USING PUPIL'S HEALTH INFORMATION MANAGEMENT SYSTEM TO MANAGE PRIMARY SCHOOL PUPILS' HEALTH

Aan Komariah
Universitas Pendidikan Indonesia

Anna Susana
Sekolah Tinggi Ilmu Kesehatan Santo Borromeus, Bandung, Indonesia

Dedy Achmad Kurniady
Universitas Pendidikan Indonesia

Danny Meirawan
Universitas Pendidikan Indonesia

Aceng Muhtaram Mirfani
Universitas Pendidikan Indonesia

Nani Hartini
Universitas Pendidikan Indonesia

Gilang Gumilang Dawous
Universitas Pendidikan Indonesia

Abstract - The focus of this research is the use of SIMKesdik in supporting the health management of pupils in primary school. The research aim is to gain an overview of the effectiveness in the use of SIMKesdik from the aspects of benefits, ease, use of human resources, cost, and time spent processing pupils' health data. The research uses a qualitative method with a naturalistic approach to data collection and the researcher as the main instrument. The research subject is the use of SIMKesdik in Primary Schools in the city of Sukabumi. Sources of research were headteachers, UKS support teacher, health center personnel, Sub-District Health Service (UKS) Support Team, Sukabumi Municipal Health Service (UKS) Support Team, and SIMKesdik developers. The data collection technique was through observation throughout the processes of preparation, development, and implementation testing of the pupils' health management information system, complete with interviews and document study. The research was located in SDN Sukasirna and SDN Suryakencana CBM primary schools in Sukabumi. Research results show that the existence of SIMKesdik helps health service (UKS) managers in schools to collect, document and manage to check the health results of pupils, helps the UKS Support Team and health center (Puskesmas) to follow up on pupils' health test results and determine policy related to support and develop the UKS health service in the area of work, facilitates UKS staff in the administration of pupils health data and is efficient in the use of cost and time, measured from the flow process of SIMKesdik.

Keywords: Health Management Information System (SIMKesdik), Pupils' Health Management, School Health Service (UKS).

INTRODUCTION

School-aged children comprise middle childhood (aged 6-10 years) and early adolescence (aged 11-14 years). The majority of children in this age range sit on the benches of primary schools, usually from ages 6 – 12. In this age range, children are susceptible to physical, psychological, and social disruption because they start to have more extensive interaction with the environment, peers, and other adults (including

teachers). On the other hand, children do not yet have sufficient resistance, whether physical, psychosocial, and spiritual, to determine what is best for them [1,2,3].

Based on the results of previously undertaken expert studies, child growth and development will have a strong influence, both directly and indirectly, on a child's prestige in learning [4⬜7]. Disruption of a child's growth and development process caused by exposure to disease, bad environment, accident, or even a social environment that is not safe for children will influence a child's academic prestige. Because of this, a school must guarantee a healthy, secure, and comfortable environment for every child, as well as provide a comprehensive health service that will help each child grow and develop optimally [1⬜3,11].

Management of pupils' health, which is coordinated and involves many institutions and various disciplines, requires an adequate information management system to bridge communication between multiple institutions. Valois. Robert. F [7], in his writing entitled *The Healthy School Communities Model*: *Aligning School Health & Education in The School Setting*, explains that effective data management, including comprehensive pupil health data, is a criterion for continuously increasing/developing a school.

In Indonesia, *Usaha kesehatan Sekolah* (school health service) has been organized to realize Law No. 36:2009 on health, article 79 [8], which states that *usaha kesehatan Sekolah* be developed to increase pupils' healthy living skills within a healthy living environment so that pupils can learn, grow and develop harmoniously to become quality human resources. The *usaha kesehatan Sekolah* program in Indonesia is known by the initials UKS. This UKS program is referred to as the UKS Triage, namely health education, health service, and building a healthy school environment. [9].

Coordinating UKS in Indonesia is a joint venture between the Health Ministry, Education and Culture Ministry, Ministry of Religion, and the Ministry of Home Affairs. The involvement of various institutions (departments) in the pupil health care program in schools is following the Joint Regulations of the Education and Culture Ministry, Health Ministry, Ministry of Religion and Ministry of Home Affairs No. 6/X/PB/2014, 73/2014, 41/2014 and 81/2014 on Building and Developing School Health Care (*Pembinaan dan Pengembangan Usaha Kesehatan Sekolah/Madrasah*). As such, the reporting hierarchy of pupils' health which currently applies in Indonesia is tiered from the school level to sub-district level, city/district level, provincial level, up to the national level, which comprises various institutions and interests, including the Health Department (Health Ministry), Education and Culture Department (Education and Culture Ministry), the Ministry of Religion and the Ministry of Home Affairs (Local Government).

The City of Sukabumi is an area in Indonesia that has prestige in the organization of UKS in schools. From 1997 to 2014, Sukabumi has celebrated winning healthy schools' contests (*LSS*) each year at a provincial or national level, from kindergarten to high school. One of the strengths enabling Sukabumi to win healthy school awards is the factor of proper coordination between schools, health centers, and other related regional government bodies.

This good coordination between institutions in organizing health care for pupils in school needs to be supported by the provision of an integrated information management system. A pupils' health information management system helps manage pupils' health data, from data collection and analysis to accurate and real-time health data reporting. Accuracy of school pupils' health data is crucial, to see how far the school is servicing pupils through health education, health checking, and building a healthy living environment for pupils. Based on the importance of this need, Sukabumi undertook a trial implementation of a pupils' health information management system (SIMKesdik) from November 2014 to June 2015. This trial system used pupils' health data from primary schools in the City of Sukabumi.

The focus of the research undertaken was to determine how far the use of the pupils' health information management system (SIMKesdik) was able to support the organization of a pupil's health care at school. The research aim is to determine the effectiveness of using SIMKesdik in managing pupils' health data, benefits, use of human resources, cost, and time.

LITERATURE REVIEW
PUPILS' HEALTH CARE AT SCHOOL FROM AN EDUCATIONAL ADMINISTRATION PERSPECTIVE

Harmony between education and health is already known by the world's adult communities [7]. It is explained that school reform will be more effective if pupils (learners) are healthy, contributors in achieving success in academic fields, and pupils are the center of attention in determining effective school policy development.

Effective schools, according to Levine, in Engkoswara & Komariah [10], have the following characteristics: (1) a safe and regulated school environment which supports the teaching and learning process; (2) a clear mission and school staff commitment to partnership working; (3) strong and business-like instructional leadership characteristics from the headteacher; (4) a supportive climate for pupils to achieve high performance; (5) planning and implementation which provides measurable quality on pupils' results; (6) undertakes observation of pupils learning progress and improves instruction, and (7) has a positive and harmonious relationship between school and family, where parents play an essential role in supporting the primary mission of the school to help achieve educational aims and targets.

Educational aims and targets are basically to fulfill the achievement of four pillars of education, according to UNESCO [3], which facilitates pupils in learning to know, learning to do, learning to live together, and learning to live with others, and learning to be. In other words, school children will learn all aspects which holistically complete them to adapt to developments in the outer world and continually changing community social life. The learning process's final result is increasing the overall child's quality from cognitive, emotional, and motor aspects [10]. All aspects of this learning process are taken in by a child optimally when the child is in a good health condition with proper growth and development, supported by a healthy and conducive school environment [1⎯3,11].

MANAGEMENT OF PUPILS' HEALTH CARE AT SCHOOL

UNESCO [12] states that school health care programs contribute to achieving educational aims for all (Education for All = EFA), namely increasing the quality of education and learning by promoting health and shaping healthy life behavior for children at school and in the neighboring environment.

One model of coordination developed in the United States and described by Marx & Woley in Alter & Lohrman [13], then further detailed in Fisher, Hunt et al [14], is an approach which includes various elements in organizing a pupils' health care program, namely:

• Physical education, where pupils are taught to regulate physical activities in their daily lives.

• Health education, where pupils are given an understanding and skills related to health.

• Health services, primary health service provision, and health outreach for pupils.

• Counselling & psychological services, providing services for pupils who require mental support and counseling.

• A healthy school environment, providing a safe and comfortable physical and psychological environment for pupils.

• Healthy food and nutrition services, providing pupils healthy and nutritious food.

• Health promotion for staff, health knowledge, and performance from educators provide an excellent example of a healthy lifestyle.

• Family and community involvement, supporting pupils' healthy behavior outside school.

School Health Programs (SHP) in Indonesia has been translated into the *Usaha Kesehatan Sekolah (UKS)* Program. The Republic of Indonesia (R.I.) Ministry of Health (2003) defined UKS as a pot of teaching and learning to increase healthy life skills and shape healthy life behavior for school-aged children. Evaluated from the health development perspective, UKS is a strategy to achieve community

independence in overcoming health issues and self-help in the health sector, which will subsequently result in an optimal degree of community health.

UKS activities organized are to increase pupils' excellent life skills in a healthy environment so that pupils can learn, grow, and develop harmoniously and optimally, as well as become quality human resources [15]. UKS activities include preventive, promotive, curative, and rehabilitative efforts, with an emphasis on promotive and preventive.

Joint Regulation of the Ministry of National Education, Ministry of Health, Ministry of Religion and Ministry of Home Affairs on Building and Developing School Health Care (UKS) 2014 states that UKS aims to increase educational quality and prestige of pupils by increasing clean and healthy living behavior and the degree of health of pupils and residents, as well as creating a healthy environment to enable harmonious and optimal growth and development in shaping a whole Indonesian being. This Regulation is based on Law No. 36/2009 [8] on Health, which states that UKS aims to increase pupils' healthy life skills in a healthy living environment, so that pupils can learn, grow, and develop harmoniously, and at the height, become quality human resources.

The Directorate General of Elementary Education, Ministry of Education and Culture (2014) stated that the particular aim of organizing UKS is to nourish the norm of a healthy lifestyle and increase the degree of health of pupils, which covers:

- Having the knowledge, attitude and ability to implement healthy living principles, as well as actively participating in efforts to increase health;

- Health, both in the physical, mental, or social sense and;

- I am having a life force and resistance to adverse influences, such as misuse of narcotics, drugs and dangerous substances, alcohol, cigarettes, and so on.

- UKS's target is school pupils from primary to high school (T.K., SD, SMP, and SMA/SMK), including pupils in religious schools and environments. The target of UKS building, meanwhile, is pupils, technical support (teachers and health workers); non-technical support (educational management, school / religious school staff); educational infrastructure and health service; environment (school / religious school environment, family environment, community environment surrounding the school / religious school) [16].

The success of UKS activities in school is heavily determined by several factors, including the availability of infrastructure, competent human resources, and not inconsiderable funding. All of these factors can be managed well if the school leadership commits to become a healthy school and produce pupils and educational staff whose behavior supports pupils' learning prestige. [7].

To accommodate UKS organizational needs in school, and organizational development concept is required, which is capable of increasing all elements to achieve the objectives hoped for. Organizational development is a process applied based on behavioral science, which helps an organization build capacity for change and achieves organizational effectiveness [17,18].

Organizational development starts from the strength of planned change, particularly project management or innovation, which will build organizational skills from the current condition to achieve the desired objectives. Organizational development is oriented towards the improvement of the total system; therefore, the effectiveness of the management system implemented is a crucial function [17,18].

The success of UKS is inseparable from how far these management functions are implemented and are in synergy with other learning programs in the school. Organizing holistic UKS covers the management of pupils' health status, providing infrastructure and a healthy school environment, as well as multidisciplinary cross-institutional collaboration to offer a comprehensive health service [1�3,11].

PUPILS' HEALTH AT SCHOOL INFORMATION MANAGEMENT SYSTEM

Pupils' health at school program needs to be well managed, requiring adequate supporting facilities. Many programs/activities undertaken as part of UKS causes much work that needs to be taken by Pupils' Health at School workers. From program planning to monitoring and reporting requires accurate and sustainable data. This opinion is shared with Robert F. Valois [7], who explains that effective data management is a condition for continuous school improvement. Comprehensive pupils' health venture data is included within this.

UKS is the result of collaboration and coordination from various cross-sectoral disciplines. Because of this, it requires a system that is integrated into management. The use of information technology is a choice for more flexible organizational development in the current computerization era, capable of moving rapidly, with agility, and providing accurate information [7,19□22]. Developing a computer-based management information system in a school environment, particularly for managing pupils' health, requires a strong commitment from school coordinators, teachers, and other stakeholders.

Data confidentiality is one aspect that must be considered in developing an information system. With a computer-based management information system, irresponsible people may misuse personal data. As a result, the management information system must be continuously protected by an authorization system agreed by all parties, as with pupils' health status, which is entered into the system. The protection of pupils' confidential health data is regulated through the relevant legislation in each country [20 □23].

All pupils' health status information and data belong entirely to the pupils, so health information should be managed correctly and accurately as much as possible. A computer-based management information system will help coordinators to turn data into useful information to make appropriate, accurate, and real-time decisions [21,22].

RESEARCH METHOD

This research uses a qualitative method with a naturalistic approach in data collection and the researcher as the main instrument. With a qualitative approach, data obtained will be more complete, sincere, and believable to achieve the research aims, namely obtaining a picture of the pupils' health at the school information management system.

The subject of this research is the use of SIMKesdik in primary schools in the City of Sukabumi. Sources of research are headteachers, UKS support teacher, health center personnel, Sub-District Health Service (UKS) Support Team, Sukabumi Municipal Health Service (UKS) Support Team, and SIMKesdik developers. The data collection technique was through observation throughout the processes of preparation, development, and implementation testing of the pupils' health management information system, complete with interviews and document study. The research was located in SDN Sukasirna and SDN Suryakencana CBM primary schools in Sukabumi.

RESEARCH RESULTS AND DISCUSSION
RESEARCH RESULTS
Management of pupils' health data at school.

Trial implementation process of SIMKesdik MEDISis in primary school
The researcher observed the implementation of coordination between interested parties in developing a pupils' health information management system, namely improving the MEDISis software, in this case in conjunction with PT Netkrom Solusindo as computer experts, Head of the Selabatu health center as a resource person in pupils' health outreach, Head of the Sukabumi City UKS Daily Support Team as policyholders for UKS coordination in the City of Sukabumi and the Headteacher as Head of the UKS in School Implementation Team. This activity was undertaken in November 2014 after previously conducting a study of documentation by System Developers, related to the format of health outreach implemented by Selabatu Health Centre (Puskesmas) in the City of Sukabumi.

Based on the coordination results, a picture is obtained of the MEDISis trial in appointed primary schools for the initial pupils' health information management system (SIMKesdik) in Sukabumi. It is hoped that this trial will obtain results in the form of a simulation of the flow process of integrated pupils' health information management system and the impact on improving pupils' health management at school.

The following steps undertook the trial SIMKesdik MEDISis mechanism:

Collecting all pupils' health data files which were still scattered, in the form of:

- Health data were resulting from class 1 health outreach undertaken by Selabatu *Puskesmas* in September 2014.

- Pupils' health data were available at school in the form of height and weight measurements from pupils' ledger and class teachers' notes.

- Results of health checks on 7 April 2015 as additional health data to show height and weight growth progress for each pupil, as well as teeth, check-up data.

They were identifying the availability of a computer unit fitting the required specifications, supporting equipment, such as a color printer, and other administrative needs. Then a computer technician fromthe system developer installed the MEDISis program onto the school computer.

Determine responsible actors and SIMKesdik implementors in school.
Within the system environment (school), 3 actors can interact with the MEDISis system, namely the administrator (the headteacher or person appointed to be responsible for SIMKesdik), UKS staff at school, and the form teacher. Each actor has different tasks. However, this does not halt the possibility that one actor can undertake the tasks that another actor should take.

SIMKESDIK FLOW PROCESS
The Pupils' health at the school information management system flow process starts with a health check for pupils by health staff. Health checks include measuring height and weight, nutritional status, dental check-ups, vital signs, medical/accident history, immunization history, health outreach data, initial laboratory test results (Haemoglobin (Hb) levels, Hematocrit, Leucocyte's, Thrombocyte, and Blood Group).

Health data obtained based on check-up results by health staff is inputted directly into the MEDISis system. According to the standard value determined by WHO, the system will help analyze and interpret data in real-time. Health data is sent in the form of individual pupil health data and recaps of check-up results for all pupils in each school.

Health data already processed by the MEDISis system is then sent to the health center (*Puskesmas*) for follow up. The *Puskesmas* oversee pupils' health data, both individually and the recap of all pupils in a school, in the interest of follow up health services for pupils. Other than the *Puskesmas*, the UKS implementation team at school give pupils' health data to their parents for information and, if necessary, to follow up by parents.

Pupils' health data from the school, received by the *Puskesmas*, is then sent to the *Dinas Kesehatan Kota Sukabumi* (Sukabumi Department of Health) with health data of other schools served by the *Puskesmas*. The MEDISis system provides real-time general information about pupils' health in each school. It can recap health reports from each school set in the program while maintaining pupils' health data. Besides the *Dinas Kesehatan Kota*, the *Puskesmas* also sends pupils' health data in the same way to the Sub-District UKS Support Team. The Sub-District UKS Support Team will then send pupils' health data from the schools in their area to the City of Sukabumi UKS Support Team. The MEDISis program has prepared pupils' health data reports up to the Provincial and Central (National) level.

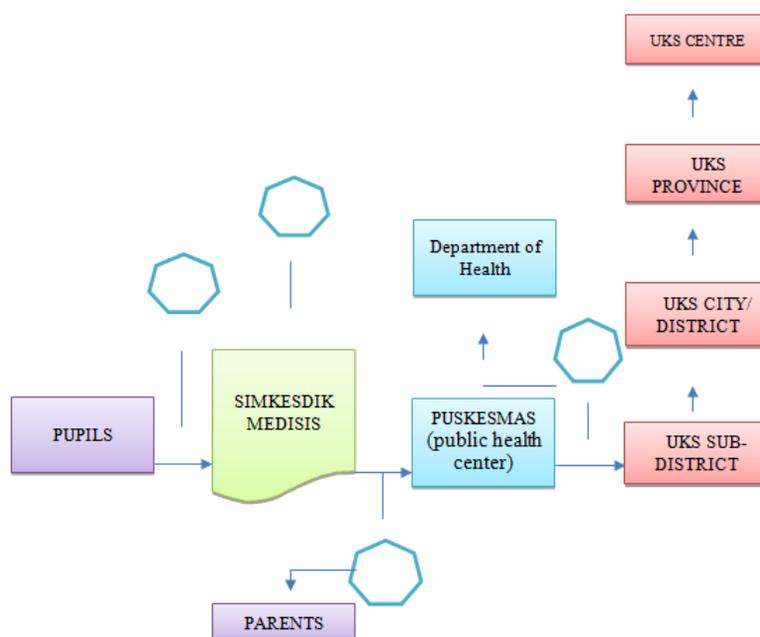In short, the pupils' health data flow process can be pictured as follows:

Fig 1. SIMKesdik MEDISis Flow Process in Sukabumi

SIMKESDIK EASE OF USE

SIMKesdik MEDISis is designed to help users input pupils' health data, with features made as simple as possible, with language which is easy to understand. Health workers/teachers with responsibility for UKS just need to input pupils' health data once. The MEDISis system will help process and analyze pupils' health data, using a standard from WHO for each item of inspection. The system can also help schools to recap health data for all pupils for reporting needs.

UKS worker data input process

Based on interview results with UKS workers from the *Puskesmas* and teachers with responsibility for the UKS process, it can be concluded that there is no difficulty with the inputting of data into SIMKesdik MEDISis, because of the features which make it simple.

In the simulation were entering data in real-time was tested during the health check on 7 April 2015, it was concluded that entering data immediately after check-ups were completed could be undertaken by UKS workers at school so that pupils' health data was directly documented in SIMKesdik MEDISis. This is of great benefit in terms of saving time and energy.

Process of recap and report making

SIMKesdik MEDISis is designed to analyze data, undertake recapitulation of pupils' health data, and make general conclusions on pupils' health status based on data input resulting from health checks. This considerably helps health staff from the *Puskesmas* in the process of recapping and interpreting pupils' health data.

Before having SIMKesdik MEDISis, it took days or weeks to complete a recap of checking the health network of one school, so that to report to the Department of Health and sub-district UKS support team, the *Puskesmas* needed around three months to recap all schools which they were responsible for.

However, after using SIMKesdik MEDISis, they only need a few minutes to see the recap results and the interpretation of pupils' health data. The system immediately analyzes the data when it is entered into the system.

BENEFITS OF SIMKESDIK MEDISIS
Based on the trial of the SIMKesdik MEDISis flow process, undertaken in primary schools in the City of Sukabumi, then it can be concluded that the benefits of SIMKesdik Medis can immediately felt, namely:

Interests in decision making in school
A health team from Puskesmas provides pupils' health services at school. Generally, schools do not have complete notes on pupils' health because health data from health outreach, immunization, dental checks, and routine health checks are recorded to the *Puskesmas*.

By having SIMKesdik MEDISis, schools will have complete pupil's health data because data will be input at school immediately after health checks are undertaken. This helps schools to make decisions related to increasing and maintaining pupils' health. In contrast, at school, because of awareness that pupils' health significantly influences pupils' learning process and achievement of prestige in schools.

Besides this, the simple to use the design of SIMKesdik MEDISis means human resources can use it in school, such as school administrative staff.

Benefits for Health staff from the *Puskesmas*
Previously the health data taken to the *Puskesmas* was raw data that had not been analyzed. *Puskesmas* UKS staff had to recap from an outreach health/check-up form per pupil, manually, and create a comprehensive report. This process required more than a little time and energy, and the report was often only complete after more than three months.

The SIMKesdik MEDISis software has computerized the process. It was initially undertaken manually so that results can be faster and more accurate. UKS staff in the *Puskesmas* can see data analysis results and make follow up plans according to the effects of health checks undertaken.

Benefits for UKS Support Team at the Sub-District and City Level
The sub-district and city UKS support teams are representatives from each institution in local government. The Puskesmas usually provided report*s* in the form of a recap of health checks, not individual pupils' health data. As a result of SIMKesdik MEDISis, the descriptions provided are not only a general recap, but sub-district and city UKS support teams and even provincial and central levels may be able to see individual pupils' health data, with unquestionable authority. This makes it possible for TP UKS to undertake intervention if special health cases require appropriate steps taken by those in power.

Furthermore, the provision of real-time, accurate pupils' health data reports in every school will help TP UKS to determine policy related to UKS support and development in each area.

Benefits for Pupils and their Parents
As explained above, the health team health checks from the *Puskesmas* were not documented at school, and pupils as the owner of health data did not have complete health documents at school.

Having SIMKesdik MEDISis means health data per pupil is documented well and continuously, and parents can obtain a routine report of the results of health check-ups and make appropriate decisions to follow up on their child's health issues. The impact of this is to increase the parent's trust in school.

The efficiency of using human resources, cost, and time are based on pupils' health data flow.
Based on the results of the SIMKesdik MEDISis trial implementation in *SDN* Sukasirna, Sukabumi, various benefits can be obtained from simplifying the flow process, cost, and time.

Simplifying the flow process of pupils' health data management
SIMKesdik MEDISis simplifies the pupils' health data management process, starting from inputting data at school to results received by the UKS Support Team at the City level. This simplified process includes dividing tasks appropriately amongst the actors involved. Appropriate task division means that there are not overlapping actor roles, resulting in inefficient use of human resources.

Efficient use of costs

Because the data process is no longer undertaken manually, it is not tricky for UKS workers to recap and analyze data with the help of computer experts who had to be paid. As a result of SIMKesdik, data processing costs are no longer required.

Costs of sending hard copy reports from school to several related institutions are no longer required because of SIMKesdik because the system will help send complete pupils' health data from MEDISis schools through the internet or soft copies, which are integrated with MEDIsis Centre. MEDISis Centre can be accessed by related institutions (*Puskesmas*, Department of Health, Sub-district TP UKS, City TP UKS, etc.).

Efficient use of time
The process of inputting pupils' health data into SIMKesdik MEDISis is undertaken at school in real-time by UKS staff. This process helps UKS staff to complete the data management process quickly, supported by the computer system. Before using SIMKesdik MEDISis, UKS workers required several days to recap health test results (health outreach /screening test for class 1 pupils) of all the pupils from one school. Using SIMKesdik MEDISis, this requires only a few minutes.

Health data inputted will be documented continuously and can be used as long as the pupil remains at that school and can produce a medical history report to be used by the pupil continuing their education or transferring to other schools.

DISCUSSION OF RESULTS
This computerization era can no longer be avoided. High competition is spurring on faster and more appropriate performance in every aspect of life. The school environment is no exception to this. Schools, as an open system, influence and are influenced by the full climate [24].

The results of the research undertaken on the use of pupils' health information management system (SIMKesdik) in primary schools in the City of Sukabumi generally proved that the help of the computer in managing pupils' health at school made implementation more effective and efficient.

The provision of MEDISis software in SIMKesdik provided adequate input to manage pupils' health data resulting from health checks. This software accommodates health service needs/pupils' health checking, which forms only one of the aspects of the UKS Triage. The UKS Triage covers health education, health service, and building a healthy school environment (*Kementerian Pendidikan dan Kebudayaan*, 2014) [16]. Even so, the MEDISis software helped sufficiently as a first step in developing health at the school information management system for now.

According to O-Brien and Marakas [21] and Laudon & Laudon [22], utilizing computer-based information technology requires an appropriate management strategy, because I.T. equipment cannot work optimally if it is not appropriately managed. SIMKesdik MEDISis tested at primary school in Sukabumi accommodated a management system through dividing tasks for each actor involved, starting from the headteacher as SIMKesdik administrator, UKS staff (UKS support teachers/UKS workers form the *Pueskesmas*), and class teacher as SIMKesdik implementor. This work distribution system is useful to ensure each process is undertaken well. A sound computer-based information system starts from data input, through the data analysis process, up to the output of quality information [21].

According to Laudon & Laudon [22], developing an information system requires a change within the organization, known as business process redesign, to simplify the organizational processes. An organization needs to rearrange the workflow, minimalize or eliminate unnecessary work, and maximize the organization's potential.

The flow process tested in primary schools in Sukabumi proved that with a clear division of roles and simplified work arrangement, much of the work consuming considerable time, effort, and resources could be reduced with more accurate results.

This condition starts from the point of data collection, which was initially undertaken using paper-based forms. It is minimalized by the use of the computer, which can accommodate essential data. The health data input into the computer must be real-time as a person's health condition changes over time and place. Data entered will be processed with the computer's help to produce an interpretation output that facilitates reading information. This has already helped UKS workers in the *Puskesmas*, who previously undertook this manually, taking a relatively long time, but has been simplified as now they need only look at the computer analysis results.

Reports from the *Puskesmas* to the Health Department and Sub-District TP UKS are relatively quick, as the computer system creates the recap. This impacts the UKS support team and the Health Department to immediately plan on thebuildingof development programs that fit the health problems faced. This is meaningful input for the implementation of UKS in school and UKS Building and Development Effort, according to the guidance made by the Ministry of Education and Culture [16].

Another no less critical impact is the pupils' health report for parents. SIMKesdik MEDISis provides a particular report format that can be accessed or printed by the school to give to parents as routine pupils' health reports. Parents are an essential element in pupils' success at school. Parental/family support of children's health will help achieve optimal learning prestige [5].

Use of SIMKesdik MEDISis in managing pupils' health at school has a positive impact on the attempt to increase service quality for pupils at school, increasing parents' trust, simplifying the workload of UKS staff and expanding the power position of the UKS Support Team in determining the policy related to building and developing UKS in the region.

CONCLUSION
Organizing pupils' health at school venture holistically consists of managing pupils' health status, providing infrastructure and a healthy school environment, as well as multidisciplinary cross-institutional collaboration. This attempt to collaborate and coordinate between various cross-sectoral disciplines requires an integrated information system in its organization. In the current computerized era, utilizing information technology is a choice to develop a more flexible, fast-moving, and agile organization that can provide accurate information, including the management of pupils' health.

Developing a pupil's health information management system (SIMKesdik) using MEDISis software is one alternative in managing a pupil's health. The results of the trial prove that use of SIMKesdik helps schools in continuously managing pupils' health data, helps UKS implementors in schools to manage and analyze pupils' health check-up results and follow up on them immediately, following the needs of individual or groups of pupils, providing an impact of increasing parents trust in the health service at school, as well as helping the UKS Support Team determine appropriate policy related to building and developing UKS in the area.

REFERENCES
[1]   Onis et al. (2007). Developing of a WHO Growth Reference For School-Aged Children and Adolescents. Bulletin of the World Health Organization - September 2007,85(9).

[2]   Department of Education and Early Childhood Development - State Government Victoria. (2012). Planning for Children in School-Age Care. Melbourne: Quality Assessment and Regulation Division Early Childhood Development Group.

[3]   UNESCO. (1996). Treasure Within: Report to UNESCO of The International Commission on Education for The Twenty-first Century. France: United Nations Educational, Scientific, and Cultural Organization.

[4]   Case & Paxton. (2006). Children's Health and Social Mobility. Princeton University: Journal Future of Children. Vol. 16/No.2/Fall/2006. (online). Available: https://www.princeton.edu. (18 August 2014).

[5]   Hass & Fosse. (2008). Health and The Educational Attainment of Adolescents: Evidence from The NLSY97*. Journal of Health and Social Behaviour. 2008, Vo. 49 (June): 178-192. (online). Available: http://www.unc.edu/~ldpearce/soci820/Readings/presentations. (18 August 2014).

[6]   Basch. Charles. E. (2010). Healthier Students Are Better Learners: A Missing Link in School Reforms to Close The Achievement Gap. A Research Initiative of The Campaign for Educational Equity.   Teacher   College: Colombia   University.   (online).   Available: http://www.equitycampaign.org. (18 August 2014).

[7]   Valois, R.F. (2011). The Healthy School Communities Model: Aligning Health and Education in The   School   Setting.   New   York: ASCD.   (online).   Available: http://www.ascd.org/ASCD/pdf/siteASCD/publications/Aligning-Health-Education.pdf. (18 August 2014).

[8]   Undang Undang RI No. 36 Tahun 2009 Tentang Kesehatan.

[9]   Depkes   RI.   (2014).   Rekapitulasi   Puskesmas   Tahun   2014.   (Online).   Availale: http://www.bankdata.depkes.go.id/puskesmas. (10 Mei 2014).

[10]   Engkoswara & Komariah. (2019). Administrasi Pendidikan. Bandung: Alfabeta.

[11]   Cetinkaya. Senay. (2009). The Growth and Development Of Healthy Child. Article. (online). Available: http://cdn.intechopen.com/pdfs-wm/31654.pdf. (5 March 2014).

[12]   UNESCO Institute for Statistics. (2012). Global education digest 2012. Opportunities lost: The impact of grade repetition and early school leaving. Quebec: UNESCO Institute for Statistics.

[13]   Pendidikan, W. M., & Pendidikan, K. B. (2014). Konsep dan implementasi Kurikulum 2013. Kementerian Pendidikan dan Kebudayaan. Jakarta.

[14]   Fisher, Hunt, et all (2010). Building a Healthier Future Through School Health Programs. (Online). Available: http://www.cdc.gov/healthyyouth/publication. (3 January 2014).

[15]   Alter & Lohrman. (2005). Building Support for Coordinated School Health Programs. The Health Educator Journal, Vol. 37. (online). Available: http://files.eric.ed.gov/fulltext/EJ714745.pdf.

[16]   Depkes RI (2007). Petunjuk Pelaksanaan Monitoring, Evaluasi dan Pelaporan Usaha Kesehatan Sekolah. Jakarta: Depkes RI.

[17]   Cummings, T., & Worley, C., 1997, Organization development and change (6th ed.), South-Western College, Cincinnati

[18]   Wahab, Abdul. A. (2011). Anatomi Organisasi dan Kepemimpinan Pendidikan: Telaah Terhadap Organisasi dan Pengelolaan Organisasi Pendidikan. Bandung: Alfabeta.

[19]   Lear, J.G. (2007). Health at School: A Hidden Health Care System Emerges from The Shadow: The time is ripe for a viable school-community health care collaboration. (Project HOPE The people-to-People Health Foundation, Inc). Washington: Journal Health Affair Volume 26, number 2.

[20]   U.S. Department of Health and Human Services & U.S. Department of Education (2010). Joint Guidance on the FERPA and HIPAA To Student Health Record. (online). Available: http://www.hhs.gov/ocr/privacy/hipaa/understanding/coveredentities. (26 August 2014).

[21]   O'Brien and Marakas. (2011). Management Information Systems (10 edition). New York McGraw – Hill Irwin.

[22]   Laudon & Laudon. (2012). Management Information Systems: Managing the Digital Firm. (12th edition). New Jersey: Pearson Education, Inc.

[23]   National Forum on Education Statistics. (2006). Forum Guide to The Privacy of Student Information: A Resource for School (NFES 2006-805). U.S. Department of Education. Washington,

DC: National   Center   For   Education   Statistics.   (online).   Available:
http://www.kdheks.gov/immunize/webiz_download/FERPA_guide.pdf. (26 August 2014).

[24] Hoy, W. K., & Miskel, C. G. (2008). Theory, research, and practice in educational administration.
Translated to Persian by Abaszadeh S. Urmia: Urmia University pub, 2008, 88-46.