health and social care students moving into practice, educators who are interested in teaching from an inter- professional perspective, and practitioners who are grappling with the desire to provide enhanced collaborative care to their clients their interrelationship to inter- professional collaborative teamwork. By an exploration of the impacts of current multidisciplinary practice within the health system by changing the traditional hierarchical and top-down decision model and transformations are needed to create the conditions for the capacity of teams to emulate inter- professional client-centred collaborative teamwork.

## REFERENCES


1. Department of Human Resources for Health. Framework for Action on Interprofessional Education & Collaborative Practice. Geneva, Switzerland: World Health Organization; 2010.
2. McGinnis JM, Olsen L, Goolsby WA, Grossmann C, editors. Engineering a learning healthcare system: A look at the future: Workshop summary. National Academies Press; 2011 Jun 14.
3. Committee on Quality of Health Care in America, Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press; 2001.
4. Lamoste EC, Jacobson PD. Collaboration Amid Crisis. Ind. Health L. Rev.. 2017;14:40.
5. Dingley C, Daugherty K, Derieg MK, Persing R. Improving patient safety through provider communication strategy enhancements. InAdvances in patient safety: new directions and alternative approaches (Vol. 3: Performance and tools) 2008 Aug. Agency for Healthcare Research and Quality (US).
6. Savitha S, Sharma SM, Veena S, Rekha R. Single nucleotide polymorphism of bone morphogenetic protein 4 gene: A risk factor of non-syndromic cleft lip with or without palate. Indian journal of plastic surgery: official publication of the Association of Plastic Surgeons of India. 2015 May;48(2):159.
7. Sathyaprasad S. COMPREHENSIVE ORAL REHABILITATION OF CLEFT LIP AND PALATE PATIENTS.
8. Savitha S, ASSESSMENT OF PREFERENCE OF PEDODONTIST BY CLEFT LIP AND PALATE TEAM IN THE MULTIDISCIPLINARY APPROACH .International Vol.10, Issue, 02, pp.66039-66042, February, 2018
9. Vander Poorten V, Wellens W. Cleft lip and palate: a multidisciplinary approach-Foreword. Acta Otorhinolaryngologica Belgica. 2006:1-.

MC, Street A. Guidelines for the management of hemophilia. Haemophilia. 2013 Jan;19(1):e1-47.
11. Davies GN. Early childhood caries--a synopsis. Community Dent Oral Epidemiol. 1998;26:106–16. (PubMed) (Google Scholar)
12. Berkowitz RJ. Causes, treatment and prevention of early childhood caries: A microbiologic perspective. J Can Dent Assoc. 2003;69:304–7. (PubMed) (Google Scholar)
13. 41. Tanzer JM, Livingston J, Thompson AM. The microbiology of primary dental caries in humans. J Dent Educ. 2001;65:1028–37. (PubMed) (Google Scholar)
14. Nurelhuda NM, Al-Haroni M, Trovik TA, Bakken V. Caries experience and quantification of Streptococcus mutans and Streptococcus sobrinus in saliva of Sudanese schoolchildren. Caries Res. 2010;44:402–7. (PubMed) (Google Scholar)
15. Schafer TE, Adair SM. Prevention of dental disease.The role of the pediatrician. (v-vi).Pediatr Clin North Am. 2000;47:1021–42. (PubMed) (Google Scholar)
16. Caufield PW, Griffen AL. Dental caries. An infectious and transmissible disease. Pediatr Clin North Am. 2000;47:1001–19. v. (PubMed) (Google Scholar)
17. Berkowitz RJ, Turner J, Hughes C. Microbial characteristics of the human dental caries associated with prolonged bottle-feeding. Arch Oral Biol. 1984;29:949–51.(PubMed) (Google Scholar)
18. Milnes AR, Bowden GH. The microflora associated with developing lesions of nursing caries. Caries Res. 1985;19:289–97. (PubMed) (Google Scholar)
19. Loesche WJ. Nutrition and dental decay in infants. Am J Clin Nutr. 1985;41:423–35. (PubMed) (Google Scholar)
20. Ercan E, Dulgergil CT, Yildirim I, Dalli M. Prevention of maternal bacterial transmission on children's dental-caries-development: 4-year results of a pilot study in a rural-child population. Arch Oral Biol. 2007;52:748–52. (PubMed) (Google Scholar)
21. Turksel Dulgergil C, Satici O, Yildirim I, Yavuz I. Prevention of caries in children by preventive and operative dental care for mothers in rural Anatolia, Turkey. Acta Odontol Scand. 2004;62:251–7. (PubMed) (Google Scholar)
22. Köhler B, Andréen I, Jonsson B. The earlier the colonization by mutans streptococci, the higher the caries prevalence at 4 years of age. Oral Microbiol Immunol. 1988;3:14–7. (PubMed) (Google Scholar)
23. Caufield PW, Childers NK, Allen DN, Hansen JB. Distinct bacteriocin groups correlate with different groups of Streptococcus mutans plasmids. Infect Immun. 1985;48:51–6. (PMC free article) (PubMed) (Google Scholar)
24. Azevedo TD, Bezerra AC, de Toledo OA. Feeding habits and severe early childhood caries in Brazilian preschool children. Pediatr Dent. 2005;27:28–33.(PubMed) (Google Scholar)
25. Hallett KB, O'Rourke PK. Early childhood caries and infant feeding practice. Community Dent Health. 2002;19:237–42. (PubMed) (Google Scholar)
26. Van Loveren C. Sugar alcohols: What is the evidence for caries-preventive and caries-therapeutic effects? Caries Res. 2004;38:286–93. (PubMed) (Google Scholar)
27. 65. van Palenstein Helderman WH, Soe W, van 't Hof MA. Risk factors of early childhood caries in a Southeast Asian population. J Dent Res. 2006;85:85–8.(PubMed) (Google Scholar)
28. Jensen ME. Diet and dental caries. Dent Clin North Am. 1999;43:615–33.(PubMed) (Google Scholar)
29. Birkhed D. Sugar substitutes--one consequence of the Vipeholm Study? Scand J Dent Res. 1989;97:126–9. (PubMed) (Google Scholar)
30. Harel-Raviv M, Laskaris M, Chu KS. Dental caries and sugar consumption into the 21st century. Am J Dent. 1996;9:184–90. (PubMed) (Google Scholar)
31. Marrs JA, Trumbley S, Malik G. Early childhood caries: Determining the risk factors and assessing the prevention strategies for nursing intervention. Pediatr Nurs. 2011;37:9–15. quiz 6. (PubMed) (Google Scholar)
32. Sanders TA. Diet and general health: Dietary counselling. Caries Res. 2004;38(Suppl 1):3–8. (PubMed) (Google Scholar)
33. Misra S, Tahmassebi JF, Brosnan M. Early childhood caries: A review. (61-2).Dent Update. 2007;34:556–8. 64. (PubMed) (Google Scholar)
34. 75. Moynihan PJ. Update on the nomenclature of carbohydrates and their dental effects. J Dent. 1998;26:209–18. (PubMed) (Google Scholar)
35. Erickson PR, McClintock KL, Green N, LaFleur J. Estimation of the caries-related risk associated with infant formulas. Pediatr Dent. 1998;20:395–403.(PubMed) (Google Scholar)
36. Rajab LD, Hamdan MA. Early childhood caries and risk factors in Jordan. Community Dent Health. 2002;19:224–9. (PubMed) (Google Scholar)

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