

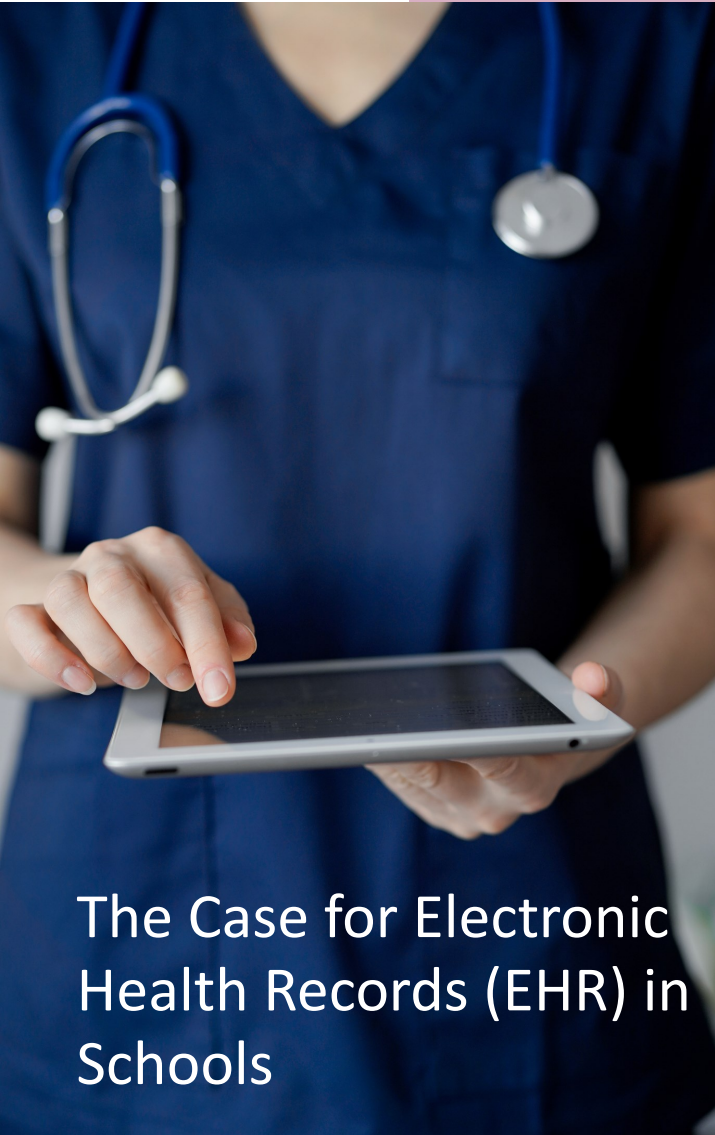
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A close-up photograph of a woman with dark hair pulled back, wearing a white lab coat over a dark top. She is looking intently at a laptop screen, with her hand resting on her chin in a thoughtful pose. The lighting is dramatic, highlighting her face and the texture of the lab coat.

# The Case for Electronic Health Records in Schools

THE BENEFITS TO STUDENTS AND RETURN ON INVESTMENT  
FOR IMPLEMENTING A COMPREHENSIVE EHR

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## EHRs DEFINED

PK-12 student health management software systems have evolved over the last thirty years. So much so, that schools now have the option of managing student health programs with full electronic health record software systems, previously available to other healthcare providers (clinics, physician practices, hospitals, etc.).

***An electronic health record (EHR) provides an overall health record based on information collected from several sources.***

This differs from an electronic medical record (EMR) which typically contains information from a single source. Thus, a school using an EHR has access to health information not only collected at the school (injuries, screenings, etc.) but also health information from outside sources such as state immunization registries, physician medication orders, etc.

The benefits of EHRs have been recognized for many years. In a national study, the majority of physicians, 78%, report that EHRs enhance overall patient care (King). In another study, nurses were positive about improving their efficiency by using an EHR, noting that a key benefit was allowing them to review health record history before providing treatment (Upadhyay).

*EHRs are superior to EMRs because they contain health information from multiple sources giving nurses a better overall view of a student's health*

Schools manage students with complex health needs including medically-fragile students



School systems have been slow to adopt EHR technology even though EHRs have widely recognized benefits and are readily available to the PK-12 school market (both private and public school systems). Although the exact reasons for this lack of comprehensive adoption are unknown for the school market overall and for specific school systems, there is some evidence that the full impacts of EHRs and their costs/return on investment may require clarification.

Although public PK-12 schools have staffed school nurses for more than 100 years, most schools in the US do not have an on-site full-time school nurse (NCES). Susan B. Hassmiller, Ph.D., R.N. of the Robert Wood Johnson Foundation says that the reason is a function of school budget reductions (Consumer Reports).

### IMPACT OF EHRs IN SCHOOLS

A lingering perception of school nurse duties is that they administer ice packs and band-aids. The truth is much different. Students present complex health conditions that require expertise and constant monitoring. These can include diabetes, severe asthma, and other chronic conditions. Medically fragile students may need nearly constant health services in order to remain in school.

If the perception of nursing duties is incomplete, it would be no surprise that the tool(s) that nurses need would not be clearly understood. Indeed, even though it is widely accepted that EHRs provide overall benefit to student health, many schools utilize other, more rudimentary or basic alternatives for tracking student health records. These can include:

- ◇ Basic health module of a student information system (SIS – a system primarily focused on grades, attendance, and other academic records)
- ◇ EMR – containing only information on student encounters within the school
- ◇ Spreadsheets
- ◇ Paper logs

## EHR Features

Standard EHR features which benefit school nurses that are not found in other less comprehensive solutions include:

### **MULTI-SOURCE**

- Local health records
- Health records from external sources

### **MEDICATIONS**

- Physician orders
- Administration scheduling
- Integrated drug reference
- Inventory management

### **PROCEDURES**

- Physician orders
- Administration scheduling
- Complete history

### **TESTS**

- Physician orders
- Administration scheduling
- Complete history

### **INJURY/ILLNESS**

- Nurse-based workflow
- Protocol templates to ensure compliance
- Efficient time-saving entry

### **SCREENINGS**

- Comprehensive screening lists
- Rapidly apply WNL values
- Custom templates

### **IMMUNIZATIONS**

- State-specific rules
- Compliance calculations
- Integration with state registries

### **COMMUNICATIONS**

- Built-in communication functionality
- Manual and automatic notifications

### **DATA ANALYTICS**

- Automatic health service data capture for reporting
- Analysis across all health information

*An EHR system has functionality not found in other solutions used in schools to manage student health programs*





## EHR Impact

EHRs can clearly have definitive impacts in schools. Many of these impacts are easily quantifiable when measured although the degree can and will vary by particular EHRs and in different school systems. Other impacts are recognizable but may not be as easily quantifiable. Below, some key areas are discussed. In the following section, example worksheets are included to help quantify the impact / benefit of these areas.

### **Nurse Efficiency**

One of the obvious and easily quantifiable impacts is the improvement in nurse efficiency. This is primarily because EHRs should be designed to work around a clinical workflow. Other solutions - including a health module of an SIS or an IEP system - will be designed for other purposes and not take into consideration the unique, unpredictable nature of a school health clinic. Efficiency improvements can include areas such as:

- ◇ Medication administrations
- ◇ Injury / illness encounters
- ◇ Screenings (especially group/mass screening events)
- ◇ Communications - both internal (staff) as well as external (parents)
- ◇ Accident reporting
- ◇ Data collection, analysis, and reporting

Many studies have recognized the negative effect of student absenteeism on academic achievement



### Health Surveillance

This involves an EHR that recognizes - without user intervention - that a potential health situation (outbreak, crisis, etc.) may be occurring and automatically notifies appropriate staff (health director, school administration, local health department, etc.).

Although this is not an easily-quantifiable impact in terms of dollars, this immediacy of notification has a decided benefit where time is of the essence in a potential health crisis.

### Student Attendance & Academic Achievement

Student absenteeism has long been recognized as a significant factor in student academic achievement. One study concluded that kindergarten absenteeism was associated with lower achievement in math, reading and general knowledge at the end of first grade (Romero).

EHRs provide nurses with greater overall visibility to a student's health. When a student has a health issue, this expansive view gives nurses more information to decide whether a student needs to be sent home or can be safely sent to class.

Evidence demonstrates that school nurses are effective in reducing student absenteeism (Yoder). This is not surprising since students have a greater chance of returning to class after seeing a nurse than if no nurse is present and educators have few options besides sending the student home.

### Accountability

EHRs not only present an overall picture of a student's health, they also allow schools to document all health activities occurring at school. This tracks the school's commitment to provision of health services to students whether medication administrations, first aid, or other services to share with parents.

## Stakeholders / Communication

Schools in general and school nurses and counselors specifically, spend a great amount of time communicating with parents/families. They also share health program information with their administration as well as local/regional health departments.

EHRs with built-in communication capabilities greatly streamline the abilities for school health staff to share specific or aggregated health information. Some of these communications may be automatically generated when events occur, saving the staff hours of time and improving the satisfaction level of their stakeholders.

## Data Analytics

School EHRs are designed not only to capture individual student health information but also to manage it as a larger data store that can be analyzed to improve overall student health programs. The National Association of School Nurses (NASN) says EHRs “produce usable data which can be monitored, gathered, extracted, compared, analyzed, and leveraged to track and measure trends and outcomes ” (NASN).

Without EHRs that are designed specifically to capture, monitor, and analyze health information, school systems are at a disadvantage when managing their student health programs.

## THE ROI OF EHRs IN SCHOOLS

A major factor in a school system’s decision to implement an EHR is the cost. Most schools have student management systems which are designed to manage things like grades, attendance, scheduling but which also may have a small student health module/capability. While not equivalent in function or value to an EHR, these modules are typically “free” when included in the larger software system.

A full return-on-investment (ROI) analysis may be needed to determine if an EHR makes both function and financial sense.

*EHRs collect data that can be analyzed to improve student health and school health programs*



School systems should perform business justification and ROI analyses for their EHR purchases



An ROI analysis determines the value of a financial investment by calculating the return an organization will receive.

The ROI of EHRs may involve direct, tangible returns as well as indirect or intangible benefits. Even if they are not easily quantifiable, indirect benefits need to be considered.

Using some of the impact areas from above, we can explore ways of calculating a financial return of an EHR purchase.

### Provider Efficiency

One of the most straight-forward areas of calculating return is provider efficiency based on a more streamlined and comprehensive EHR workflow.

The worksheet below illustrates time savings between a legacy nurse charting system and an EHR with improved workflow.

Area	Quantity	Documentation (mins)		Time saved	Hourly rate	Savings
		Current	EHR			
Immunization Entry	700	10	1	6,300	\$32.75	\$3,438.75
Accident Report	100	30	1	2,900	\$32.75	\$1,582.92
Medication Administrations	3,500	3	1	7,000	\$32.75	\$3,820.83
Illness encounters	4,200	8	2	25,200	\$32.75	\$13,755.00
Injury encounters	800	10	2	6,400	\$32.75	\$3,493.33
Screenings	1,400	5	1	5,600	\$32.75	\$3,056.67
Communications - Parents	1,000	10	1	9,000	\$32.75	\$4,912.50
<b>Efficiency Savings</b>						<b><u>\$34,060.00</u></b>
Hourly Rate		\$32.75				

By applying an average hourly wage to time savings, a school can determine the financial return just on productivity improvements. This return could be utilized to have existing staff perform more/different tasks or to adjust staffing levels.

## Accountability

There is no financial formula for calculating a return based on accountability.

However, individual school systems may be able to apply financial results based on previous situations (complaints, lawsuits, etc.) that could have been alleviated had they had an EHR rather than an inadequate legacy system.

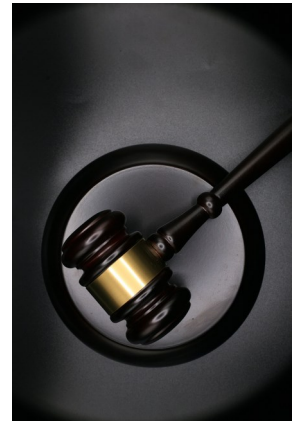
A school nurse relayed her experience pulling records from her EHR in legal situation:

*“My documentation was subpoenaed because there was a legal issue between parents. The incident was between their children while our attending school and the incident occurred 9 months prior. I was not required to appear in court as the District Attorney said my documentation was so good that I should teach other nurses “good documentation for legal issues”. The DA stated he wished everyone had such great records. All I had to do was print the accident report from SNAP and everything was included for me. I thank God that I have SNAP every single day.”*

**— Maureen Searl, RN, Medu., NCHES, Upper School Nurse  
Advanced Math & Science Academy Charter School, MA**

These are just two areas that school systems can include in an ROI analysis. There are undoubtedly others that can be included whether it is easy to financially quantify their return or whether they are important yet intangible areas to consider.

*Intangibles should be included. How much would a complaint judgement cost if a school system had incomplete health records?*



## CONCLUSIONS

### PK-12 Schools benefit from implementing EHR solutions

There is strong evidence demonstrating that schools benefit from implementing electronic health records (EHRs) to manage their overall student health programs. Unlike EMRs and health “modules” of other systems, EHRs arm schools with critical functionality in areas such as:

- ◇ Medication management
- ◇ Injury / illness management
- ◇ Health surveillance
- ◇ Screenings
- ◇ Immunization management & compliance
- ◇ Communications
- ◇ Data analytics

School systems should review EHR options for necessary functionality and also conduct an ROI analysis in order to evaluate the overall value of an EHR to the school system. This analysis should include both tangible as well as intangible benefits.

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