



# School-Based Telehealth:

## An Innovative Approach to Meet the Health Care Needs of California's Children



### FOREWORD

Technology continues to transform the ways in which children of today grow, learn, and communicate. New national initiatives are expanding the reach of high-speed Internet to many more communities, strengthening schools' effectiveness through the use of technology, and equipping health care providers with technology to improve the quality and effectiveness of the health care system. These developments are creating a tremendous opportunity to improve children's health as well.

In California today, the vast majority of children attend one of the state's nearly 10,000 schools—making schools singularly well positioned to help fill the gaps in health care that so many of our children face. And schools are highly motivated to do so. Healthy children learn best, and schools receive payment based on how many children attend school each day. At a time when California, like other states, is building out its telehealth network, developing its health information exchange, and supporting an ambitious roll-out of health information technology, this is a unique moment to help large numbers of underserved children through the development of school-based telehealth initiatives.

Since opening its doors in 1993, The Children's Partnership has been at the forefront of identifying ways in which digital technology can improve opportunities for children and increase the effectiveness of the programs that serve them. From exploring the use of technology to express

enroll uninsured children into health coverage to exploring the use of telehealth to meet the unique needs of children to researching the use of electronic record systems for children in foster care, The Children's Partnership reports on and advocates for 21<sup>st</sup> century advances in health care for children.

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**A critically important goal is to help California's children stay healthy so they can do their best in school.**

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This Issue Brief focuses on a critically important goal for California's children—helping them stay healthy and ready-to-learn so they can do their best in school. Increasingly, digital tools have a role to play in achieving this result.

We hope the information presented here offers a vision of what is possible for schools in this new arena along with practical steps to make it a reality. We look forward to working with policy-makers, program administrators, and the private sector to expand the reach of telehealth in schools so that California's 10 million children can get a healthy start in their lives.

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*Co-Founders, The Children's Partnership*

Photo above provided by University of Rochester Medical Center

## School-Based Telehealth in Action\*

*Nine-year-old Michael has mild asthma. Over the last three days, he has visited the school nurse's office daily to use his inhaler, which is unusual for him. Michael's mother, who is a single mother and works full-time, had provided the school with consent for Michael to receive medical consultations via telehealth. The school nurse calls Michael's mother at work to gather additional medical history and to suggest a telehealth visit for Michael. Through video conferencing and an electronic stethoscope, the primary care doctor diagnoses Michael with a mild asthma flare and calls in a prescription to Michael's family pharmacy for medication to manage the current asthma exacerbation. The primary care provider reviews Michael's asthma action plan with the school nurse and makes adjustments. Michael receives a few puffs of his inhaler with improvement and returns to class. The school nurse calls Michael's mother after the visit to let her know the disposition of the visit and to review Michael's asthma action plan. She also sends a summary home with Michael. Michael's mother picks up the medications on her way home from work. The doctor bills Michael's Medicaid insurance for the visit. The nurse checks in with Michael the next day; he is feeling much better.*

*\*This is not an actual case, but a composite of real stories.*

school and their parents at work. Telehealth in schools is increasing access to acute and specialty care for children; helping children and families manage chronic conditions; facilitating health education for children, families, and school personnel; and increasing the capacity of school nurses and school-based health centers to meet the health care needs of students.

California was one of the pioneers in telehealth among states, with programs operating in the early 1990s and enactment of one of the first state telehealth laws in 1996. The State now has the opportunity to extend this leadership by harnessing technology to meet the health care needs of children in schools.

The Children's Partnership developed this Issue Brief to serve as a blueprint for action to help California state and community leaders make real the promise of school-based telehealth to improve health outcomes for children. This brief outlines the health care needs of California's children and discusses schools' roles in meeting those needs. Through profiles of selected school-based telehealth programs from across the country, this brief: (1) outlines the benefits of school-based telehealth for children, families, and communities; and (2) highlights the lessons learned from these programs in order to assist in extending this innovation to more communities across the state. Finally, this Issue Brief outlines recommendations for how California can build on its leadership in telehealth to meet the health care needs of children at school.

## INTRODUCTION

It is well documented that healthy children perform better in school. Educators are well aware that keeping children well, ready-to-learn, and in the classroom can improve their academic achievement and life prospects. Schools have an important role to play in promoting the health of children, and they have recognized this in many ways—from health education to the presence of school nurses to the move toward school-based health centers. However, many schools do not have the resources to meet the health care needs of their students.

The advent and adoption of broadband and other technologies in schools are opening new opportunities to meet these needs. As schools increasingly use computers and other technologies to improve learning, teaching, and administration, they are finding ways to leverage digital tools to help keep students healthy.

Telehealth—the use of Information and Communications Technology to provide health care at a distance—is emerging as a valuable way to complement and expand the capacity of schools to meet the health care needs of children, particularly those who are low-income and living in medically underserved areas, while keeping them in





## HEALTH CARE NEEDS OF CHILDREN IN CALIFORNIA

While many children in California are healthy and have access to quality health care, a significant number do not have such access and experience poor health outcomes. Provider shortages are one reason for limited access. Nearly 2.4 million children in California live in federally designated health care shortage areas—both in urban and rural areas of the state.<sup>6</sup> This means families often must travel extensively to receive needed care, which can be particularly burdensome for low-income families who may not have reliable, affordable transportation. Low-income workers are also more likely to lose pay when they miss work and have more limited flexibility to take time off than higher income workers.<sup>7</sup>

Lack of health insurance is another barrier to accessing health care. In 2007, there were 683,000 children in California without health insurance.<sup>8</sup> Due to the economic downturn and recent changes to children's coverage programs, a larger number of children are likely uninsured, currently. Uninsured children are nearly eight times less likely than insured children to have a regular source of care, and five times more likely to use the emergency room as a regular source of care.<sup>9</sup>

Even if children have health coverage, many still do not get the care they need. In California, 811,000 children do not have a usual source of care when they are sick or need health advice,<sup>10</sup> and 589,000 children delay or do not get the medical care they need.<sup>11</sup> According to the American Academy of Pediatrics, all children should have a preventive health care visit approximately once a year.<sup>12</sup> Yet, 1.3 million children in California (12.3 percent) did not visit the doctor in the prior year, according to a 2007 survey.<sup>13</sup>

Furthermore, there has been a significant increase in chronic diseases<sup>14</sup> among children, such as asthma, obesity, developmental and behavioral disorders (including

## What is Telehealth?

*Telehealth is the use of Information and Communications Technology—such as video conferencing, the transmission of digital data, Web applications, cell phones, and other technologies—to provide health care services at a distance. One application of telehealth—telemedicine—refers to the clinical provision of health care from a provider to a patient. Other telehealth applications include patient education, disease self-management, and professional medical training for providers.<sup>1</sup> For more information on how telehealth can improve the health of children, please see Meeting the Health Care Needs of California's Children: The Role of Telemedicine (available at <http://www.childrenspartnership.org/Report/Telemedicine>).*

## What Technology is Used in School-Based Telehealth?

*School-based telehealth can be as simple as using a Web camera attached to a desktop or laptop computer in the school to connect to a distant health care provider. However, most school-based telehealth programs utilize more sophisticated equipment. Many use video conferencing equipment with electronic otoscopes and stethoscopes and sometimes specialized cameras for taking pictures of the skin and other parts of the body.<sup>2</sup> Teledentistry involves intraoral cameras and digital dental radiology.<sup>3</sup> Some programs use digital scanning and imaging equipment.<sup>4</sup> Finally, many school-based telehealth programs use special software to schedule visits, manage patients and other aspects of the project, generate notices to families and providers, and send data over the Internet in a secure way.<sup>5</sup>*

autism and attention deficit hyperactive disorder), and mental health problems. The number of children nationally with a chronic illness is estimated to have quadrupled between 1962 and 2005, with 12 to 16 percent of all children currently having a chronic condition.<sup>15</sup> According to an analysis of the National Hospital Discharge Survey data, in 1962, approximately 25 percent of hospital admissions for children were associated with chronic health conditions. This number more than doubled to approximately 55 percent in 2000.<sup>16</sup>

## Chronic Conditions Among California's Children

- 15.7 percent of children over age one have asthma.<sup>17</sup>
- 16.3 percent of teenagers are overweight or obese,<sup>18</sup> putting them at risk for diabetes.<sup>19</sup>
- There was a 23 percent average annual growth rate of autism diagnosis among children ages 3-22 from 1992 to 2003.<sup>20</sup>

## SCHOOLS RESPONDING TO THE HEALTH CARE NEEDS OF CHILDREN

Schools have long recognized the need to address the health care needs of their students, with the goal of promoting good health in order to support student learning. Through school nurses, school-based health centers (SBHCs), and other school-based health programs, schools have been providing a variety of health care services to children who may otherwise go without such care.<sup>21</sup> Providing access to health care in schools can improve health outcomes for children; increase utilization of health care services, especially among hard-to-reach populations, such as adolescents and minority children<sup>22</sup> and those who live in medically underserved areas; help children and families manage chronic conditions;<sup>23</sup> reduce health care costs over time;<sup>24</sup> and reduce school absenteeism,<sup>25</sup> which also saves schools money because fewer absences result in schools losing fewer attendance-based state dollars.<sup>26</sup> Providing health care in schools also means that students miss less classroom time to travel to health appointments,<sup>27</sup> and parents miss less work to take their children to health appointments.<sup>28</sup>



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### Impact of the Health of California's Children on School Absenteeism

- An estimated 504,000 children missed at least one day of school due to dental problems in 2007, with more than half of those (231,000) missing two or more school days.<sup>29</sup>
  - 385,000 children missed at least one day of school in 2005 because of asthma, with 123,000 children missing 5 to 10 days.<sup>30</sup>
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### How School-Based Health Centers Operate in California

*There are 153 SBHCs in California, serving children from all grade levels. Schools with SBHCs in California serve a significantly higher proportion of low-income children than schools without SBHCs. California's SBHCs range from full-time clinics, offering a range of medical, mental, and dental health services, to part-time clinics, offering a limited set of services and open only for a few hours or days a week. Some are on campus, and some are school-linked, where the centers are located off campus but have formal agreements with schools to serve students. The majority of centers are run by school districts, health centers, hospitals, and county health departments.<sup>31</sup> For more information on SBHCs in California, visit <http://www.schoolhealthcenters.org/>.*

As school-based health programs become increasingly important players in meeting the health care needs of children, there are specific considerations that need to be addressed related to providing health care in schools. Parents play the lead role in managing their children's health, whether in school or at the primary care provider's office. Because school-based health programs provide some services to children without their parents' presence, it is important to engage parents as much as possible. Continuity of care is a central concern with school-based health programs, with a key focus on coordination of care with the child's primary care provider. While concerns arise in some communities among local health care providers losing potential patients to the school,<sup>32</sup> most community providers are aware that schools can play a role in reaching those most in need of care. Engaging local providers and parents in understanding the gaps in care that school-based health services can provide is central to the success of any school-based health program, including ones utilizing telehealth technology.

### SCHOOLS LACK SUFFICIENT HEALTH CARE RESOURCES

Despite recognizing the advantage of providing health care in schools, many schools do not have the resources to meet the health care needs of the children they serve. For example, the school nurse-to-student ratio in California was one nurse for every 2,219 students in the 2007-08 school year,<sup>34</sup> three times the number recommended by the National Association of School Nurses and the federal Healthy People 2010 initiative.<sup>35</sup> Nearly half of all school districts in California do not even have a school nurse.<sup>36</sup> Furthermore, while California has 153 SBHCs, there are thousands that do not, many of which have similar demographics to schools with SBHCs and could benefit from having one.<sup>37</sup> Finally, sometimes it is impractical for schools to support a SBHC or other school health staff. This is particularly true of smaller schools, which lack sufficient volume to support such staff.<sup>38</sup>

## When is Telehealth Appropriate?

*While telehealth can help children access needed and high-quality health care, it is not always an appropriate substitute for in-person care. A face-to-face visit may be clinically necessary, for example, to perform a tactile exam or procedure or to more closely monitor a patient.<sup>33</sup> Children and families may also prefer to receive services in person, even if they have to travel extensively to do so. Finally, at times, telehealth consults may identify a need for follow-up care that cannot be appropriately provided through telehealth, such as dental restorative work or the insertion of ear tubes for children with repeated ear infections. Telehealth programs should be prepared to arrange for referrals in such situations.*

## SCHOOL-BASED TELEHEALTH: NEW TOOLS WELL SUITED TO CERTAIN HEALTH CARE NEEDS OF CHILDREN

Telehealth can serve as a tool to complement and expand the capacity of schools to meet children's health care needs by using technology to connect to health providers at another location. Like other school-based health programs, school-based telehealth programs do not replace local providers; instead, they can serve as an important complement to the community of care. School-based telehealth programs, with experience ranging from one year to more than a decade, are demonstrating the value of this innovation in filling a health care gap for children in an efficient way for families, communities, and health care systems, while helping schools ensure students are healthy and ready to learn.

The programs reviewed for this Issue Brief represent a diversity of urban and rural programs, programs that serve different ages of children, and various models for delivering care. They represent programs that address acute care needs—for conditions such as sore throats, ear

infections, the common cold, rashes, and other typical childhood illnesses; mental and behavioral health needs; chronic condition management; and health education needs. See Appendix A for details on the school-based telehealth programs profiled in this Brief.

### School-Based Telehealth on the Move in California

Though communities in other states got an earlier start in this fairly new arena, stakeholders across California have begun to take keen interest in school-based telehealth. Innovators across the state have piloted or are beginning to pilot a wide range of school-based telehealth models that address various needs of children.

- The Asthma Telemedicine Program, a two-year pilot project which ended in 2005, connected students with asthma in three San Francisco elementary schools with asthma experts at San Francisco General Hospital via video conferencing in order to help these students better manage their symptoms.<sup>39</sup> The Program demonstrated significant improvements in children's and families' quality of life as it related to the child's asthma, and increased asthma knowledge for children and parents.<sup>40</sup>
- Between 2007 and 2008, Childrens Hospital Los Angeles partnered with three school districts in rural Tulare County to meet the oral health care needs of underserved migrant children. Using a variety of technologies, dentists from Childrens Hospital screened children for oral health disease, provided remote oral examinations and patient education, supervised an on-site hygienist, and developed treatment plans for participating children.<sup>41</sup>
- In 2008, the University of California, Davis, partnered with The Children's Partnership and the California School Health Centers Association to assess the feasibility of implementing telehealth to meet the mental and other health care needs of students in school settings in Fresno and Plumas counties. The feasibility study underscored the need to engage a range of community stakeholders in developing the program, creating systems of communication between schools and community partners, and ensuring that the program maximizes existing local resources, while building capacity through telehealth. Stakeholders in Plumas are planning to implement a school-based telehealth project during the 2009-10 school year. The feasibility study in Fresno is still in progress.
- In March 2009, a school-based telehealth program opened at a school for kindergarten through 8<sup>th</sup> grades in Smith River, California. Run by Open Door Community Health Centers, the telehealth program—called Blooming Lily Telehealth Clinic—connects children from the school to providers at the various clinics of Open Door Community Health Centers located throughout Humboldt and Del Norte counties.



Blooming Lily Telehealth Clinic

The program has begun to provide acute care to children enrolled in the school, and is expanding to connect children to specialists. It is also open to the community when school is not in session.<sup>42</sup>

- Konocti Unified School District in Lake County is using telehealth to connect students and school staff to a pediatrician with behavioral health expertise at Open Door Community Health Centers. These consultations are helping the school nurse and other school staff better understand how to more effectively treat children with behavioral health issues.<sup>43</sup>
- The University of California, San Diego, is planning to use telehealth in schools to improve the health of high school students in San Diego County.<sup>44</sup>



University of Arkansas for Medical Sciences

### Impact of School-Based Telehealth Programs from Across the Country

While school-based telehealth is a fairly new field, its impacts are beginning to be documented. What is clear, even at this early stage, is that many children are getting access to health care and other needed services they were not formerly receiving.

**Increased Access to Acute Care:** Telehealth has helped schools meet the acute care needs of students. By connecting schools to health care providers, telehealth enables the distant health care provider to perform such functions as assessing and diagnosing the child's condition, providing recommendations for treatment, and writing prescriptions for the parent to pick up at the pharmacy of their choice.<sup>45</sup> A study of the Health-e-Access program in Rochester, New York, which provides health care through telehealth in child care and elementary school settings, found that utilization of acute health care services for children who had access to telehealth was 23.5 percent higher than children without access to telehealth, and their emergency department utilization was 22.2 percent less, demonstrating a more appropriate use of health care services.<sup>46</sup>

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By eliminating the need for transportation in cases where a hands-on assessment or treatment is not required by the distant provider, telehealth can reduce the challenges of transportation, while enabling access to care and keeping children in school.

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This model can be particularly helpful for children with special health care needs and developmental disabilities, as demonstrated by the Tele-Health-Kids program in Northeast Ohio. These children need to see their care providers frequently, but transportation can be challenging due to their need for medical assistance during transport and the strain that travel can cause for their conditions. By eliminating the need for transportation in cases where a hands-on assessment or treatment is not required by the distant provider, telehealth can reduce the challenges and risks of transportation, while enabling access to care and keeping children in school.<sup>47</sup>

**Improved Management of Chronic Diseases:** Connecting children to providers on a regular basis can help children and families manage children's chronic conditions. A school-based telehealth diabetes management program for children with Type 1 diabetes mellitus connects diabetes specialists at Joslin Diabetes Center in Syracuse, New York to diabetic children and nurses at approximately 16 schools, ranging from kindergarten through 12<sup>th</sup> grades, across central and northern New York state. The school nurse and student—with or without a parent—meets remotely with a specialist at Joslin Diabetes Center on a monthly basis to discuss the child's diabetes, review test results, and adjust treatment plans, as necessary. These consultations are facilitated by a Web camera, remote monitoring equipment, a document camera, and specialized software. A study of the program found improved management of the disease, including fewer diabetes-related emergency room visits, fewer hospitalizations, and fewer urgent visits to the school nurse by participant students. Furthermore, the program enabled the school nurses to better assist students in managing their disease.<sup>48</sup>

The Telehealth KIDS Asthma Telemonitoring Project connected asthmatic children from three schools in rural Arkansas to providers 100 miles away at the University of Arkansas for Medical Sciences (UAMS) to help children manage their asthma. The UAMS Center for Distance Health staffed a nurse in the schools who used telemonitoring equipment to assess the children's lung function. Results of the telemonitoring tests were sent to UAMS for a pediatric nurse practitioner to evaluate and send treatment recommendations back to the nurse at the school. The nurse also connected children to the pediatric

nurse practitioner at UAMS via video conferencing. The Project resulted in decreased asthma-related hospital admissions, reduced school absences, fewer asthma-symptom days, and significant improvement in inhaler use technique.<sup>49</sup> The Project also used video conferencing to educate parents and teachers about asthma management. These education sessions were particularly successful in helping parents understand the seriousness of asthma and the importance of medication.<sup>50</sup>

**Improved Access to Behavioral and Mental Health Care:**

Schools are increasingly challenged by the rising number of children with behavioral health and mental health issues. For example, school nurses, parents, and teachers in Plumas County, California reported the need for assistance with children’s behavioral health issues as one of their top health concerns.<sup>51</sup> The school nurse at Konocti Unified School District has struggled for years to get behavioral health care to her students because of the lack of access in the community.<sup>52</sup>

Telehealth has now enabled students at Konocti schools to see a pediatrician with behavioral health expertise located more than 200 miles away via telehealth.<sup>53</sup> The Prince George’s School Mental Health Initiative, run by the Center for School Mental Health at the University of Maryland School of Medicine, uses telehealth to connect students from schools in Prince George’s County to a psychiatrist at the University—about an hour’s drive from Prince George’s County.<sup>54</sup>

**Added Value to Existing School-Based Health Services:**

Telehealth can build on school-based health programs’ existing capacity to bring additional services to children. The state of New Mexico installed telehealth equipment in 19 schools that have SBHCs, giving the SBHCs access to child psychiatry and other specialty consultations from distant sites that they would otherwise not have.<sup>55</sup> Texas Tech University Health Sciences Center has partnered with a SBHC at a school for kindergarten through 12<sup>th</sup> grades in Hart, Texas to provide health care on site by both sending physicians to the clinic on a weekly basis and providing access to physicians via telehealth when the physicians are not on site.<sup>56</sup> The Prince George’s School Mental Health Initiative uses telehealth to provide students access to a psychiatrist to complement its on-site comprehensive school mental health program.<sup>57</sup> The teledentistry program in Tulare County, California used video conferencing to bring the presence of the dentist to the project to supervise an on-site dental hygienist and conduct oral health exams.<sup>58</sup>

Finally, telehealth technology allows schools to connect to each other to provide services, enhancing the ability of entire school districts to meet the needs of their children. For example, SBHCs in New Mexico use video conferencing to provide health care services to students in each others’ schools.<sup>59</sup>

**Improved Health Education of Students:** Telehealth can bring educational resources to schools that may not otherwise have access. The University of Virginia broadcasts a monthly health education program to a school in Craig County on the other side of the state. Their tobacco cessation education program has been particularly successful. Tobacco use for youth in Craig County is on par with use in urban counties in the state, while similar rural counties surrounding Craig County have seen an increase in tobacco use.<sup>60</sup>

**Increased Education, Training, and Support of School Staff:**

Telehealth provides schools with access to a range of training and education opportunities. For example, the University of New Mexico uses telehealth to provide education, training, and case consultation to SBHCs in areas such as obesity prevention, nutrition counseling, behavioral health, and improved clinical practices.<sup>61</sup> Telehealth can also facilitate increased skills of school nurses and other school staff as they learn from the providers to whom they connect, empowering them to have greater capacity to serve the children they see.<sup>62</sup> For example, the diabetes management program in New York state has increased the capacity of school nurses to treat children’s diabetes, resulting in a reduced number of diabetes-related urgent phone calls from school nurses to the Joslin Diabetes Center.<sup>63</sup>

**More Children Kept in School and Parents at Work:**

When an ill child arrives at school, a common response is for the school to call the parent or guardian to pick up their child. However, telehealth can help schools avoid sending children home, while appropriately protecting the health of both the affected child and the rest of the student population. Nearly 94 percent of parents surveyed in Rochester, New York’s Health-e-Access child care program indicated that the problem managed by telehealth would otherwise have led to a doctor’s office or emergency



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department visit, and 91 percent stated that telehealth allowed them to stay at work.<sup>64</sup> Similar results are being seen in their school-based program.<sup>65</sup>

**Greater Parent Satisfaction:** In addition to the impacts on parents cited above, other studies have demonstrated parents' satisfaction with school-based telehealth in meeting their children's health care needs. Ninety-four percent of parents of children who participated in the Tele-Health-Kids program in Northeast Ohio were satisfied with their children's first telehealth visit, and 100 percent reported that they would continue to use telehealth for their children.<sup>66</sup> A study of the TeleKidcare program in Kansas found that 99 percent of parents were either satisfied or very satisfied with telehealth visits at school, and 99 percent of parents felt that TeleKidcare was better or just as good as other health care.<sup>67</sup>

**More Efficient Use of Resources:** Sometimes, it is just not viable to bring school health services on-site because small schools do not have the volume of children to sustain them.<sup>68</sup> Telehealth technology, however, can pool resources to serve more than one school by having many schools connect to a single centralized location.<sup>69</sup> For example, in the S.M.A.R.T program in Sevier County, Tennessee, two nurse practitioners stationed at one location see children via telehealth from 17 different schools.<sup>70</sup> Telehealth has allowed the psychiatrist with the Prince George's County School Mental Health Initiative to see multiple students in one day, while saving time and resources associated with traveling to and among the schools in the program.<sup>71</sup>

**Greater Cost-Effectiveness:** While the initial and ongoing investment required for telehealth can be costly due to equipment, connectivity, and support needs, telehealth has the potential to be comparable in cost to an in-person visit if the program can create enough volume. This is, in part, due to telehealth visits having the potential to be quicker than a traditional office visit.<sup>72</sup> The San Francisco Asthma Project found that providers were able to see children more quickly via telehealth than in typical asthma clinics (3.5 children an hour compared to two children an hour).<sup>73</sup> In a study of the Kansas TeleKidcare program, when the program provided 200 visits, the average telehealth cost was estimated to be up to 9.5 percent less than a conventional office visit.<sup>74</sup> Finally, there are cost savings associated with parents not missing work and not traveling to the doctor.

Furthermore, the potential of telehealth to avert emergency room visits could lead to reduced costs to the health care system. A study based on experience with the Health-e-Access telehealth program in Rochester, New York found that 28 percent of all visits to the pediatric emergency department could be avoided with better use of primary care through telehealth. The program was associated with 22 percent fewer emergency department visits for Health-e-Access participants than for a closely matched comparison group over a seven-year period.<sup>75</sup>

While these examples demonstrate certain cost savings in the longer term, it is also necessary to caution that the provision of telehealth services, regardless of where they are located, can often be more expensive than a face-to-face visit. Telehealth programs require, for example, investment in equipment, staff to coordinate the visits, and the time of more than one provider. Therefore, when assessing cost-effectiveness, all related costs should be taken into account.

## FINANCING SCHOOL-BASED TELEHEALTH: EARLY DIRECTIONS AND TIPS

As with many innovations, sustainable funding streams have not yet been established for school-based telehealth programs. However, programs are succeeding at identifying new and potentially sustainable sources of revenue.

### Sustaining School-Based Telehealth Programs is a Challenge

Most school-based telehealth programs are able to get grants and donations for start-up costs. However, sustaining the operations of the program has been more challenging. A business plan should be developed from the onset of the program so that as the grant funding ends, there is a plan for ongoing, sustainable operations.

While there are increasing numbers of children enrolled in public health insurance, most school-based telehealth programs cannot rely primarily on health insurance. For example, nearly half of states (23) do not require Medicaid,



## Funding School-Based Health Programs

*School nurses in California are primarily funded by state general funds. Some school districts receive federal funding for school nursing, and some are able to bill Medi-Cal (California's Medicaid program) for school nursing services.<sup>76</sup>*

*School-based health centers typically rely on a mix of public and private funding. Funding sources include federal dollars, such as Medicaid, Maternal Child Health Block Grant dollars, and tobacco settlement dollars; state dollars, such as state general funds, tobacco tax dollars, and education funds;<sup>77</sup> grants from private philanthropies; health insurance; and patient fees.<sup>78</sup>*

the Children's Health Insurance Program (CHIP), or private insurance to reimburse providers for caring for children and adults via telehealth.<sup>79</sup>

Furthermore, managed care has posed barriers to schools being able to bill insurance for services. Because Medicaid and CHIP often deliver services through managed care organizations, schools have had difficulty claiming dollars for Medicaid- and CHIP-enrolled children, unless the schools become a part of the managed care network in which the children are enrolled.<sup>80</sup> Many schools also do not have the resources to create an effective infrastructure for billing public and private insurance entities.<sup>81</sup> Some of these barriers can be addressed by having entities other than schools operate the telehealth program. Indeed, many school-based telehealth programs are operated by health care providers who are Medicaid and CHIP providers and have the administrative infrastructure to bill insurance.

Even when school-based health programs, including telehealth programs, can bill insurance for their services, the revenue from insurance is usually not enough to fully support the programs. Barriers to relying on insurance to sustain school-based health programs include insufficient

patient volume, lack of insurance among many children, and the provision of nonbillable services—such as individual and classroom-based health education, case management, referrals to other services, and education for parents and school staff.<sup>82</sup>

Furthermore, as mentioned above, telehealth can be more expensive than traditional in-person visits due to costs associated with broadband connectivity; equipment; equipment maintenance; technical assistance; and coordination of visits, including scheduling, setting up equipment, and communication with the remote health care provider. Again, while cost neutrality and savings can be achieved if certain factors exist (such as volume of services that are reimbursable by insurance), most programs have a difficult time being fully self-sustaining without outside grant support.

### Early Pioneers and Their Creative Strategies to Achieve Sustainability

**Leveraging Current Investments in Technology:** Many schools already have broadband connections and use computers, video conferencing, and other technologies to improve learning, teaching, and administration. Maximizing the use of these technologies is a cost-effective way to meet students' health care needs. Many school-based telehealth programs use the school's broadband connection to connect to distant health care providers. In Plumas and Lake counties, California, the schools already have video conferencing equipment and broadband connections that they use for distance learning and administrative purposes. Now they are using or plan to use the equipment and broadband connections for telehealth.<sup>83</sup>

**Tapping State and Local School Funding:** One strategy to achieve sustainability is for school-based telehealth programs to persuade the education system that their programs can help the school districts do their job, and even save the system money, by improving the health of their children.<sup>84</sup> Funded by both the state department of education and the Prince George's County school system, the Prince George's School Mental Health Initiative has been successful in this effort.<sup>85</sup>

**Advocating for Changes to Medicaid and CHIP Reimbursement Policies:** Some programs have successfully advocated for telehealth reimbursement policies in their states and communities to help achieve sustainability. For example, Kansas' TeleKidcare project advocated for changes to Kansas' Medicaid policy, and, as a result, the state administratively implemented a Medicaid policy that requires Medicaid to reimburse providers for care provided via telehealth. Now providers can bill Medicaid for covered services they provide via telehealth to children in school as well as to other populations in other settings.<sup>86</sup>





While New York state's CHIP and Medicaid program do not generally provide reimbursement for services provided via telehealth, the University of Rochester was able to convince the state and local CHIP and Medicaid managed care organizations to reimburse the University and the providers participating in the Rochester Health-e-Access program for services provided to children who participate in the program.<sup>87</sup> Furthermore, the University of Rochester is able to cover the costs of coordination by convincing the participating providers to share their reimbursement with the University, since the telehealth visits are cheaper for the providers because there is no overhead and the visits are quicker.<sup>88</sup>

Fortunately, California has fairly comprehensive telehealth reimbursement laws, preventing private and public health insurers from requiring face-to-face contact between providers and patients and requiring insurers to adopt reimbursement policies for telemedicine services.<sup>89</sup> In addition, The Children's Partnership and others successfully advocated for improvements in California's Medi-Cal (California's Medicaid program) telehealth laws. In late 2008, the State implemented a policy to reimburse the telehealth presenting site—where the patient is—for the costs associated with coordinating and conducting telehealth visits at a fixed rate.

**Creating Volume:** Creating volume of reimbursable visits is another strategy for achieving sustainability. For example, the University of Rochester's Health-e-Access program relies on three staff members who cover 20 schools with portable telehealth equipment. Because the schools are all within a five-mile radius, the program can create the volume to keep these staff busy and funded.<sup>90</sup> The sustainability goal of the S.M.A.R.T program in Sevier County, Tennessee is to employ two nurse practitioners with each seeing 17 to 20 children a day across 17 schools. They did not achieve this during their first year of operation. Therefore, they plan to expand the program to additional schools and conduct more outreach to families to enroll more children in the program.<sup>91</sup>

**Reaching Out and Enrolling Children in Health Insurance:** Emphasizing health insurance outreach and enrollment is another strategy to help with sustainability for states that require Medicaid and CHIP to reimburse providers who see patients via telehealth so that telehealth programs can get reimbursed for the services they provide. A key component of the Tulare County teledentistry program was to connect families of uninsured children to staff who helped them enroll their children in health insurance.<sup>92</sup>

**Tapping Federal Administrative Matching Funds:** New Mexico relies on Medicaid Administrative Assistance (MAA) funds to pay for some of the coordination of its school-based telehealth program.<sup>93</sup> The MAA program is a joint state-federal program that offers reimbursement to schools and education agencies for the costs of administrative activities that support the Medicaid program, such as Medicaid enrollment outreach, assisting Medicaid beneficiaries in obtaining Medicaid-covered services, translation, Medicaid program planning, policy development, and interagency coordination.<sup>94</sup>

## LESSONS FROM SCHOOL-BASED TELEHEALTH PROGRAMS FROM ACROSS THE COUNTRY

The experience of school-based telehealth programs from across the country provides valuable lessons for those interested in pursuing this innovation. Many of the lessons may apply to providing health care in schools in general. Similarly, many of the lessons apply to telehealth more generally.

**Engaging parents is critical.** It is critical that school-based telehealth programs ensure that the program works for parents and that parents' concerns, such as those around providing health care in school and providing care via telehealth, are addressed.

- **Outreach and Education:** To orient parents to school-based telehealth and alleviate any concerns, schools and health personnel have used written communication and phone calls to parents; live demonstrations; peer-to-peer discussions with parents who have experience with telehealth; focus groups; and school-based events, such as back-to-school nights, to educate parents and hear their concerns.<sup>95</sup>
- **Involving Parents in Their Children's Health Care:** School-based telehealth programs vary in their policies around requiring families to be present for the appointment. Regardless, it is critical that programs communicate with parents before and after the telehealth visit and help parents access any needed follow-up care.

- **Consent:** One of the best ways to obtain parents' consent for their children to participate in telehealth and for their children's health information to be shared, as appropriate, is to contact them at the beginning of the school year or the inception of the program and ask them to sign easy-to-use consent forms. Most programs also confirm parents' consent when the child presents for an unscheduled telehealth visit.<sup>96</sup>

## Consent, Privacy, and Security

**Consent:** Ensuring children and families' safety and privacy is a critical component of school-based telehealth programs. School-based telehealth programs must obtain consent from parents or guardians to allow the program to provide services to their children. In California, separate consent for the provision of services via telehealth is required.<sup>97</sup>

**Information-Sharing:** School-based telehealth programs must also obtain authorization from parents or guardians to allow for the sharing of information regarding their children's health or services they receive. Programs should be aware of the different state and federal laws, such as the Family Educational Rights and Privacy Act (FERPA) and the Health Insurance Portability and Accountability Act (HIPAA), that regulate both education and health information.<sup>98</sup>

**Special Considerations for Adolescents:** In California, for example, when adolescents reach a certain status, such as emancipation or living apart from their parents, they may consent to their own care. Adolescents may also consent to their own care when they are seeking specific services, such as family planning services, mental health services, drug and alcohol treatment services, alcohol counseling, and treatment of HIV/AIDS and infectious diseases.<sup>99</sup> Furthermore, adolescents who are legally allowed to consent to their own health care services also have control over their health information, including with whom that information can be shared. Health care providers cannot share this health information without written authorization by the adolescent.<sup>100</sup>

**Additional Considerations for Telehealth:** Telehealth comes with its own privacy and security considerations in order to comply with HIPAA. In addition to obtaining a separate consent to services, care must be taken to ensure the transmission of all health information over the Internet is secure. In addition, telehealth program staff must ensure that the room or other location where the telehealth visit takes place ensures the patient's privacy.<sup>101</sup>

**Conducting a needs assessment and gaining community buy-in are key first steps.** Many school-based telehealth programs have found that the best way to assess community need is to speak directly to community members. Programs have conducted town hall-style meetings, focus groups, and one-on-one

meetings with members of the community, including health care providers, school nurses, teachers, principals, superintendents, students, and parents.<sup>102</sup>

**School-based telehealth programs should make sure the program is filling a health care gap, not duplicating services.** School-based telehealth programs should tailor their programs to fill gaps in community health care services. For example, shortly after the University of Virginia initially set out to provide primary care via telehealth to the school in Craig County because there were no physicians in the community, a mobile van started coming into the community to provide services to the community's children. Therefore, the University worked with the school to identify what was needed, such as health education and obesity prevention.<sup>103</sup>

**School-based telehealth requires a multidisciplinary approach and good project management.** Because there are so many components to school-based telehealth, it works best when representatives from education, school health, the local and distant health care community, the technology arena, and other stakeholders are involved in planning and implementation.<sup>104</sup> Good project management to coordinate all of the moving pieces is critical.





many teachers and other school staff do not mind because the program helps children get well, return to class, and continue learning sooner.<sup>109</sup>

**Careful consideration is needed when making decisions around technology.** Most health care providers and school staff do not have the expertise in the technology involved in telehealth. Yet, the success of school-based telehealth programs relies, to a large extent, on having suitable and reliable technology. One strategy for helping to make these important decisions is to hire a consultant or designate someone within the program who understands telehealth and school technology to conduct a technology needs assessment and provide recommendations. School-based telehealth should consider the following technology-related issues.

- **Technology must be reliable.** It is important that the technology is set up and functioning reliably before engaging in telehealth visits. If the technology does not work for a scheduled visit, the time of the family, provider, and staff at the school site is wasted. Program staff should practice with the equipment and do “dry-runs” before coordinating actual visits.
- **Reliable broadband must be available.** Most programs rely on the schools’ existing Internet connections. Some challenges these programs have faced include the Internet line being busy or the school’s connection going down, prohibiting the telehealth program from operating.<sup>110</sup> School-based telehealth programs must also ensure that the schools’ security settings, such as firewalls, do not prohibit the program from conducting telehealth visits.<sup>111</sup> Coordinating with the schools’ information technology staff is critical to ensuring smooth operation of school-based telehealth programs. To avoid these issues, New Mexico installed dedicated broadband lines for its school-based telehealth program.<sup>112</sup>
- **Training and readily available technical assistance are important to success.** Training and making sure the individuals who are responsible for coordinating telehealth visits are comfortable with the technology are key components of a school-based telehealth program.<sup>113</sup> Furthermore, it is important that the on-site staff have readily available technical assistance. For example, the Prince George’s School Mental Health Initiative relies on the schools’ information technology staff for assistance, and if the technology issue cannot be resolved, the technology experts within the school system or from the University of Maryland School of Medicine intervene.<sup>114</sup>
- **The location of the equipment requires attention.** The equipment must be in a place that ensures children’s privacy. In addition, it is important to consider how many people, such as parents and other school staff,

**Specific resources to support the school site are required.**

While some school-based telehealth programs have relied on school staff—such as school nurses—many schools do not have adequate staff and resources to implement projects beyond their current scope of services. Some school-based telehealth programs bring in outside staff to coordinate the telehealth program.<sup>105</sup> Other programs have dedicated resources to the participating schools.

**School nurse involvement is invaluable.** School nurses can play a pivotal role in shaping the program and ensuring it runs smoothly, even if they are not able to directly run the program. The school nurse understands the needs of the children in the schools and how the school operates and is trusted by children and families. His or her involvement and guidance can help ensure smooth implementation of a school-based telehealth program.<sup>106</sup>

**School-based telehealth programs should promote continuity of care and, when possible, connect to local providers.** School-based telehealth programs can help children maintain continuity of care by connecting to local providers, when possible. When programs cannot connect to local providers, many school-based telehealth programs still strive to coordinate care with the local providers by, for example, obtaining parents’ consent to contact the child’s local provider to coordinate care.<sup>107</sup>

**Minimizing the time children miss class benefits children and teachers.** Most programs have identified ways to conduct telehealth visits so that children miss the minimal amount of class time, including scheduling them during recess and lunch.<sup>108</sup> Even when children do miss some class,

are likely to be present during visits when choosing a room for telehealth equipment. The Prince George's School Mental Health Initiative is planning to have their equipment mounted to a wall in two of their sites because the clinicians' offices are too small for the equipment to be placed on a cart. This will work well for their psychiatric consultations, but will prohibit them from moving the equipment to, for example, do larger trainings with school staff.<sup>115</sup> The Health-e-Access program in Rochester, New York equips its telehealth staff with laptops and portable attachments so that they can travel to each of their 20 schools with the equipment.<sup>116</sup>

**School-based telehealth programs should invest in evaluation.** School-based telehealth projects across the country have engaged in evaluation to assess the programs' impacts on children's health, parents' perceptions of programs, health care costs, and other important outcomes. Not only has evaluation helped them to refine their programs, it plays a pivotal role in marketing their model to the community, state, and future funding sources.



## HOW TO REACH MORE CHILDREN IN CALIFORNIA WITH THE BENEFITS OF SCHOOL-BASED TELEHEALTH: BUILDING ON WHAT WORKS

Today, there is unprecedented interest in and funding for modernizing and strengthening the delivery of health care through wise use of information technology. California and local communities across the state can take advantage of this momentum around the application of Information and Communications Technology to improve the health of children and other populations, build on the experience of school-based telehealth programs from around the country, and apply this innovative approach to better meet the

needs of California's underserved children. There are five critical next steps:

**1) Build the evidence base.** While California has begun to explore school-based telehealth as a tool to improve the health of children, the State lacks a robust evidence base for such models. State and local leaders should be encouraged and supported in establishing telehealth in schools. As such projects are tested and refined, the State, schools, health care systems, health care payers, communities, foundations, the business community, and other stakeholders can develop replicable models to improve the health of children in California. Private and corporate philanthropy have an opportunity to help create and replicate these forward-looking models in California by investing in school-based telehealth in ways that leverage the considerable public resources now available and that track and report the results.

**2) Incorporate school-based telehealth into California's efforts to transform its health care system through information technology.** California is developing a strategic plan to transform health care delivery in the state through better use of information technology, consistent with goals and federal funding included in the American Recovery and Reinvestment Act (ARRA) enacted earlier this year. As part of this strategy, the State should ensure that a portion of the telehealth-related grant dollars that are invested in California are directed to school-based telehealth. The State should further ensure that schools are included in efforts to extend broadband for health care services—such as through the California Telehealth Network. In addition, investments should be made in school-based telehealth technology; equipment; and operations, including staff, technology-related training, and ongoing technical assistance.

**3) Take the next step to make the Governor's commitment to school-based health centers a reality.** Governor Schwarzenegger has committed to expanding the number and capacity of school-based health centers across California. The State should incorporate telehealth as a way to meet this goal. Not only can telehealth complement the services schools already provide, it can enable "virtual" school-based health centers by bringing health care services to a school without needing to build and staff a stand-alone health center. Because the State is facing fiscal challenges, school-based telehealth may be a cost-effective first step in fulfilling the Governor's goal.

**4) Strengthen Medi-Cal policies to adequately reimburse for telehealth services.** While California's reimbursement policy for telehealth services is forward-looking compared to other states, Medi-Cal policy should be improved. For example, California currently limits reimbursement for store-and-forward applications—the transfer of data, such as x-rays, digital images, audio files, and other data for review and consultation at a



later time—to teledermatology, teleophthalmology, and teleoptometry. However, store-and-forward in other health specialties, such as pediatric primary care and oral health, may be clinically appropriate. In fact, several school-based telehealth programs across the country have successfully used store-and-forward technology. Other states' Medicaid programs, such as those of Arizona and Georgia, and payers, such as Blue Cross of California, do not restrict Medicaid reimbursement to particular store-and-forward applications.<sup>117</sup> Such policies should be adopted by Medi-Cal and other public and private payers. For more information and other recommendations related to strengthening Medi-Cal reimbursement policies, visit <http://www.childrenspartnership.org/Report/Telemedicine>.

**5) Demonstrate measurable results.** California should lay out a vision for moving from its current level of telehealth capacity in schools to where it intends to be two years and five years from now. Using this blueprint as a basis, state officials should work with stakeholders—including representatives from the education, health, school health, telehealth, technology, business, philanthropy, and consumer communities—to create a step-by-step plan for deploying school-based telehealth across the state, as appropriate. State officials should work with these stakeholders to identify criteria for the appropriate application of school-based telehealth; identify schools that meet that criteria; develop a plan for deploying school-based telehealth to identified schools, which should include a timeline, the identification of funding sources, and a plan for providing technical assistance to schools and other entities for implementing school-based telehealth; and develop an evaluation plan for assessing the impact of school-based telehealth in meeting the health care needs of California's children, families, and communities.

We look forward to working with state and local leaders to invest in school-based telehealth across California to improve the health of its most vulnerable children.

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## APPENDIX A

### Profiles of Selected School-Based Telehealth Projects

Programs In California							
Location/Program Name/ Contact Information	Urban/ Rural	Focus	Number/Types of Schools	Sponsor	Providers to Whom Schools Connect	Years	Funding <sup>118</sup>
<b>Smith River, California</b> <sup>119</sup> Blooming Lily Telehealth Clinic Frank Anderson, RN, BSN Telemedicine Development Dir. Open Door Community Health Centers (707) 498-0259	Rural	<ul style="list-style-type: none"> <li>Acute care</li> <li>Specialty care</li> </ul>	1 Kindergarten (K) - 8 <sup>th</sup> grade	Open Door Community Health Centers	Open Door Community Health Centers	Less than 1	<ul style="list-style-type: none"> <li>California HealthCare Foundation</li> <li>Medicaid, CHIP, and private health insurance</li> </ul>
<b>Lake County, California</b> <sup>120</sup> Susan Salmira RN, PHN Credentialed School Nurse Konocti Unified School District (707) 994-6137	Rural	<ul style="list-style-type: none"> <li>Behavioral health</li> </ul>	Approximately 10 schools, ranging from K - 12 <sup>th</sup> grades	Konocti Unified School District	Open Door Community Health Centers	Less than 1	<ul style="list-style-type: none"> <li>Medicaid, CHIP, and private health insurance</li> </ul>
<b>Plumas County, California</b> NetCHAP (Networked Community Health Academic Partnership) Jonathan Kusel, PhD Executive Director Sierra institute for Community and Environment (530) 284-1022	Rural	<ul style="list-style-type: none"> <li>Behavioral health</li> <li>Specialty care</li> <li>Health education</li> </ul>	Planning for up to 8 schools, ranging from K - 12 <sup>th</sup> grades	Sierra Institute for Community and Environment	Exploring potential sites	Starting during the 2009-2010 school year	<ul style="list-style-type: none"> <li>UC Davis Clinical Translational Science Center and the Children's Miracle Network</li> <li>U.S. Health Resources and Services Administration (HRSA)</li> <li>The California Endowment</li> </ul>
<b>San Diego County, California</b> <sup>121</sup> Maria Savoia, MD Vice Dean for Medical Education University of California, San Diego, School of Medicine (858) 534-3703	Urban	<ul style="list-style-type: none"> <li>Acute care</li> <li>Specialty care</li> </ul>	Planning for 2 high schools	University of California, San Diego, School of Medicine	University of California, San Diego, School of Medicine  San Ysidro Health Center	Starting during the 2009-2010 school year	<ul style="list-style-type: none"> <li>Proposition 1D<sup>122</sup></li> </ul>
<b>Tulare County, California</b> <sup>123</sup> eHealth Teledentistry Clinic José C. Polido, DDS, MS Head, Division of Dentistry Childrens Hospital Los Angeles (323) 361-4116	Rural	<ul style="list-style-type: none"> <li>Comprehensive dental diagnostic and preventative services</li> <li>Oral health education</li> <li>Craniofacial follow-up exams</li> </ul>	3 school districts, covering approxi- mately 18 schools, ranging from K - 12 <sup>th</sup> grades	Childrens Hospital Los Angeles	Childrens Hospital Los Angeles	2-year pilot, 2007-2008	<ul style="list-style-type: none"> <li>California Telemedicine and eHealth Center</li> <li>HRSA</li> <li>U.S. Department of Agriculture</li> <li>Sullivan-Schein Dental</li> <li>Pelton and Crane</li> </ul>
<b>San Francisco, California</b> <sup>124</sup> San Francisco Asthma Project	Urban	<ul style="list-style-type: none"> <li>Asthma management</li> </ul>	3 elementary schools	Stanford University School of Medicine	San Francisco General Hospital	2-year pilot, 2003-05	<ul style="list-style-type: none"> <li>The California Endowment</li> </ul>

Programs From Across The Country							
Location/Program Name/ Contact Information	Urban/ Rural	Focus	Number/Types of Schools	Sponsor	Providers to Whom Schools Connect	Years	Funding <sup>118</sup>
<b>Kansas City and rural areas of Kansas state</b> <sup>125</sup> TeleKidcare® Ryan J. Spaulding, PhD Director Gretchen Speer Patch, MPH Project Manager Clinical Services Center for Telemedicine and Telehealth, Kansas University Medical Center (913) 588-2226 <a href="http://www2.kumc.edu/telemedicine/2008Programs/TKC.htm">http://www2.kumc.edu/ telemedicine/2008Programs/ TKC.htm</a>	Urban/ Rural	Started as acute care; now primarily mental health	<ul style="list-style-type: none"> <li>8 urban schools, ranging from K through 12<sup>th</sup> grades</li> <li>6 rural schools, ranging from K through 12<sup>th</sup> grades</li> </ul>	Kansas University Medical Center	<ul style="list-style-type: none"> <li>Kansas University Medical Center for Kansas City schools</li> <li>Kansas University Medical Center and a private practice psychiatrist in Kansas City for rural schools</li> </ul>	11	<ul style="list-style-type: none"> <li>U.S. Department of Commerce, National Telecommunications and Information Administration, Technol- ogy Opportunities Program (TOP)</li> <li>Kansas Community Enrichment Program</li> <li>Southwestern Bell Foundation</li> <li>Wyandotte Health</li> <li>Medicaid</li> <li>Patient fees</li> </ul>

## Programs From Across The Country

Location/Program Name/ Contact Information	Urban/ Rural	Focus	Number/Types of Schools	Sponsor	Providers to Whom Schools Connect	Years	Funding <sup>18</sup>
<b>Hart, Texas<sup>126</sup></b> Debbie Voyles, MBA Director of Telemedicine F. Marie Hall Institute for Rural and Community Health, Texas Tech University Health Sciences Center (806) 743-4440 <a href="http://www.ttuhscc.edu/telemedicine/rural.aspx">http://www.ttuhscc.edu/ telemedicine/rural.aspx</a>	Rural	<ul style="list-style-type: none"> <li>• Acute care</li> <li>• Follow-up care</li> <li>• Asthma management</li> <li>• Nutritional counseling</li> </ul>	1 K - 12 <sup>th</sup> grade school	Texas Tech University Health Sciences Center	Texas Tech University Health Sciences Center	11	<ul style="list-style-type: none"> <li>• Texas Tech University Health Sciences Center—in kind</li> <li>• Hart School District</li> <li>• Medicaid</li> <li>• Various grants</li> </ul>
<b>Craig County, Virginia<sup>127</sup></b> Craig County School Health Project  Karen S. Rheuban, MD Medical Director Office of Telemedicine, University of Virginia Health System (434) 924-2481 <a href="http://www.healthsystem.virginia.edu/internet/telemedicine/projects/craig/index.cfm">http://www.healthsystem.virginia. edu/internet/telemedicine/ projects/craig/index.cfm</a>	Rural	<ul style="list-style-type: none"> <li>• Health education</li> <li>• Obesity prevention</li> </ul>	1 K - 12 <sup>th</sup> grade school	University of Virginia Health System	<ul style="list-style-type: none"> <li>• University of Virginia Health System</li> <li>• University of Virginia Health System Fitness Clinic</li> </ul>	8	<ul style="list-style-type: none"> <li>• Wachovia Foundation</li> <li>• Westwind Foundation</li> </ul>
<b>Kentucky<sup>128</sup></b> Rob Sprang, MBA Director Kentucky TeleCare, University of Kentucky College of Medicine (859) 257-6404	Urban/ Rural	<ul style="list-style-type: none"> <li>• Acute care</li> <li>• Specialty care</li> <li>• Chronic disease management</li> <li>• Health education</li> </ul>	<ul style="list-style-type: none"> <li>• 5 rural schools, ranging from K - 12<sup>th</sup> grades</li> <li>• 4 urban elementary schools</li> </ul>	University of Kentucky College of Medicine	<ul style="list-style-type: none"> <li>• Local community clinics</li> <li>• St. Claire Regional Medical Center</li> <li>• Kentucky College of Medicine</li> </ul>	9 <sup>129</sup>	<ul style="list-style-type: none"> <li>• Office for the Advancement of Telehealth, U.S. Department of Health and Human Services (OAT)</li> <li>• Ronald McDonald House</li> </ul>
<b>Rochester, New York<sup>130</sup></b> Health-e-Access  Neil E. Herendeen, MD, MBA Associate Professor Department of Pediatrics University of Rochester Medical Center (585) 273-4140 <a href="http://www.urmc.rochester.edu/pediatrics/research/subspecialty/general_pediatrics/telemedicine.cfm">http://www.urmc.rochester. edu/pediatrics/research/ subspecialty/general_pediatrics/ telemedicine.cfm</a>	Urban	Acute care	20 elementary schools	University of Rochester Medical Center	Students' primary care providers	<ul style="list-style-type: none"> <li>• 4 in schools</li> <li>• 8 in child care centers</li> </ul>	<ul style="list-style-type: none"> <li>• TOP</li> <li>• Robert Wood Johnson Foundation</li> <li>• Rochester Area Community Foundation and several other local fundors</li> <li>• Maternal and Child Health Bureau</li> <li>• Agency for Healthcare Research and Quality (AHRQ)</li> <li>• Local Medicaid and CHIP managed care plans</li> </ul>
<b>Prince George's County, Maryland<sup>131</sup></b> Prince George's School Mental Health Initiative  Dana Cunningham, PhD Assistant Professor Department of Child Psychiatry, University of Maryland School of Medicine Center for School Mental Health (410) 706-0980 <a href="http://csmh.umaryland.edu">http://csmh.umaryland.edu</a>	Urban	Mental health care for children in special education	<ul style="list-style-type: none"> <li>• 3 middle schools</li> <li>• 3 high schools</li> </ul>	<ul style="list-style-type: none"> <li>• University of Maryland Center for School Mental Health</li> <li>• Maryland State Department of Education</li> <li>• Prince George's County Public Schools</li> </ul>	University of Maryland	3	<ul style="list-style-type: none"> <li>• Maryland State Department of Education</li> <li>• Prince George's County Public Schools</li> </ul>
<b>New Mexico<sup>132</sup></b> Yolanda Cordova Director New Mexico Office of School and Adolescent Health (505) 841-5889	Rural	<ul style="list-style-type: none"> <li>• Behavioral/mental health care</li> <li>• Education, training, and support for school- based health centers</li> </ul>	19 schools, ranging from K - 12 <sup>th</sup> grades	State of New Mexico	<ul style="list-style-type: none"> <li>• University of New Mexico</li> <li>• State of New Mexico Office of Adolescent and School Health</li> <li>• School-based health centers</li> </ul>	2	<ul style="list-style-type: none"> <li>• State general funds</li> <li>• U.S. Substance Abuse and Mental Health Services Administration (SAMHSA)</li> <li>• Medicaid Administrative Activities (MAA) match</li> <li>• AHRQ</li> <li>• Medicaid and CHIP</li> </ul>



## Programs From Across The Country

Location/Program Name/ Contact Information	Urban/ Rural	Focus	Number/Types of Schools	Sponsor	Providers to Whom Schools Connect	Years	Funding <sup>18</sup>
<b>Ashland and Wayne counties, Ohio<sup>133</sup></b> Tele-Health-Kids Diane Langkamp, MD Director Susan Blakemore, LSW, LICDC Project Coordinator Tele-Health-Kids Project Akron Children's Hospital (330) 543-6030 <a href="https://www.akronchildrens.org/cms/site/b82f8c94677f4612/index.html/">https://www.akronchildrens.org/cms/site/b82f8c94677f4612/index.html/</a>	Rural	Acute care for children with special health care needs and typical children	<ul style="list-style-type: none"> <li>• 2 schools for children with special health care needs (ages 3-21)</li> <li>• 1 elementary school</li> <li>• 1 pre-school</li> </ul>	Akron Children's Hospital	Students' primary care providers	2	<ul style="list-style-type: none"> <li>• OAT</li> <li>• Individual donors to Akron Children's Hospital</li> </ul>
<b>Central and Northern New York state<sup>134</sup></b> Kathleen Bratt, NP Joslin Diabetes Center State University of New York Upstate Medical University (315) 464-5726	Urban/ Rural	Diabetes management	Approximately 16 schools, ranging from K - 12 <sup>th</sup> grades	Joslin Diabetes Center, State University of New York Upstate Medical University	Joslin Diabetes Center, State University of New York Upstate Medical University	1	<ul style="list-style-type: none"> <li>• U.S. Department of Health and Human Services</li> <li>• New York State Department of Health</li> <li>• Children's Miracle Network</li> <li>• LifeScan, Inc.</li> </ul>
<b>Sevier County, Tennessee<sup>135</sup></b> S.M.A.R.T. (Student Medical Assistance Response Team) Julia Pearce, MPA Regional Vice President Cherokee Health Systems Good Samaritan Community Health Center (865) 273-1622 <a href="http://www.sevier.org/CSH/index.html">http://www.sevier.org/CSH/index.html</a>	Rural	Acute care	17 schools, ranging from K - 8 <sup>th</sup> grades	<ul style="list-style-type: none"> <li>• Cherokee Health Systems</li> <li>• Sevier County School System</li> </ul>	Cherokee Health Systems	1	<ul style="list-style-type: none"> <li>• Medicaid</li> <li>• Patient fees</li> </ul>
<b>Yancey and Mitchell counties, North Carolina<sup>136</sup></b> Steve North, MD, MPH Family Physician and Adolescent Medicine Specialist Bakersville Community Medical Clinic (828) 688-2104	Rural	<ul style="list-style-type: none"> <li>• Mental health care</li> <li>• Acute care</li> <li>• Ongoing primary care</li> <li>• Health education</li> </ul>	17 schools, ranging from K - 12 <sup>th</sup> grades	Bakersville Community Medical Clinic	<ul style="list-style-type: none"> <li>• Local school-based health centers</li> <li>• East Tennessee State University for mental health services</li> </ul>	Starting Fall 2009	<ul style="list-style-type: none"> <li>• Kate B. Reynolds Charitable Trust</li> <li>• Americal Academy of Pediatrics</li> <li>• Community Foundation of Western North Carolina</li> </ul>
<b>Marianna, Arkansas<sup>137</sup></b> Telehealth KIDS Asthma Project Ann B. Bynum, EdD Principal Investigator (PI) Telehealth KIDS Project University of Arkansas for Medical Sciences (UAMS) Center for Distance Health (501) 686-2595 Cathy A. Irwin, PhD, RN Co-PI, Telehealth KIDS Project UAMS Center for Distance Health (479) 684-5189	Rural	Asthma management	<ul style="list-style-type: none"> <li>• 2 elementary schools</li> <li>• 1 middle school</li> </ul>	University of Arkansas for Medical Sciences Center for Distance Health	University of Arkansas for Medical Sciences	2-year pilot, 2007-2009	<ul style="list-style-type: none"> <li>• OAT</li> </ul>

## Endnotes

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## Other Resources From The Children's Partnership

Available at [www.childrenspartnership.org](http://www.childrenspartnership.org)

### E-Health Resources:

- ☀ *Technology-Enabled Innovations for Improving Children's Health* (2009)
- ☀ *Improving Health Outcomes for Children in Foster Care: The Role of Electronic Record Systems* (Full Report 2008; Executive Summary 2009)
- ☀ *Children's Health Information Technology Action Plan: Priorities for Federal Action to Modernize Health Care for Children through Health Information Technology* (2008)
- ☀ *E-Health Snapshot: A Look at Emerging Health Information Technology for Children in Medicaid and SCHIP Programs* (2008)
- ☀ *Meeting the Health Care Needs of California's Children: The Role of Telemedicine, 2nd Edition* (2008)
- ☀ *E-Health Snapshot: Harnessing Technology to Improve Medicaid and SCHIP Enrollment and Retention Practices* (2007)

### Digital Opportunity Resources:

- ☀ *The School2Home Program: A Public-Private Initiative to Close the Technology Gap for California's Middle School Families* (2009)
- ☀ *Digital Opportunity for America's Youth: State Fact Sheets* (2008)
- ☀ *The State of Youth and Technology in Children's Advocacy: A Survey of Children's Organizations Across the Nation* (2007)
- ☀ *Helping Our Children With Disabilities Succeed: What's Broadband Got To Do With It?* (2007)
- ☀ *Helping Our Children Succeed: What's Broadband Got To Do With It? 2nd Edition* (2007)
- ☀ *A Digital Opportunity Action Plan—California Competes: Deploying Technology to Help California Youth Compete in a 21st Century World* (2006)
- ☀ *Measuring Digital Opportunity for America's Children: Where We Stand and Where We Go From Here* (2005)
- ☀ *Impacts of Technology on Outcomes for Youth: A 2005 Review* (2005)

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### About The Children's Partnership

Since 1993, The Children's Partnership (TCP), a national, nonprofit organization, has worked to ensure that all children—especially those at risk of being left behind—have the resources and the opportunities they need to grow up healthy and lead productive lives. Consistent with that mission, we have educated the public and policy-makers about how technology can measurably improve children's lives. We have also worked at the state and national levels to enact policies and build programs that extend digital opportunity to all children.



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