Electronic Tools

Technical Series on Safer Primary Care

World Health Organization

Electronic Tools: Technical Series on Safer Primary Care
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Preface

Safer Primary Care

Health services throughout the world strive to provide care to people when they are unwell and assist them to stay well. Primary care services are increasingly at the heart of integrated people-centred health care in many countries. They provide an entry point into the health system, ongoing care coordination and a person-focused approach for people and their families. Accessible and safe primary care is essential to achieving universal health coverage and to supporting the United Nations Sustainable Development Goals, which prioritize healthy lives and promote well-being for all.

Health services work hard to provide safe and high quality care, but sometimes people are inadvertently harmed. Unsafe health care has been recognized as a global challenge and much has been done to understand the causes, consequences and potential solutions to this problem. However, the majority of this work up to now has focused on hospital care and there is, as a result, far less understanding about what can be done to improve safety in primary care.

Provision of safe primary care is a priority. Understanding the magnitude and nature of harm in primary care is important because most health care is now offered in this setting. Every day, millions of people across the world use primary care services. Therefore, the potential and necessity to reduce harm is very considerable. Good primary care may lead to fewer avoidable hospitalizations, but unsafe primary care can cause avoidable illness and injury, leading to unnecessary hospitalizations, and in some cases, disability and even death.

Implementing system changes and practices are crucial to improve safety at all levels of health care. Recognizing the paucity of accessible information on primary care, World Health Organization (WHO) set up a Safer Primary Care Expert Working Group. The Working Group reviewed the literature, prioritized areas in need of further research and compiled a set of nine monographs which cover selected priority technical topics. WHO is publishing this technical series to make the work of these distinguished experts available to everyone with an interest in *Safer Primary Care.*

The aim of this technical series is to provide a compendium of information on key issues that can impact safety in the provision of primary health care. It does not propose a "one-size-fits-all" approach, as primary care is organized in different ways across countries and also often in different ways within a given country. There can be a mix of larger primary care or group services with shared resources and small services with few staff and resources. Some countries have primary care services operating within strong national support systems, while in other countries it consists mainly of independent private practices that are not linked

or well-coordinated. The approach to improving safety in primary care, therefore, needs to consider applicability in each country and care setting.

This technical series covers the following topics:

Patients

- Patient engagement

Health workforce

- Education and training
- Human factors

Care processes

- Administrative errors
- Diagnostic errors
- Medication errors
- Multimorbidity
- Transitions of care

Tools and technology

- Electronic tools

WHO is committed to tackling the challenges of patient safety in primary care, and is looking at practical ways to address them. It is our hope that this technical series of monographs will make a valuable and timely contribution to the planning and delivery of safer primary care services in all WHO Member States.

1 Introduction

1.1 Scope

This monograph aims to raise awareness among World Health Organization (WHO) Member States about the role of electronic tools and eHealth in safer primary care. After outlining the approach taken to compile information, the monograph examines electronic tools used by providers and patients.

The focus is on using electronically stored data and communication technology to accomplish health systems' goals, including improving health care efficiency and quality, and empowering patients to play a more active role in their health *(1).* The term "electronic tools" in this monograph is used as equivalent definition of WHO "eHealth" throughout this monograph, which is the use of information and communication technologies in health.

1.2 Approach

To compile information for this monograph, WHO sought the advice of experts in the field recommended by the Safer Primary Care Expert Working Group and reviewed relevant research and the published literature.

International experts provided feedback, shared examples of strategies that have worked well around the world, and gave practical suggestions about potential priorities for the WHO Member States to improve the safety of primary care services.

2 Electronic tools

Electronic tools, or eHealth can have an important impact on safety in primary care. Well-designed and implemented, the use of information and communication technologies in health service delivery can link health care workers with one another and with patients and families in order to provide high-quality care that is safer, more reliable, more efficient, equitable and sustainable *(2)*. When strategically used across the health system, eHealth can enable health systems to function effectively, and support health services to deliver integrated, coordinated interventions that engage patients and address their needs across the health continuum *(3)*.

Experts from around the world identified that key vulnerabilities for patient safety in every health system include communication and teamwork, ordering and interpretation of diagnostic tests, data management, transitions between levels of care, and completeness of patient records *(4)*. eHealth can help to address these vulnerabilities by, for example, providing decision support for prescriptions and test orders, improving documentation and communication for handovers between providers, tracking and sharing diagnostic test results, and enhancing data monitoring and analysis *(5)*.

However, it must be emphasized that electronic tools support, rather than replace the expertise of high-functioning teams of health care providers. Achieving safer primary care requires thoughtful integration of eHealth into primary care service delivery. It also requires a paradigm shift away from reactive approaches towards approaches that improve quality of care, strengthen provider-patient interactions and empower patients and families as essential partners in care. Electronic tools can support this process, but are not an end in themselves.

3 Potential solutions

The following sections provide examples of how eHealth is supporting safer care in a range of health systems around the world. Overall, linking the implementation of electronic tools in local settings to a national eHealth strategy is essential as it provides the foundation, justification and support needed to go forward in a coordinated and systematic way.

3.1 Provider-facing technologies

Electronic health records

Electronic health records are digital records systems that replace or complement paper records as the means by which providers and patients keep track of patients' health information. Electronic health records also allow providers to share information more easily and communicate with one another about patient care *(6)*. They typically contain a patient's medical history, diagnoses and treatment, medications, allergies, immunizations, as well as radiology images and laboratory results *(7)*.

Electronic health records can support safer primary care in a number of ways. First, they can help to ensure and standardize documentation of patient encounters with the health system. When they include decision support functions, they may reduce medication errors by alerting providers to potential drug-drug interactions or errors in dosage. By enabling electronic prescriptions, they can help circumvent potential errors due to illegible handwriting *(8)*. Electronic health records can also help with handovers between providers by structuring and facilitating information exchange to ensure that essential information is documented and shared *(6)*.

Electronic health records demonstrate many benefits, but evidence of their impact on safety is mixed. Poorly-designed and implemented electronic health records may create more work for providers and contribute to dissatisfaction and burnout *(9)*.

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