



# STRENGTHENING EYE CARE FOR SCHOOL-AGED CHILDREN IN SCHOOLS AND COMMUNITY SETTINGS IN JORDAN 2023-2026

## SITUATION ANALYSIS



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# 1 EXECUTIVE SUMMARY

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The objective of this Situation Analysis is twofold. Firstly, it aims to inform the design of the School Eye Health Screening Project, which will be implemented from mid-2023. The analysis will help determine the regulatory environment, identify the most appropriate project model, and establish baselines for monitoring and evaluation. Secondly, the analysis will examine the broader health and education policy environment, assessing opportunities for expanding the project and developing long-term strategic plans. The analysis seeks to understand key elements for an effective School Eye Health Screening model in three project sites: Irbid, Karak, and Zarqa. It also explores the potential for project expansion, including scaling up the school health screening model nationally, implementing a care model for children aged 0-5 years, and integrating primary eye care.

The analysis will employ a mixed methods approach, utilizing focus group discussions, key informant interviews, and a survey across three phases. Phase 1 involves literature review, focus group discussions, and interviews with key informants. Phase 2 focuses on conducting surveys with 450 students in Irbid, Karak, and Zarqa. Phase 3 entails report writing and dissemination of findings.

Key findings from the analysis reveal the importance of School Eye Health Screening in assessing near and far vision in schools. Child eye health is a significant public health concern, impacting education, social participation, and future economic output. The analysis emphasizes the Convention on the Rights of the Child and Sustainable Development Goal 4 as guiding principles. Various guidelines and initiatives advocate for school screening programs to diagnose and manage common eye

conditions and create awareness and demand for refractive services.

In Jordan, the Ministry of Health, through the Department of School Health, provides primary healthcare services to schools. The National Strategy for School Health aims to enhance existing services. However, challenges exist, such as the absence of specialized physicians in schools, shortages of medical equipment, financial support, and logistical hurdles.

The analysis reveals a high prevalence of vision difficulties among students, with varying rates across governorates, through the survey, we found that 32.5% of school students in government schools who participated in the survey have vision difficulties, ranging from mild to moderate to severe, this result is higher than the global rate announced by the World Health Organization in 2022, which reported that 27.5% of children are affected by near or far vision impairment. It stated that it was possible to prevent half of this number of vision impairment cases through various intervention strategies.

Economic constraints and limited access to resources hinder obtaining glasses or treatment for children with vision problems. Syrian students exhibit higher rates of vision problems compared to Jordanian students. Parental involvement is crucial in identifying and addressing vision impairments. There is a need for effective monitoring systems beyond the initial school enrollment examination.

Based on these findings, the analysis recommends the development of an effective School Eye Health Screening model, considering the specific needs of the three project sites. It also suggests exploring opportunities for project expansion, including nationwide scaling, care models for younger children, and integration with primary eye care services.

## Part 1: Introduction

### 2 PROJECT BACKGROUND & OBJECTIVES

The Fred Hollows Foundation (FHF) has commissioned a project to develop a situation analysis that will help to fine-tune the details of implementation and get an important community perspective on specific elements of the project. It will gather information about existing school health programs, the regulatory environment, the best model of school screening for the context, and barriers and enablers to screening/spectacle wearing amongst students and families, through a gender and disability lens. It will be grounded in practical solutions and driven by community needs.

The objective of this Situation Analysis is two-fold. Firstly, it will inform the project design for the School Eye Health Screening Project which will be implemented from mid-2023. It will help the project team to determine the regulatory environment in which this project is situated, as well as the most appropriate project model, and provide some baseline for project monitoring and evaluation. Secondly, this analysis will look more broadly at the health and education policy environment and determine the scope for expansion of this project and strategic longer-term plans. Specifically, this analysis will seek to understand:

1. What are the key elements for an effective and appropriate model of School Eye Health Screening in the three project sites: Irbid, Karak and Zarqa.
2. What are key considerations, appetite, and scope for expansion of this project in future years, such as scale-up of the school health screening model nationally, possibilities for a

model of care for children aged 0-5 years, and a primary eye care integration project.

### 3 ASSESSMENT METHODOLOGY

#### 3.1 APPROACH

To achieve the study objective, a mixed methods approach will be adopted – combining focus groups discussions, Key informant interviews and a survey. The study will be conducted over the following three phases:

- **Phase 1 - Preparation and Background Research:** involves the review of relevant literature and conducting 9 Focus group discussions, 15 in-depth interviews with key informants from MOE and MOH and 6 in-depth interviews with representatives of CSOs who provides eye care services.
- **Phase 2 – Beneficiaries Research:** Conducting 450 surveys with students from public schools for the age group from 6-14 (Jordanian and Syrian) in Kara, Irbid and Zarqa.
- **Phase 3 –Dissemination:** Writing up the report and a presentation of findings.

#### 3.2 ACTIVITIES

- Literature review of secondary data, relevant documents, and primary sources related to the research topic.
- Preparation of the inception report, including the research methodology, timeline, sample size, and legislative review.
- Conducting 9 focus group discussions with parents and teachers in three governorates: Irbid, Zarqa, and Karak, through Community based organizations CBOs.

- Conducting 6 in-depth individual interviews with representatives from non-profit organizations providing eye care services for children.
- Training field researchers on the student survey.
- Piloting the questionnaire.
- Conducting 450 questionnaires with students of primary schools (171 in Zarqa, 223 in Irbid, 56 in Karak). The questionnaires filled out face-to-face at the institute's premises in coordination with the Family Health Care Institute's staff.

(The current phase targeted Al Qasaba districts Irbid governorate, Zarqa governorate, and Karak governorate).

- Contacting the Studies and Research Department at the Ministry of Health to obtain approval from the Research Ethics Committee to conduct in-depth individual interviews with relevant individuals in the Ministry of Health and the Ministry of Education.
- Conducting 9 in-depth individual interviews with key stakeholders (three interviews with officials from the School Health Directorate at the ministry headquarter in Amman, three interviews with officials from the Ministry of Education at the ministry headquarter in Amman, three interviews with representatives from the School Health Directorates in Irbid, Karak, and Zarqa governorates).

- Transcribing and analyzing personal interviews.
- Transcribing and analyzing focus group discussions.
- Quantitative analysis of the students survey.
- Preparation of the first draft of the report, including an executive summary, and presenting it to relevant stakeholders for their feedback.
- Final report preparation (based on received feedback).

### 3.3 SAMPLING & DATA COLLECTION

Interviews, focus group discussions and a survey will be conducted with students, teachers, parents and key informants. Tables 1 and 2 outline the breakdown of interviews, focus group discussions and the survey. The criteria for the selection of the sample:

#### **Beneficiaries**

- Students: 50% Jordanian; 50% Syrian
- Students: 50% females; 50% males
- Students between ages 6-14

#### **Service providers and key informants**

- Teachers
- Parents
- Officials at the Ministry of Health (Directorate of School Health)
- Officials at the Ministry of Education

Table 1 - Research with beneficiaries

Beneficiaries: Jordanians and Syrians				
		No. of Students <sup>1</sup>	Sample Size	Children
Survey	Zarqa	234,107	171	43 Jordanian (male) 43 Jordanian (female) 42 Syrian (male) 43 Syrian (female)
	Irbid	304,826	223	56 Jordanian (male) 56 Jordanian (female) 55 Syrian (male) 56 Syrian (female)
	Karak	77,112	56	14 Jordanian (male) 14 Jordanian (female) 14 Syrian (male) 14 Syrian (female)
<b>Total</b>		<b>450 questionnaires</b>		

Table 2 - Research with service providers & key informants

Target group	Zarqa	Irbid	Karak
Teachers – Jordanian students	1 FGD	1 FGD	1 FGD
Teachers – Syrian students	1 FGD	1 FGD	1 FGD
Parents – Jordanian and Syrian	1 FGD	1 FGD	1 FGD
MOE authorities	3 KIIs		
MOH authorities	6 KIIs		
Civil Society Organizations - CSOs	6 KIIs		
<b>Total</b>	<b>9 FGDs &amp; 15 KIIs</b>		

- IRC conducted the FGDs with student’s parents and with teachers through the surrounding CBOs in the targeted areas.

<sup>1</sup> Report on student numbers for the academic year 2020-2021, Ministry of education

## 4 ETHICAL CONSIDERATIONS

The IRCKHF takes very seriously the ethical considerations that inform data collection, analysis and dissemination efforts, especially when it concerns vulnerable groups. To that end, the IRCKHF is committed to the following ethical guidelines:

- ✓ Participants are treated as autonomous agents
- ✓ Participants must give consent freely and voluntarily
- ✓ Informed consent is documented and is an ongoing process
- ✓ Children provide assent and parents/guardians give permission to participate
- ✓ Do no harm approach
- ✓ Privacy and confidentiality of participants is always protected.
- ✓ Research is inclusive and with stakeholder consultation
- ✓ Participants are treated fairly and equitably

Specifically for this project:

**Informed consent:** an information sheet detailing the objective of the situation analysis and how data is going to be used will be provided to all participants. The form will contain contact information of the IRCKHF should they have any queries after the interview/focus group. Once participants provide consent, they have the right to refuse to answer any question and can withdraw from the interview/focus group at any time. All data, including audio, print, or other formats used to record personal data of the respondents will be destroyed 5 years after being recorded.

**Confidentiality:** all enumerators must sign a confidentiality and non-disclosure contract with IRCKHF to ensure that the data collected is treated with the strictest confidentiality. All data collected will be anonymous and cannot be linked back to respondents. Only the research team will have access to personal data of the respondents, and this data will not be shared with anyone outside of the research team. The data will only be used for the purposes of this research.

**Referral:** a brochure about IFH services will be provided to all research participants as needed. If the IRCKHF researcher believes there is an unidentified case of child protection, GBV rehabilitation, disability, or psychosocial services, they will report it to IFH for follow up, or to the relevant authorities as required by law. Interviews will be conducted in spaces that are considered safe and familiar to the respondents, such as in community-based organizations (CBOs), youth clubs, schools and any other venues that respondents find acceptable.

## 5 LEGAL REVIEW

### 5.1 GLOBAL CONTEXT

The School Eye Health Screening is a brief examination administered in schools that primarily evaluates near and far vision. It is also known as an eye exam. Typically, the test involves reading letters from an eye chart. A vision screening is a quick way to determine if a comprehensive (complete) eye exam is necessary.

Child eye health is a significant public health concern, particularly in low-income countries, and innovative, well-integrated strategies are required to meet the growing demand. The effects of inaction are far-reaching, affecting education, social participation, and future economic output.

The foundation for child eye health can be found in the Convention on the Rights of the Child, which recognizes the child's right to the highest achievable standard of health and to facilities for the treatment of illness and rehabilitation of health. It is also consistent with Sustainable Development Goal 4, which seeks to ensure inclusive and equitable quality education and promote opportunities for lifelong learning for all.

In its Global Initiative for the Elimination of Child Blindness<sup>2</sup>, the World Health Organization advocated for school screening programs for the diagnosis and management of common conditions, i.e. (a)refractive errors, particularly myopia; (b)trachoma (in endemic areas); and to

create awareness and demand for refractive services through community-based services/primary eye care and school screening.

As the topic gained more attention, several reputable bodies developed guidelines for school eye health screening, some of these recent guidelines are:

**IMPACT EMR Guidelines for School Eye Health Programs in the Eastern Mediterranean Region" and was published by the International Agency for the Prevention of Blindness (IAPB) in collaboration with the Eastern Mediterranean Regional Office of the World Health Organization (EMRO) in 2009<sup>3</sup>**

These guidelines were developed in consideration of the evolving needs of School Health. These guidelines address fundamental issues, so countries can further develop/adapt in accordance with their respective environments and circumstances.

**School Health and Integrated Programming (SHIP): Guidelines for School-based Eye Health Programmes," published by the Global Partnership for Education in 2017<sup>4</sup>.**

The purpose of these guidelines is to provide guidance to those who plan and implement vision screening programmes as part of eye health initiatives within the education sector. These recommendations are intended for policymakers, educational and health care authorities, health planners, eye care delivery organizations and professionals, in collaboration with educators, parents, and children.

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<sup>2</sup> World Health Organization. (1998). WHO-Global Initiative for the Elimination of Avoidable Blindness: School Eye Health. Geneva, Switzerland: World Health Organization.

<sup>3</sup> IAPB and EMRO. (2009). IMPACT EMR Guidelines for School Eye Health Programs in the Eastern Mediterranean Region. Available online

[<http://www.pbunion.org/IMPACT-EMR-Guidelines-1.pdf>] last visited 10 May 2023.

<sup>4</sup> Global Partnership for Education. (2017). School Health and Integrated Programming (SHIP): Vision Screening. Available online [<https://www.globalpartnership.org/sites/default/files/2017-09-ship-guidelines-vision-screening.pdf>] last visited 10 May 2023.

**Standard school eye health guidelines for low and middle-income countries, published by the International Agency for the Prevention of Blindness (IAPB) in 2020<sup>5</sup>.**

These best practice guidelines are intended to provide guidance to those planning and implementing eye health initiatives for schools, including policy makers, health care and educational authorities, health planners, and professionals, in collaboration with teachers, parents, and children. When eye health resources are limited, decisions must be made to ensure that programs not only address public health issues but are also implemented in an effective, efficient, and, whenever possible, sustainable manner. Monitoring and evaluation systems should also be developed from the outset.

**National School Eye Health Guidelines" published by the Nigerian Ministry of Health in 2020<sup>6</sup>.**

The primary objective of the Nigeria school eye health guideline is to provide direction for those responsible for planning and implementing school eye health programmes within the health and education sectors. This recommendation is for policymakers, educational and health care authorities, health planners, eye care delivery organizations, and professionals, including teachers, parents, and children. This guideline also adopts an integrated approach to school eye health, in which the Federal and State Ministries of Education and Health collaborate actively to

ensure the effective and efficient delivery of identified initiatives.

## 5.2 THE NATIONAL CONTEXT

The right to health is not included in the Jordanian Constitution of 1952, but in the amendments of 2011 the phrase “Protection of Childhood” was added to article 67. As for the right to Education article 20 stated simply “Basic education shall be compulsory for Jordanians and free of charge in Government schools”.

The much-awaited Rights of the Child Law has finally been enacted. According to this law, children are entitled to receive free primary healthcare services. Moreover, in situations of emergency or life-threatening circumstances, health services are to be provided to children even if they do not possess health insurance, and at no cost<sup>8</sup>. Additionally, the Ministry of Education mandates the provision of awareness programs regarding children's growth, health, physical and psychological development, and ensuring that they receive adequate education and health awareness at all stages of education, while taking into consideration their age, perception, and in compliance with religious and social values<sup>9</sup>.

The Ministry of Health is the principal provider of primary health care services in the kingdom through a variety of health programs that cover all aspects of primary health care, including Maternal and child health, Occupational Health,

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<sup>5</sup> International Agency for the Prevention of Blindness. (2020). Guidelines for Comprehensive School Eye Health Programmes. Available online [<https://www.iapb.org/wp-content/uploads/2020/09/Guidelines-School-Eye-Health-Programmes-English-Final.pdf>] last visited 10 May 2023.

<sup>6</sup> Federal Ministry of Health. (2018). National School Eye Health Guidelines. Available online

[<https://www.health.gov.ng/doc/National-School-Eye-Health-Guidelines.pdf>] last visited 10 May 2023.

<sup>7</sup> Jordanian Constitution of 1952, article 6/5 “The law shall protect motherhood, childhood and the old-aged; and shall avail care for the youngsters and those with disabilities and protect them against abuse and exploitation”

<sup>8</sup> Rights of the Child Law No. 17/2022, article 10.

<sup>9</sup> Rights of the Child Law No. 17/2022, article 16/c.

Nutrition and food control program, and School health<sup>10</sup>.

The Department of School Health<sup>11</sup> was established at the Ministry of Health in 1964 to provide school health services to primary schools in specific governorates, and its remit has grown over time. The department was elevated to a directorate within the Primary Health Directorate in 1994. The directorate has undergone multiple restructurings, and in 2018 it was divided into three departments:

- Department of Advancement of Student Health.
- Department of the school environment.
- Dental health department.
- Shelter Centers Department

The Minister of Health issued School Health regulations in 2014 with the objective of conducting periodic visits by school health doctors to public schools. These visits are conducted in accordance with a program developed by the Directorate of Health in collaboration with the Directorate of School Health<sup>12</sup>. The doctors and dentists provide free periodic examinations to public school students<sup>13</sup>, and if a student is referred by the school health doctor to a public health center for confirmation of a diagnosis, the treatment fees and routine laboratory tests listed below are waived<sup>14</sup>.

- Urine or stool tests
- Throat swab
- Examination:
- Hemoglobin test
- Number of white blood cells

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<sup>10</sup> For more details see Jordan Ministry of Health Website []

<sup>11</sup> Ministry of Health Website, available online [<https://www.moh.gov.jo/ar/Subsite/schoolhealth>] last visited 10 May 2023.

- Mini-x-ray in the Chest Diseases Center for the purpose of searching for tuberculosis.

The Ministry of Health's Strategic Plan 2018-2022 outlines a specific objective of promoting all aspects of school health services. In line with this objective, the ministry has implemented the following programs:<sup>15</sup>:

- Comprehensive medical examination of public-school students
- Comprehensive medical examination of private school students
- School Health Awareness Program Health awareness in schools, especially on the risks of drugs and smoking
- Project for distributing prescription glasses among public and military elementary school students.
- Psychosocial guidance program for school students
- Oral and dental screening for public school students
- Dental prevention program
- Oral and dental screening for private school students
- Physical inspection of private centers and nurseries

These programs are executed in collaboration with the Ministry of Education. In 2017, these programs were implemented in 99 percent of public schools and 90 percent of private schools<sup>16</sup>.

In 2018, the Ministry of Health initiated the National Strategy for School Health 2018-2022, with the primary objective of enhancing and sustaining the existing school health services. The strategy indicates that in 2017, 93.8% of students were deemed healthy, while 3.5%

<sup>12</sup> School Health Regulations of 2014, article 2.

<sup>13</sup> School Health Regulations of 2014, article 3.

<sup>14</sup> School Health Regulations of 2014, article 4.

<sup>15</sup> Ministry of Health Strategic Plan 2018 -2022, p 48.

<sup>16</sup> IBID

required additional testing and medical attention for various reasons. The reasons for referral were as follows: nose, ear, and throat (33.64%), skin diseases (25%), internal diseases (21%), eye problems (19.8%), and vertebral column issues (0.26%)<sup>17</sup>.

Given the aforementioned information, it should be noted that the Ministry's strategies and relevant legislation do not explicitly mention Eye Screening. Nonetheless, comprehensive medical examination programs for both public and private schools incorporate such screening. However, it is important to highlight that the distribution of prescription eyeglasses is currently restricted to public and military elementary schools exclusively.

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<sup>17</sup> Ministry of Health, National Strategy for Health Services 2018 – 2022, p 19-20.

## 6 BACKGROUND

Eye health issues among children in Jordan, including those in public schools, are a significant concern. Common vision problems among children include refractive errors (such as near-sightedness, far-sightedness, and astigmatism), amblyopia (lazy eye), and strabismus (eye misalignment). These conditions can affect a child's ability to learn, perform well academically, and engage in daily activities.

In Jordan, efforts have been made to address children's eye health through various initiatives. The Ministry of Health and other healthcare organizations collaborate to provide vision screening programs in schools. These programs aim to detect and address visual impairments at an early stage.

However, there are challenges that impact the status of children's eye health in public schools in Jordan. Some of these challenges include:

1. Limited awareness: Lack of awareness among parents and guardians about the importance of regular eye examinations and the need for timely intervention for eye health issues.
2. Access to eye care services: Limited access to eye care services, especially in rural and underserved areas, can hinder early detection and treatment of visual problems.

3. Lack of comprehensive screening programs: In some cases, the implementation of vision screening programs in schools may be inconsistent or insufficient, leading to undiagnosed or untreated eye conditions.

4. Financial constraints: Limited financial resources allocated to eye health services in schools may restrict the availability of necessary equipment, resources, and trained personnel.

At the beginning of 2017, the Optometry Department in the Royal Medical Services launched an initiative targeting a number of primary school students from education, military culture, and special education schools<sup>18</sup>. This initiative aimed to raise awareness in the local community about the importance of having primary school students undergo vision screening before the age of 9. The goal was to easily address visual problems before this age and achieve full recovery if detected early. The initiative included conducting visual acuity tests for students and delivering informative lectures covering various topics, including the risks and negative effects of using phones and electronic devices on visual health. The initiative revealed that 28% of primary school students suffer from visual problems without their knowledge, caused negative impact on their academic performance.

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<sup>18</sup> <https://www.addustour.com/articles/956198-28-%D9%85%D9%86-%D8%B7%D9%84%D8%A8%D8%A9-%D9%85%D8%AF%D8%A7%D8%B1%D8%B3-%D8%A7%D9%84%D8%A7%D8%B1%D8%AF%D9%86>

<https://www.addustour.com/articles/956198-28-%D9%85%D9%86-%D8%B7%D9%84%D8%A8%D8%A9-%D9%85%D8%AF%D8%A7%D8%B1%D8%B3-%D8%A7%D9%84%D8%A7%D8%B1%D8%AF%D9%86>, 11 May 2017.

The number of schools accommodating students with disabilities has reached 1002 schools in the year 2022<sup>19</sup>. These inclusive schools aim to integrate students with disabilities alongside their peers. Additionally, there are 10 schools for the deaf and an academy for the visually impaired. Moreover, inclusive schools have been provided with over 237 trained teachers.

It was also noted that 200 training hours were dedicated to teachers working in inclusive education during the year 2022. Furthermore, students with special needs have been supplied with special glasses and hearing aids through tenders worth a total of 178,000 dinars.

## 7 LITERATURE REVIEW

The study titled "Causes of Blindness among Adult Jordanians: A Hospital-based Study" by Al-Bdour, Al-Till, and Abu-Khader was published in the European Journal of Ophthalmology in 2002. The study aimed to identify the main causes of blindness among adult Jordanians through a hospital-based assessment.

The researchers conducted a retrospective analysis of medical records and data from patients who were registered as blind or visually impaired at a major hospital in Jordan. They reviewed the causes of visual impairment and blindness, including both preventable and non-preventable conditions.

The study found that the leading causes of blindness among adult Jordanians were cataracts, glaucoma, diabetic retinopathy, corneal diseases, and retinal diseases. These conditions accounted for a significant proportion of visual impairments among the studied population.

The authors highlighted the importance of targeted interventions and public health programs to address the preventable causes of blindness, such as cataracts and diabetic retinopathy. They emphasized the need for increased awareness, early detection, and timely management of these conditions to prevent avoidable blindness among Jordanian adults.

The study titled "Screening of Visual Acuity Deficit among Students in Jordanian Schools" by Sha'aban, Khorma, Hashki, and colleagues was published in the Journal of the Royal Medical Services in 1996. The study aimed to screen for visual acuity deficits among students in Jordanian schools.

The researchers conducted a cross-sectional study in which they assessed the visual acuity of a sample of students from various schools in Jordan. They utilized standardized vision screening tests, such as the Snellen chart, to measure visual acuity.

The study found that a significant number of students had visual acuity deficits, indicating potential vision problems. The prevalence of visual acuity deficits was higher among older students compared to younger ones. The researchers also noted a higher prevalence

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<sup>19</sup> <https://www.assawsana.com/article/577318>. 1 Jan 2023

of visual acuity deficits among male students compared to females.

The authors emphasized the importance of regular vision screening programs in schools to detect and address visual acuity deficits at an early stage. They highlighted the potential impact of untreated visual impairments on students' educational performance and overall quality of life.

The study titled "Evaluation of Ocular Diseases among Jordanian Primary School Students" by Al-Jbour, M.H., and colleagues<sup>20</sup> aimed to assess the prevalence and types of ocular diseases among primary school students in Jordan.

The researchers conducted a comprehensive evaluation of ocular health in a sample of primary school students. They performed various examinations and tests to assess visual acuity, refractive errors, and the presence of ocular diseases. These examinations included visual acuity testing, assessment of refractive errors using objective and subjective methods, examination of the anterior and posterior segments of the eye, and evaluation of ocular alignment.

The study found a notable prevalence of ocular diseases among the examined primary school students. The most common ocular conditions observed included refractive errors (such as myopia, hyperopia, and astigmatism), amblyopia (lazy eye), and strabismus (eye misalignment). These conditions can affect visual function and

have implications for the children's learning and development.

The authors highlighted the importance of early detection and appropriate management of ocular diseases in primary school students. They emphasized the need for regular vision screenings and eye examinations in schools to identify and address ocular issues promptly. Early intervention and treatment can help improve visual outcomes and enhance the children's overall quality of life and educational performance.

The study titled "Assessment of Needs and Practices in Eye Health Care in Jordan: A Review Study" by Al-Saleh, A.D., and colleagues<sup>21</sup> aimed to assess the needs and practices related to eye health care in Jordan through a comprehensive review of existing literature.

The researchers conducted a systematic review of studies, reports, and relevant documents related to eye health care in Jordan. They analyzed and synthesized the available information to evaluate the current state of eye health care services, identify gaps and challenges, and assess the practices and interventions being implemented.

The study found several key findings regarding eye health care in Jordan. First, it identified a need for improved infrastructure and resources for eye health care services, including clinics, diagnostic facilities, and trained personnel. There was also a need for

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<sup>20</sup> Evaluation of Ocular Diseases among Jordanian Primary School Students, Al-Jbour, M.H., et al. Published in: Arab Journal for Educational and Developmental Psychology, 2016

<sup>21</sup> Assessment of Needs and Practices in Eye Health Care in Jordan: A Review Study, Al-Saleh, A.D., Middle East Journal of Mother and Child Health, 2016

increased accessibility to eye care services, particularly in rural and underserved areas.

The researchers also highlighted the importance of raising awareness and promoting preventive measures related to eye health. They emphasized the need for educational programs and campaigns to inform the public about common eye conditions, the importance of regular eye examinations, and preventive measures to maintain good eye health.

Additionally, the study examined the existing practices and interventions in eye health care in Jordan. It identified various initiatives and programs focused on specific eye conditions, such as cataract surgeries and diabetic retinopathy screening. However, the researchers noted the need for more comprehensive and integrated approaches to address a broader range of eye health issues.

The authors concluded that there is a need for further research, policy development, and resource allocation to strengthen eye health care in Jordan. They emphasized the importance of collaboration between healthcare providers, policymakers, and relevant stakeholders to improve the overall eye health landscape in the country.

The study titled "A Review of Cases of Visual Correction in Different Age Groups in Jordan" by Al-Najdawi, A., and colleagues, published in the Journal of Medical Sciences in 2014<sup>22</sup>, aimed to review and analyze cases of visual

correction interventions in different age groups in Jordan.

The researchers conducted a comprehensive review of medical records and data from patients who underwent visual correction interventions, such as eyeglasses and contact lenses, across various age groups in Jordan. The study aimed to assess the distribution of visual correction interventions and explore the patterns and trends related to age and type of correction.

The study found that visual correction interventions were commonly performed across all age groups in Jordan. The distribution of cases varied among different age groups, with specific patterns observed. For example, the prevalence of eyeglass prescription was higher in older age groups, while contact lens usage was more common among younger individuals.

The researchers also examined the types of visual correction interventions performed, including prescriptions for nearsightedness, farsightedness, astigmatism, and presbyopia. They analyzed the distribution of these conditions across different age groups and evaluated the effectiveness of visual correction interventions in improving visual acuity.

The study provided insights into the patterns of visual correction interventions and highlighted the importance of appropriate visual correction measures in improving vision and quality of life across different age groups in the Jordanian population. It

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<sup>22</sup> Ocular Diseases in a Group of Jordanian Students in Irbid Governorate, Al-Assaf, A., Jordan Medical Journal, 2014.

emphasized the need for regular eye examinations and access to visual correction services to ensure optimal vision and address visual impairments effectively.

The study titled "Ocular Screening of School Children in the Southern Desert of Jordan" by Kharma, Tahat, and Tayeh was published in the Journal of the Royal Medical Services in 2000<sup>23</sup>. The study aimed to assess the ocular health status of school children in the southern desert region of Jordan.

The researchers conducted a cross-sectional study in which they screened a sample of school children for various ocular conditions. They performed visual acuity tests and examined the children's eyes for signs of abnormalities or visual impairments.

The study found a significant prevalence of ocular abnormalities among the screened school children. The most common ocular conditions observed included refractive errors (such as nearsightedness, farsightedness, and astigmatism) and amblyopia (lazy eye). These conditions can affect the children's visual function and potentially impact their educational performance.

The authors highlighted the importance of early detection and timely intervention for ocular conditions in school children. They emphasized the need for regular ocular screenings in schools, particularly in underserved areas such as the southern desert region of Jordan. Early identification and management of ocular abnormalities

can help improve the children's visual outcomes and overall quality of life.

The study provided valuable insights into the ocular health status of school children in the southern desert region of Jordan. It underscored the importance of implementing targeted ocular screening programs and interventions to address and manage ocular conditions in this population.

The study titled "Pattern of Childhood Blindness and Partial Sight among Jordanians in Two Generations" by Al-Salem and Rawashdeh was published in the Journal of Pediatric Ophthalmology and Strabismus in 1992<sup>24</sup>. The study aimed to investigate the patterns of childhood blindness and partial sight in two generations of Jordanians.

The researchers conducted a retrospective analysis of medical records and data from two generations of Jordanian individuals with childhood blindness and partial sight. They examined the causes of visual impairment, the age of onset, and the prevalence of these conditions in the studied population.

The study found that the main causes of childhood blindness and partial sight among Jordanians in both generations included congenital cataracts, retinal diseases, and optic nerve disorders. The researchers noted a significant decrease in the prevalence of childhood blindness in the second generation compared to the first generation. This decrease was attributed to advances in

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<sup>23</sup> Kharma SM, Tahat AA, Tayeh, MA. Ocular screening of school children in the Southern desert of Jordan. JRMS 2000; 7: 39-41

<sup>24</sup> Al-Salem M, Rawashdeh N. Pattern of childhood blindness and partial sight among Jordanians in two generations. J Pediatr Ophthalmol Strabismus 1992; 29: 361-365.

medical care, early detection, and improved management of ocular conditions.

The authors highlighted the importance of early intervention and timely management of childhood eye disorders to prevent blindness or reduce visual impairment. They emphasized the need for increased awareness, access to specialized eye care services, and regular vision screenings in the pediatric population.

The study provided valuable information about the patterns of childhood blindness and partial sight among Jordanians in two generations. It highlighted the impact of medical advancements and improved healthcare practices in reducing the prevalence of childhood blindness. The findings underscored the significance of early diagnosis and intervention in preserving and improving vision in children.

## Part 2: Discussion

By analyzing the objectives of the project and the main axes that have been addressed by previous studies on the same subject, we find it appropriate to focus on the following aspects in our current study:

1. Prevalence of visual problems: This involves determining the frequency and types of eye conditions and vision impairments among children, such as refractive errors (nearsightedness, farsightedness, astigmatism), amblyopia (lazy eye), strabismus (misalignment of the eyes), and other eye diseases.

2. Early detection and intervention: The importance of early eye examinations and timely detection of eye problems in children. This topic focuses on the benefits of early intervention, such as correcting vision impairments, preventing further deterioration, and improving academic performance and overall quality of life.

3. Risk factors and preventive measures: Identifying risk factors that contribute to the development of eye problems in children, such as excessive screen time, lack of outdoor activities, poor nutrition, and family history. Exploring preventive measures, including educating parents and caregivers about healthy visual habits, promoting eye-protective measures, and implementing school-based eye health programs.

4. Access to eye care services: Assessing the availability and accessibility of eye care services for children, particularly in underserved areas or low-income communities. Examining barriers to

accessing eye care, such as cost, transportation, and awareness, and proposing strategies to improve access and equity.

5. Impact of technology on eye health: Investigating the effects of digital devices, such as smartphones, tablets, and computers, on children's eye health. This topic examines the potential risks associated with excessive screen time, blue light exposure, and digital eye strain, and explores ways to mitigate these risks through education, proper device usage, and periodic eye examinations.

6. Educational outcomes and visual impairment: Exploring the relationship between visual impairments and academic performance in children. This topic investigates the impact of uncorrected vision problems on learning abilities, reading skills, and classroom participation, and highlights the importance of vision screenings and appropriate vision correction for optimal educational outcomes.

7. Public awareness and health promotion: Evaluating the effectiveness of public awareness campaigns and health promotion initiatives aimed at raising awareness about children's eye health, advocating for regular eye examinations, and promoting healthy visual habits. Assessing the impact of such initiatives on parental knowledge, attitudes, and behaviors related to children's eye care.

## 8. REGULATORY FRAMEWORK

Students represent approximately one-third of the population in the Hashemite Kingdom of Jordan, and schools are considered an appropriate environment for imparting knowledge and promoting healthy practices. In line with this vision, the Ministry of Health has given significant attention to school health in its comprehensive concept, particularly in light of the increasing prevalence of chronic diseases such as heart disease, diabetes, malnutrition, and others, which are closely associated with prevailing negative lifestyle patterns and behaviors. The Ministry believes that reducing the spread of these diseases and preventing them should primarily focus on awareness programs and promoting health education by adopting healthy lifestyles, especially during early years of life when children and adults receive education, knowledge, and absorb educational and social concepts. Hence, the National Strategy for School Health 2018-2022 was developed, which is adopted by all sectors and entities providing and supporting school health services.

### 8.1. THE ROLE OF THE MINISTRY OF EDUCATION

The Ministry of Education is keen on appointing nurses in the directorates of education distributed across all governorates in Jordan. The ministry believes that providing a safe and healthy environment is a fundamental requirement for the success of any educational process. A safe and healthy environment is considered an indicator of an effective school according to the school's procedural development plan. Therefore, at the beginning of each

academic year, the Ministry of Education disseminates the required health procedures that schools must implement to maintain the health of administrative staff, teachers, and students.

A meeting is held for all school health officials in the directorates of education, totaling 42 directorates. In each government school, there is a designated teacher responsible for school health. They play an educational and awareness role within the school community, promoting health prevention methods.

Among the measures we have taken, the Ministry of Education has appointed nurses in the directorates of education to monitor the implementation and evaluation of health procedures. The nurses will follow up on the health measures, assess their effectiveness, and ensure their application in the educational field.

There is direct communication between the Minister of Health and the Minister of Education regarding the provision of free medical eyeglasses to students in government schools and military culture schools. Based on these correspondences, the Ministry of Education instructs the directorates of education, directors of government schools, and directors of military culture schools to refer any student from grades one to ten who has visual problems to the health center affiliated with their school. This should be done according to the approved form and starting from the date of referral for the provision of free medical eyeglasses to school students. In addition, The Ministry of Education is responsible for providing books to students

with visual impairments, whether they have short or long sight. These curriculum books are sent in a larger font size to accommodate their needs.

## 8.2 THE ROLE OF MINISTRY OF HEALTH

There is a close connection between the health directorates within the governorates and the directorates of education, which can be almost daily, such as monitoring and facilitating school entry. There is also cooperation at the central level between the Ministry of Health and the Ministry of Education through official correspondence, where all health requirements are exchanged. Monthly, quarterly, and annual reports are generated, including a report on visual examinations before students enter school, which revealed that 3% of students suffer from visual impairments.

Before students enter school, comprehensive health centers conduct various checks on students, such as immunization cards, administering the first-grade vaccine, and conducting laboratory tests, including visual examinations. Additionally, supervisors in schools perform annual visual examinations using eye examination charts. There are periodic medical tests for students in government schools in the first, fourth, and tenth grades, while in private schools, this examination is conducted every year.

There is a file called the Health Education File in the school health directorates, which deals with various awareness methods, including raising awareness about visual health issues such as nearsightedness, farsightedness, and other conditions that

can hinder the educational program, as visual problems can lead to a decline in students' educational performance. Therefore, they have been integrated into the educational program, utilizing social media, morning assembly lectures, and other activities such as providing brochures, posters, or even television programs.

In reality, there is no effective system that monitors cases that arise after the medical examination. This means that if a student has a visual problem, there is an acceptable percentage that can be detected before entering school through the initial examination. However, after this stage, if they develop a visual impairment or any other visual problem, it becomes difficult to detect unless the parents inform the school. In such cases, they are referred to a health center according to the approved procedures.

There is a single program that started two years ago through health insurance, which allocates a small budget for a limited number of glasses (10,000 eye glasses nationwide) provided to those in need across the kingdom. This number covers less than 10% of the students' needs in the country.

In the governorate of Irbid, there are approximately 30 community health committees that collaborate with health centers. These committees play a significant role in health awareness among students by conducting health awareness lectures. There is also a collaboration with the University of Science and Technology - The College of Medical Sciences at the beginning of the academic year. These committees organize various awareness activities, such as

organizing events at the Hassan Sports City that target students from both the public and private sectors. Approximately one thousand students participated in this activity; this awareness exhibition was about drugs, dental health and eye care.

The Ministry of Health is keen on networking with the private healthcare sector. For example, in the province of Irbid, after the eye examination by a doctor, students are referred from the eye clinic to Princess Basma Hospital. There, the necessary medical devices are used to conduct the eye examination. Specialized doctors and equipment are available. If it is found that the student has a vision problem and needs glasses, the Ministry of Health contract eye centers. The student is referred there and receives the glasses free of charge.

### 8.3 TASKS OF THE SCHOOL HEALTH COMMITTEE IN JORDANIAN SCHOOLS

The School Health Committee in Jordanian schools is entrusted with various tasks assigned to it by the Ministry of Education, specifically the Department of Health and School Nutrition. Some of these tasks include:

1. Implementing the unified health plan for the academic year, ensuring the follow-up of procedures within the specified timeframe in the plan.
2. Filling out the school health status form regularly and submitting it to the directorate.
3. Developing a plan for specific health activities in the school to be implemented during the academic year.
4. Submitting monthly reports on the achievements of the health committee to the school director, comparing the accomplishments with the established plan, approving the report, and keeping a copy of it.
5. Distributing assigned tasks to all committee members, involving students in follow-up work, health monitoring, and health education.
6. Monitoring the weekly work carried out by the health committee, which includes inspecting all school facilities such as classrooms, playgrounds, cafeterias, water tanks, and ensuring their cleanliness, electrical safety, seating arrangements, and other tools for use.
7. Distributing the medical record form at the beginning of the school year to class teachers, ensuring its completion, and transferring the information to the school health services record, while keeping a copy in a special committee file.
8. Monitoring student measurements such as height, weight, and vision with the class teachers, and ensuring their documentation in the student's record.
9. Monitoring requests for student referrals to health centers, especially those in need of eye clinic visits, by providing them with Form (80), starting from the first to the tenth grade.
10. Documenting data related to the school health services record, including the health committee members, their activities, the committee's weekly work, emergency medical cases, chronic diseases, documenting health and environmental

visits, exempted individuals from sports activities, examination of cafeteria workers, accidents, and deaths.

11. Implementing the fluoride mouthwash program for grades 2 to 6 in primary schools, documenting it once a week for each student.

12. Collaborating with the medical team to prepare and implement certain events, such as comprehensive medical examinations for students and monitoring the administration of necessary vaccines within the national immunization program, among others.

13. Following up on documented health deficiencies reported by the environmental supervisor and working to address them, submitting a report to the School Health Department.

14. Promoting health awareness among students and school staff by focusing on proper basic health habits, participating in awareness and health education programs through school radio, brochures, health magazines, and implementing health awareness programs in collaboration with the school administration, local community, and relevant authorities.

15. Contributing to the activation of public safety committees, civil defense, and traffic awareness.

16. Educating students about the importance of daily exercise and coordinating with the physical education teacher to form sports teams within the school.

#### **8.4. MEMBERS OF THE SCHOOL HEALTH COMMITTEE**

The School Health Committee consists of the following members:

1. School principal, who serves as the committee's chairperson.
2. School health teacher (supervisor), specializing in either science or health.
3. Assistant teacher.
4. Student members in the school health committee, based on the number of students in the school, with one student member for every 50 students.

#### **8.5 GENERAL OBJECTIVES OF THE SCHOOL HEALTH COMMITTEE IN JORDANIAN SCHOOLS**

The following points outline some of the general objectives of the School Health Committee in Jordanian schools:

1. Maintaining the coverage rate of comprehensive medical examinations and oral examinations for students in government schools.
2. Enhancing the representation of school health within the organizational structure of the Ministry of Education at both central and field levels.
3. Increasing the level of health awareness among students in government schools.
4. Expanding the national accreditation program for school health.
5. Reducing the percentage of students suffering from oral and dental diseases.

## 8.6. THE ROLE OF THE TEACHER IN MAINTAINING A HEALTHY SCHOOL ENVIRONMENT

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Teachers are trained to assist in the process of eye examining for students. Many teachers help in eye examining the students and how to fill out the needed forms, the health card, and the student's treatment card, which documents the student's health status from entering the school until leaving it for a period of 12 years.

The teachers in the evening shift have indicated that supervision, organization, and implementation of awareness programs are better in the morning shift compared to the evening shift. There are training activities provided for the morning shift that do not include the evening shift, such as first aid training and early detection methods for certain diseases, but they do not cover early detection of certain vision-related health issues.

Student's visual problem may be detected through one of the following methods:

- Routine periodic eye examination for students in public schools.
- Reporting by the class teacher, educator, or school principal.
- Through parents, who inform the class teacher or administration to proceed with vision screening procedures.

The resident teacher is considered the primary observer of the student's condition. In the first three grades, there is usually a counselor who should be knowledgeable about the students inside the classroom. The counselor maintains communication with

the school principal, who, in turn, stays in touch with the parents.

In some cases, the teacher takes initial action, such as moving the student to the front rows, based on personal observation or upon receiving information from the parents about the student's condition.

From their side, teachers find that the pressure of the curriculum and the overcrowding of classrooms make it difficult for the teacher to pay attention to the students' health aspect.

The number of students is very large, which means that even if you want to pay attention to each student, you can't give equal attention to everyone," *said a teacher of Syrian students in Irbid.*

Teachers also find that schools in remote areas are consistently deprived of their rights in various aspects, such as providing specific academic specialties, let alone implementing and monitoring health aspects.

Teachers believe that there are multiple needs to achieve a healthy school environment, such as providing a resident doctor similar to private schools. Additionally, they emphasize the importance of preparing the school environment to care for students' eye health, including proper lighting and consideration of sunlight reflections on the blackboard.

Teachers have observed that one of the reasons students hesitate to wear glasses is due to the design of the frames. "Our students in schools refuse to wear glasses because of the poor frame design. When they visit an optical shop, they are told that they are not eligible for certain frames. The options provided have certain specifications and qualities that may not suit their preferences. As a result, they return the glasses and seek alternatives," *said by a teacher from Al-Karak.*

The teachers have noticed that there are multiple approaches applied to eye examination. Sometimes, a random sample of students is taken, and other times, all students in the class are examined.

### 8.7. THE ROLE OF PARENTS IN CARING FOR CHILDREN'S EYE HEALTH

Parents play a crucial role in caring for their children's eye health. Here are some important aspects of their involvement:

1. **Regular Eye Examinations:** Parents should ensure that their children receive regular eye examinations. This helps in detecting any potential vision problems or eye conditions early on, allowing for timely treatment.
2. **Observing Signs of Vision Issues:** Parents should be attentive to any signs or symptoms of vision problems in their children. This may include frequent squinting, eye rubbing, difficulty focusing, tilting the head while reading, or complaints of headaches or eye strain. If any such signs are noticed, parents should consult an eye care professional.
3. **Promoting Eye-Friendly Habits:** Parents can encourage their children to adopt healthy habits that promote good eye

health. This includes teaching them about proper lighting when reading or using electronic devices, taking regular breaks during screen time, and maintaining an appropriate distance from screens.

4. **Protecting Eyes from Injury:** Parents should educate their children about the importance of protecting their eyes from injury. This involves teaching them to wear appropriate protective eyewear during sports and other activities that pose a risk to their eyes.

5. **Proper Nutrition:** A balanced diet rich in nutrients like vitamins A, C, and E, as well as omega-3 fatty acids, is beneficial for eye health. Parents should provide their children with a nutritious diet that includes fruits, vegetables, whole grains, and fish.

6. **Addressing Vision Correction Needs:** If a child requires vision correction, such as glasses or contact lenses, parents should ensure that they are wearing them regularly and properly. They should also facilitate regular check-ups to monitor any changes in their child's vision.

7. **Communication with Teachers and Eye Care Professionals:** Parents should maintain open communication with their child's teachers and eye care professionals. This helps in understanding the child's visual needs and addressing any concerns or recommendations regarding their eye health.

Parents feel that students, especially females, are reluctant to wear glasses inside the school. Parents believe that the quality and design of the frames play a role in the student's reluctance to wear them inside the school. Students feel that there is a lack of

acceptance among their peers for students who wear prescription glasses.

Oh, I see in the morning he has the glasses on, but inside the school, he takes them off.  
*Said by A teacher of Syrian students in Irbid.*

It is observed that a high percentage of parents neglect the initial symptoms of eye problems, resorting to commonly known home remedies. They may only consider consulting a doctor if the symptoms persist. Due to the economic conditions and the high cost of medical consultations, many parents heavily rely on free medical days.

I do the same as my mother. When my son feels tired, I try to give him a headache pill. When he complains about his eyes, we make a herbal tea. *Said by a mother of a child from Karak.*

If there were no free medical check-up days, I wouldn't be able to treat my daughter.  
*Mother of a child from Karak.*

Parents feel that communication with teachers has improved through the activation of group features in mobile applications. This contributes to informing teachers about any health symptoms or issues concerning their children.

## 9. OBSTACLES FACING THE EFFECTIVE IMPLEMENTATION OF THE SCHOOL HEALTH PROGRAM

In Jordan, the School Health Program faces challenges, including the absence of a general physician in government schools with a student population exceeding 500 students, and the absence of a general physician and dentist in government schools with a student population exceeding 1000 students, administratively affiliated with the

Ministry of Education. This is in accordance with the National School Health Strategy.

Barriers to visual health include a shortage of medical equipment, an increase in the number of students in schools beyond the allowable limit, insufficient financial support, and logistical challenges such as transferring staff from the Ministry headquarters or health directorates in the provinces to government schools. Additionally, there is a need to activate awareness and training programs, provide the necessary devices for early screening, as well as ensure the availability of treatment, surgical procedures, and eyeglasses that can cover the number of students requiring such services. In addition to providing an ophthalmologist, along with nurses and general practitioners.

The shortage of personnel, lack of vehicles, limited mobility, and geographical expansion in certain areas are all obstacles that hinder the provision of school health services. For example, there are regions where schools are located hundreds of kilometers away from the central area. This is likely to be one of the barriers to delivering school health services. *A representative of the School Health Directorate*

We are in great need, to be honest, of having a greater number of doctors, especially ophthalmologists. A comprehensive campaign should be carried out in all schools in the Hashemite Kingdom of Jordan. The educational staff should be trained in eye examination procedures, and awareness workshops and training sessions should be conducted, covering all schools in the country. It would be beneficial to utilize the guidelines prepared by ophthalmologists in these training sessions. *A representative of the School Health Directorate*

## 10. THE ROLE OF CIVIL SOCIETY ORGANIZATIONS IN EYE HEALTH IN JORDAN

1. Providing screenings and treatment: Civil society organizations work on providing free or low-cost eye screenings for individuals with limited income. They also offer treatment and eye care for individuals experiencing vision problems or eye diseases.
2. Public awareness: These organizations organize awareness campaigns to increase public awareness about the importance of eye care and prevention of eye diseases. They provide information about the factors contributing to eye problems and proper eye care practices.
3. Training healthcare professionals: Civil society organizations train and educate healthcare professionals in the field of eye care. This includes training doctors, nurses, and technicians in diagnosis, treatment,

and preventive measures related to eye problems.

4. Provision of prescription glasses: Organizations work on providing prescription glasses to individuals with limited income. They prescribe appropriate glasses and provide them to individuals who are experiencing vision problems and cannot afford the cost of glasses.
5. Collaboration with government and healthcare institutions: Civil society organizations collaborate with the government and official healthcare institutions to improve eye health services. They contribute to the development of policies, guidelines, and relevant health programs in the field of eye care.

One example of an organization that provides services in the field of eye health is Caritas. Caritas offers initial eye health screenings, and if a patient is found to require advanced treatment, they are referred to the private sector through coordination with private hospitals such as the Italian Hospital, Abdul Hadi Hospital in Amman, and Rosary Sisters Hospital in Irbid. These institutions provide a medical report for assessing the medical condition and required interventions. The report is then submitted to a medical committee that determines the level of the organization's contribution based on the project's budget and sustainability. The approval can be full or partial, covering the entire amount depending on the project's budget.

There is also a good relationship between Caritas and the Ministry of Education, where the organization provides a doctor who offers medical services to students, such as eye examinations and vaccinations. Caritas also operates a mobile medical unit that offers free

medical days in various areas in cooperation with charitable associations.

When conducting an assessment, we have a clear understanding of the individual's condition, and we provide consultation based on the assessment. For example, we consider the type of impairment, such as color discrimination, nearsightedness, farsightedness, strabismus, and we also assess whether the disability is acquired or inherited, the level of the child's adaptation to their impairment, and the level of support from their parents. We provide magnifiers, devices, and determine if they need a braille system, magnifier, or white cane. *Saudi Center*

During campaign and medical event days, we attract beneficiaries from our community through volunteers. We conduct examinations using specialized equipment and assess them based on established measurements. Once we are ready, we select suitable frames and insert lenses that are appropriate for their examination results. We inform them that their glasses are ready and invite them to try them on, providing instructions on how to use them. This service is free and supported by our projects. We strive to ensure that nobody is left without glasses, even if they are in other provinces. Additionally, we perform examinations such as cataract assessments, and if necessary, we provide surgical interventions. In previous cases, we have performed procedures such as opening blocked tear ducts. *Institute for Family Health*

Civil society organizations face several challenges in providing eye health services, such as:

1. Sustainability of funding: Many organizations struggle to maintain sustainable funding for their eye health programs, which can hinder their ability to provide consistent services.
2. Lack of awareness among some parents: Some parents may not have sufficient awareness about the importance of eye health, leading to a delay in seeking necessary eye care for their children.
3. Absence of a culture of eye protection: There may be a lack of emphasis on eye protection and preventive measures among parents and the community, which can contribute to the prevalence of eye problems.
4. Need for permits from official authorities: Some organizations may face bureaucratic hurdles, such as obtaining permits from official authorities, which can hinder their access to government schools and other relevant institutions.
5. Insufficient qualified staff: Organizations may face challenges in having an adequate number of qualified personnel to handle the increasing number of children in need of eye health services, especially with the added demand resulting from the COVID-19 pandemic and the increased use of computers by students.
6. Inability to cover all areas: Due to resource limitations, organizations may not be able to provide services in all regions, resulting in disparities in access to eye health care.
7. Weak coordination among civil society organizations: There may be a lack of effective coordination and collaboration among different civil society organizations working in the field of children's eye care services, which can impact the overall effectiveness and reach of their efforts.

These challenges highlight the importance of addressing funding sustainability, raising awareness, promoting preventive measures, streamlining bureaucratic processes, strengthening workforce capacity, expanding coverage, and improving coordination among civil society organizations to enhance the provision of eye health services.

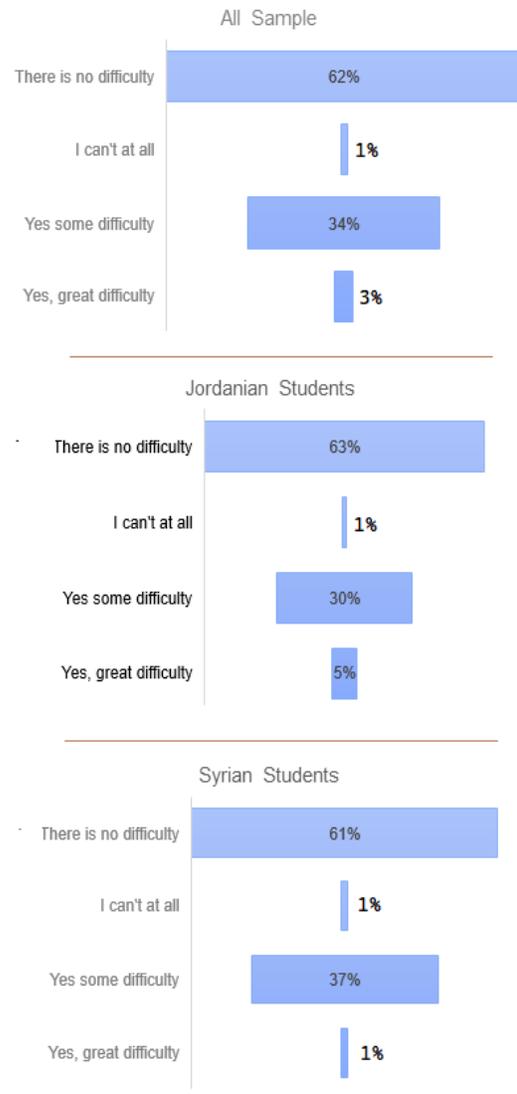
When a mother exposes her child to simple tests, such as throwing a small object and observing the child's response, it can be a simple way to assess the child's visual functions. Detecting any eye health issues in early stages is important. As for common misconceptions, it is important to educate mothers and parents that newborns do not have fully developed vision and that vision develops over time. Mothers should also be aware of the potential effects of certain medications and exposure to radiation during pregnancy on the fetus's health, including eye health. *Institute for Family Health*

## 11 PREVALENCE OF VISUAL PROBLEMS

This involves determining the frequency and types of eye conditions and vision impairments among children, such as refractive errors (nearsightedness, farsightedness, astigmatism), amblyopia (lazy eye), strabismus (misalignment of the eyes), and other eye diseases.

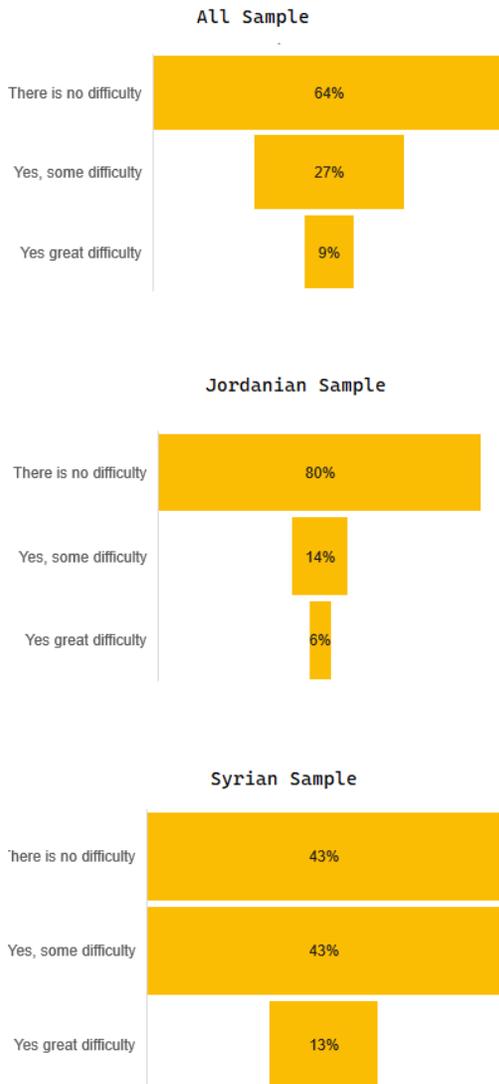
In Zarqa Governorate, we find that 38% of the students who participated in the survey have visual problems ranging from complete inability to significant difficulty, with some difficulty percentages of 1%, 3%, and 34% respectively. The percentages of Syrians and Jordanians experiencing visual problems were similar, with rates of 39% and 36% respectively.

Chart 1: Prevalence of visual problems in Zarqa Governorate



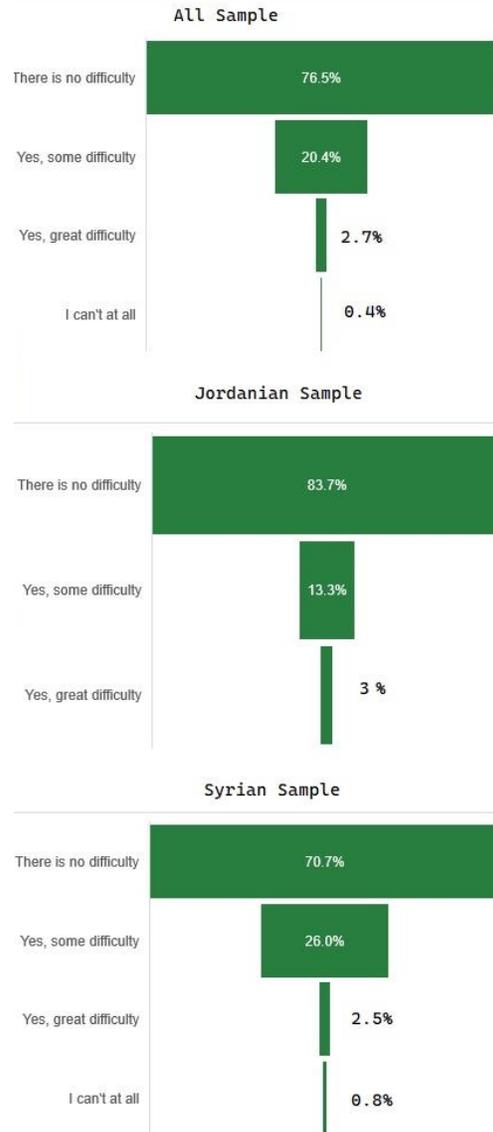
In Karak Governorate, we find that 36% of the students who participated in the survey have visual problems. However, it is noteworthy that there was a high percentage of Syrian students facing visual difficulties compared to Jordanian students, with rates of 56% and 20% respectively.

Chart 2: Prevalence of visual problems in Karak



In Irbid Governorate, we find that 23% of the students who participated in the survey have visual problems. However, it is noteworthy that there was a high percentage of Syrian students facing visual difficulties compared to Jordanian students, with rates of 69% and 31% respectively.

Chart 3: Prevalence of visual problems in Irbid



According to the student survey, it was found that 58% of students suffer from various eye symptoms. The most frequently reported symptoms are as follows: headaches after close-up work or effort, nausea, eye pain, itchy eyes, feeling of pinpricks, dizziness when reading or writing, sensation of something rough or sandy in the eyes, eye pain in bright light. The following table illustrates the frequency of these symptoms among the students.

Symptom	Percentage
Headaches after close-up work or effort, nausea	31.1%
Eye pain	29.7%
Itchy eyes	29%
Feeling of pinpricks	29%
Dizziness when reading or writing, Sensation of something rough or sandy in the eyes	24.5%
Eye pain in bright light	19%
Floaters in eyes	6%
Double vision	3%
Feeling of injury in the eye	2%

There are some behaviors that gave the impression to parents that their child is experiencing eye problems, ranked according to their frequency in the following table.

Behavior	Frequency
Bringing books and other objects closer to the eye more than necessary.	19%
Frowning and blinking repeatedly when trying to focus, such as during reading.	17%
Constantly rubbing the eye (as if trying to clear away fog from the eye).	16.7%
Losing words or lines while reading or reading slowly.	14.4%
Facing difficulties in studying due to visual impairment.	11.4%
Weak color discrimination.	7%
Feeling tired, tendency to drowsiness, and often exhibiting irritability after prolonged reading or tasks that require close vision.	5%
Not excelling in games that require visual focus, whether up close or from a distance.	1%

Out of **140** families with visual impairments of varying degrees, **64** children are experiencing visual difficulties, accounting for a percentage of **45.7%**. This highlights the factor of genetic predisposition and the importance of raising awareness about **eye protection measures**.

**28%** of students experiencing vision problems have developed symptoms during and after the COVID-19 period (from the beginning of 2020 until now)

We found that parents played the major role in identifying vision problems for their children. It was found that 79% of children with vision problems had their issues initially identified by their parents before being referred to a doctor or optometrist. On the other hand, the role of schools was minimal, with only 3% of children having their vision problems identified by teachers.

Chart 4: Parties who reported vision problems



Despite children being diagnosed with the need for glasses or treatment by a specialist, there are obstacles preventing them from obtaining them, primarily due to the family's inability to afford glasses due to economic circumstances. The percentage of cases where this is the reason stands at around 72%.<sup>25</sup>

Chart 5: Reasons for not wearing/having glasses



<sup>25</sup> Through focus discussion groups with parents, one of the significant reasons for females refusing to wear glasses was the design.

The percentage of Syrians who stated that the main obstacle is financial conditions was higher compared to Jordanian students, with a percentage of **59%** and **41%** respectively.

At the governorate level, we find that the highest percentage of students who indicated that economic constraints are the reason for not wearing glasses was in Zarqa, with a percentage of **75%**. The percentages were approximately equal between Irbid and Karak, with **60%** and **61%** respectively.

**28%** of the students have been diagnosed with the need for glasses, but they did not use them due to the lack of acceptance from friends, as well as the difficulty of using them.



Through the survey, we found that 32.5% of school students in government schools who participated in the survey have vision difficulties, ranging from mild to moderate to severe. (79% of children with vision problems initially identified by their parents).

This result confirms the findings of the initiative launched in 2017 by the Optometry Department of the Royal Medical Services, which targeted primary school students from the Ministry of Education, Military Education and Culture, and Special Education Schools. The aim of this initiative was to raise awareness in the local community about the importance of conducting vision screenings for primary school students before the age of nine. The goal was to address visual problems easily before this age and achieve complete recovery if detected early. The initiative included visual acuity tests for students and educational lectures covering various topics, including the risks and negative effects of phone and electronic device usage on visual health. The initiative revealed that 28% of primary school students have undiagnosed visual problems, negatively affecting their academic performance. Therefore, the increase of 4.5% between 2017 and 2023 is a natural increase given the students' increased reliance on electronic devices during the COVID-19 pandemic.

It is indeed observed that the percentage of Syrian students experiencing vision difficulties among those who participated in the survey was higher, reaching 60.5%, compared to 39.5% among Jordanian students. This indicates a higher prevalence of vision problems among Syrian students in the surveyed population. It is

Chart 6: Prevalence of vision problems among Syrians

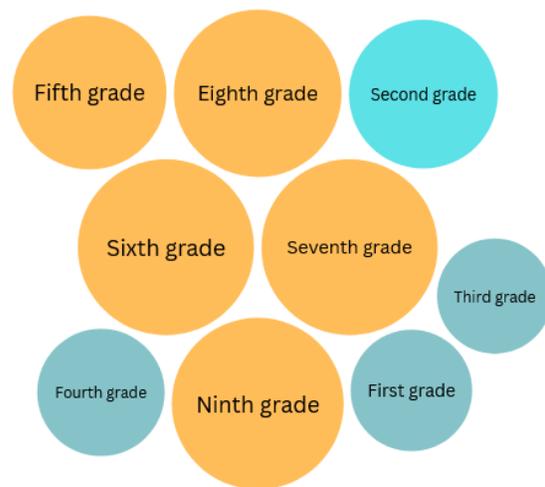


important to address and provide appropriate eye care services for both Syrian and Jordanian students to ensure their overall well-being and academic success.

Regarding the gender of students facing vision difficulties, it was relatively similar between males and females, with females accounting for 52% and males accounting for 48%. (Zarqa:49%,51%. Karak:56%,44%. Irbid: 52%, 48%).

Furthermore, it is observed that the number of students experiencing vision difficulties increases with higher academic grades. This aligns with the statement made by a responsible official in school health, stating that there is no effective system in place to monitor cases that arise after the medical examination upon school enrollment. This means that if a student has a visual problem, there is an acceptable percentage that can be detected before or upon entering school through initial screening. However, after this stage, it becomes challenging to identify visual impairments or other vision problems unless parents inform the school.

Chart 7: Distribution of vision difficulties among academic grades



## 12 RESULTS

1. The School Eye Health Screening is a brief examination conducted in schools that primarily assesses near and far vision, commonly known as an eye exam.
2. Child eye health is a significant public health concern, particularly in low-income countries, and requires innovative, well-integrated strategies to address the growing demand. Neglecting child eye health can have far-reaching effects on education, social participation, and future economic output.
3. The foundation for child eye health is based on the Convention on the Rights of the Child, recognizing the child's right to the highest achievable standard of health and facilities for treatment and rehabilitation. It aligns with Sustainable Development Goal 4, promoting inclusive and equitable quality education and lifelong learning opportunities.
4. The World Health Organization's Global Initiative for the Elimination of Child Blindness advocates for school screening programs to diagnose and manage common conditions such as refractive errors, trachoma, and to create awareness and demand for refractive services through community-based and school screening programs.
5. Reputable bodies have developed guidelines for school eye health screening, including the IMPACT EMR Guidelines for School Eye Health Programs, the School Health and Integrated Programming (SHIP) Guidelines, the Standard School Eye Health Guidelines for low and middle-income countries
6. In Jordan, amendments have been made to protect childhood and ensure free primary healthcare services. The Ministry of Health, through the Department of School Health, provides primary health care services to schools, and periodic visits by school health doctors are conducted in collaboration with the Directorate of Health and School Health.
7. The Ministry of Health has implemented various programs related to school health, including comprehensive medical examinations for public and private school students, school health awareness programs, distribution of prescription glasses, psychosocial guidance programs, oral and dental screenings
8. The National Strategy for School Health 2018-2022 aims to enhance and sustain existing school health services, and in 2017, 93.8% of students were deemed healthy while 3.5% required additional testing and medical attention for various reasons, including eye problems.
9. Teachers play a role in assisting with eye examinations for students, including filling out necessary forms and documenting students' health status throughout their school years. Visual problems in students can be detected through routine periodic eye examinations, reporting by teachers or school administrators, or through parents' communication with teachers or school administration.
10. Teachers in the evening shift have noted that supervision, organization, and implementation of awareness programs are better in the morning shift. Training

activities provided in the morning shift, such as first aid training and early detection methods for certain diseases, do not cover early detection of vision-related health issues.

11. Teachers face challenges in giving equal attention to students' health due to curriculum pressures and overcrowded classrooms. Teachers in remote areas often face deprivation in various aspects, including health monitoring and implementation.
12. Students may hesitate to wear glasses due to the design of frames, and limited frame options may not suit their preferences. Students, particularly females, may be reluctant to wear glasses inside the school due to concerns about acceptance among peers.
13. Many parents neglect initial symptoms of eye problems and rely on home remedies or free medical days due to economic conditions and the high cost of medical consultations.
14. Communication between parents and teachers has improved through the use of mobile applications and group features, allowing parents to inform teachers about their children's health symptoms or issues.
15. Obstacles to the effective implementation of the School Health Program in Jordan include the absence of specialized physicians in schools with large student populations, shortages of medical equipment, financial support, and logistical challenges. Geographical expansion and limited resources also hinder the provision of school health services in certain areas.
16. Among government school students surveyed, 32.5% have varying degrees of vision difficulties. In Zarqa Governorate, 38% of students surveyed have visual problems, with similar rates among Syrian and Jordanian students (39% and 36% respectively). In Karak Governorate, 36% of students surveyed have visual problems, with a higher percentage among Syrian students compared to Jordanian students (56% and 20% respectively). In Irbid Governorate, 23% of students surveyed have visual problems, with a higher percentage among Syrian students compared to Jordanian students (69% and 31% respectively).
17. Common eye symptoms reported by students include headaches, eye pain, itchy eyes, dizziness when reading, and sensitivity to bright light.
18. Parents play a major role in identifying vision problems in their children, with 79% of children's issues initially identified by parents.
19. Economic circumstances pose obstacles to obtaining glasses or treatment for children diagnosed with vision problems, with around 72% of cases attributed to financial constraints.
20. Syrian students show a higher prevalence of vision problems compared to Jordanian students, with rates of 60.5% and 39.5% respectively. The percentage of students facing vision difficulties is relatively similar between males (48%) and females (52%).
21. The number of students experiencing vision difficulties increases with higher academic grades. There is a need for an effective system to monitor visual

problems that may arise after the initial medical examination upon school enrollment.

22. Parental communication with the school is crucial for identifying and addressing vision impairments or other vision problems.

## 13 RECOMMENDATIONS

1. **Implement Routine Eye Screenings:** Establish a systematic and regular eye screening program in all Jordanian public schools. Conduct comprehensive eye examinations for all students upon school enrollment and periodic screenings throughout their academic journey.
2. **Collaborate with Healthcare Professionals:** Collaborate with the Ministry of Health and eye care specialists to provide professional eye care services in schools. Ensure that qualified optometrists and ophthalmologists are available to conduct screenings, diagnose visual problems, and provide appropriate treatment.
3. **Awareness and Education:** Launch awareness campaigns targeted at students, parents, and teachers to educate them about the importance of eye health, early detection of vision problems, and the benefits of timely intervention and treatment.
4. **Teacher Training:** Provide training sessions for teachers on recognizing signs of visual problems in students. Teachers can play a vital role in identifying students who may be experiencing vision difficulties and referring them for further evaluation.
5. **School Eye Health Curriculum:** Integrate eye health education into the school curriculum. Teach students about eye care, proper eye hygiene, and the significance of regular eye check-ups.
6. **Accessible Eyeglasses:** Ensure that affordable and stylish eyeglasses are readily available for students who require them. Consider partnering with eyewear retailers to provide discounted glasses for students in need.
7. **Eye Care Referral System:** Establish a well-defined referral system to connect students with eye problems to appropriate eye care providers. Collaborate with local eye clinics and hospitals to ensure seamless referrals and follow-up care.
8. **Mobile Eye Clinics:** Consider setting up mobile eye clinics that can visit schools in remote areas or regions with limited access to eye care facilities. These clinics can provide basic eye screenings and distribute glasses or refer serious cases for further evaluation.
9. **Support for Economically Disadvantaged Students:** Offer financial assistance or subsidies for eye examinations and eyeglasses for students from economically disadvantaged backgrounds.
10. **Partnerships with NGOs and Charitable Organizations:** Partner with non-governmental organizations (NGOs) and charitable organizations that specialize in eye care to expand the reach of eye health services and support.
11. **Data Collection and Analysis:** Establish a centralized database to track the prevalence of vision problems among students and the effectiveness of eye care interventions. Analyze the data

regularly to identify trends and assess the impact of the eye care program.

- 12. Evaluation and Continuous Improvement:** Regularly evaluate the effectiveness of the school eye health program and seek feedback from stakeholders, including students, parents, and teachers. Use this feedback to make necessary improvements and enhancements.

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## Annexes



الرقم .....  
التاريخ .....  
الموافق ٢٠٢٣/٦/١٢

مدير مديرية الصحة المدرسية

تحية طيبة وبعد ،،،

أرفق طياً صورة عن كتاب مدير إدارة مستشفيات البشير / رئيس لجنة أخلاقيات البحث العلمي رقم م ب أ / لجنة أخلاقيات / ٨٨٠٤ تاريخ ٢٠٢٣/٦/١٣ بخصوص الموافقة لمركز المعلومات والبحوث التابع لمؤسسة الملك الحسين إجراء دراسة لتحليل الاحتياجات المتعلقة بصحة العيون لدى طلاب المدارس ضمن الصفوف الدراسية (الصف الأول لغاية الصف التاسع) بعنوان :-

( تعزيز رعاية العيون للأطفال في المرحلة الأساسية في المدارس الحكومية )

وذلك عن طريق :-

- إجراء مقابلات معمقة مع مسؤولين في مديرية الصحة المدرسية.
- إجراء مقابلات معمقة مع مسؤولين في وزارة التربية والتعليم .
- إجراء مقابلات مع ممثلين عن الصحة المدرسية في محافظات اربد والكرك والزرقاء .

للتكرم بالاطلاع وإجراءتكم لطفا .

وتفضلوا بقبول فائق الاحترام ،،،

مدير مديرية التعليم والتدريب الطبي

الدكتورة رهام الحمود

المملكة الأردنية الهاشمية

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الرقم MOH/REC/2023/195

التاريخ

الموافق

## قرار لجنة أخلاقيات البحث العلمي

اجتمعت لجنة أخلاقيات البحث العلمي بتاريخ 2023/6/13 لمناقشة الدراسة المقدمة من قبل مركز المعلومات والبحوث التابع لمؤسسة الملك الحسين لتحليل الاحتياجات المتعلقة بصحة العيون لدى طلاب المدارس.

بعنوان :

"تعزيز رعاية العيون للأطفال في المرحلة الأساسية في المدارس الحكومية"

وبناء عليه قررت اللجنة الموافقة على البحث العلمي من قبل الجهة المذكورة اعلاه مع الالتزام بأخلاقيات البحث العلمي وتم التوقيع من قبل أعضاء اللجنة حسب الأصول.

عضو	عضو	عضو	مقرر اللجنة
أخصائي جراحة عامة د. جهاد البربروي	الصيدلانية حنان سرطاوي	المدير الطبي د. حسن اصريوع	وحدة تنمية الموارد البشرية السيد/أكرم العناتي
عضو	عضو	عضو	عضو
المدير الإداري والمالي د. هاني القضاة	أخصائي الأطفال د. عصام الخواججا	مدير مديرية المختبرات د. اروى النادي	استشاري أمراض باطنية د. يوسف القديمات
رئيس اللجنة			
مدير ادارة مستشفيات البشير الدكتور علي عزات العبدالات			

المملكة الأردنية الهاشمية  
هاتف: ٢٢٠٠٢٢٠ هـ ٩٦٢ ٦ فاكس: ٩٦٨٨٢٧٢ هـ ٩٦٢ ٦ ص.ب. عمان ١١١١٨ الأردن. الموقع الإلكتروني: www.moh.gov.jo

