

# What does Bill Gates' call mean? A policy transfer analysis on creating an early warning system to prevent the next pandemic

Ahmet Keser<sup>1</sup>  | Cumali Ozbek<sup>2</sup>  | Elifsu Keser<sup>3</sup> 

<sup>1</sup>Department of Political Science and International Relations, Faculty of Administrative, Economics and Social Sciences, Hasan Kalyoncu University, Gaziantep, Turkey

<sup>2</sup>Department of Political Science and International Relations, Graduate Education Institute, Hasan Kalyoncu University, Gaziantep, Turkey

<sup>3</sup>Department of Psychiatry, Faculty of Medicine, Ankara University, Ankara, Turkey

## Correspondence

Cumali Ozbek, Department of Political Science and International Relations, Graduate Education Institute, Hasan Kalyoncu University, Havalanı Yolu 8.km., Şahinbey, Gaziantep, Turkey.

Email: [cumali.ozbek@yahoo.com](mailto:cumali.ozbek@yahoo.com)

## Abstract

**Objectives:** The purpose of this study is to discuss the need for an early warning system in order to prevent a new epidemic that may occur in the future and, if necessary, which system will be and how this warning system will be designed.

**Methods:** A qualitative analysis through the World Health Organization (WHO) documents, an interview with a key expert, and a policy transfer analysis was conducted.

**Results:** An early warning system is needed for new outbreaks that may occur in the future. We have seen that the Early Warning Alert and Response system (EWARs), which is implemented by WHO as a policy transfer in Syria, is successful in this area and the system can be easily adapted and established. The implementation of the system in Syria and the successful performance of the early warning system can be systematically transferred to other regions of the world with the policy transfer approach as a public health policy and the implementation phases in the study. The successful transfer of EWARs from WHO to Syria provides a good sample for the integration of a system developed by international and/or non-governmental organizations into an administration system of a state under pandemic and crises conditions.

## KEYWORDS

COVID-19, EWAR system, pandemic prevention, policy transfer, public health

### Highlights

- Early alert systems are necessary to prevent possible future pandemics.
- Policy transfer and analysis offers important contributions and advantages for developing and adapting of new public health policies.
- The development of an Early Warning and Alert System as a policy transfer will make significant contributions to preventing a possible future pandemic or tracking the spread of COVID-19. This system provides suitable environment for sending and receiving data and reports rapidly from the regions where possible outbreaks occur.

## 1 | INTRODUCTION

This study mainly aims to seek the answers for the following questions by applying a policy transfer analysis to public health field: How successful was the implementation of the Early Warning and Alert System (EWARs) in terms of a policy transfer? Is it possible to implement this system in other regions or countries? If so, what are the installation and implementation phases of this system? The applied concept which is named as policy transfer is in the most fundamental sense, an effort to change or develop a variety of information, experiences or systems, regardless of time or location, to bring out better practices. The conceptual framework of policy transfer has been developed by Dolowitz and Marsh and is generally defined as the transfer of administrative arrangements from one place, time or administrative level to another one.<sup>1</sup> It covers almost all areas of administration and governance including public health policies and systems as well. It is usually used as an umbrella term to include all types of diffusion, convergence and lesson learning processes. Detailed information related to policy transfer progress is given at the following pages.

On the other hand, Early Warning Alert and Response which is on the focus of the study is a system designed to respond rapidly to emergency public health policies and to gather information about outbreaks. This system was established to create a rapid warning system against epidemics in areas, where surveillance is weak or not functional at all. The main objective of the system is to intervene immediately to possible epidemics and diseases and to provide local, regional control over outbreaks. With the implementation of this system a fast reporting mechanism is created and with its coordinated structure the emergency situations are responded quickly.

This system allows sustainable and systematic response and information flow from the field. Its focus is on possible diseases carrying out a potential for turning out to be an epidemic and on monitoring the trends related to the diseases of importance for public health.<sup>2</sup> Surveillance has been created to collect, share and analyse systematic information in specific areas on public health.<sup>3</sup> According to an article at the World Health Organization (WHO) official website '*The Global Early Warning and Response System (EWARS) project is a WHO initiative to catch disease outbreaks earlier to be able respond quickly in emergencies. Within the established countries, it supports Ministries of Health and health partners by providing technical support, training and field-based tools.*'<sup>4</sup> With EWAR system WHO has very important goals for quick and effective response to identify health issues; such as; to detect and rapidly respond to epidemics warnings, determine the main health priorities, identify problems and to plan and guide health programs and interventions.<sup>5</sup>

To sum up, as its structure, establishment and stages are given below in details, EWARs is an emergency system that is implemented to assist the surveillance systems, not a system that replaces national surveillance systems. The integration of this system into the national surveillance systems should be done once the emergency phase is over.<sup>6</sup>

## 1.1 | Background: Past pandemics and possible future effects

We know that many pandemics have appeared in history. Some of these are as follows: A.D Plague of Justinian in 541–542, Black Death in 1346–1353, Cocolizt epidemic in 1545–1548, Great Plague of London in 1665–1666, Philadelphia yellow fever epidemic in 1793, Spanish Flu in 1918–1920 and near in the past H1N1 Swine Flu pandemic which appeared in 2009–2010, then West African Ebola epidemic in 2014–2016 and now Covid-19.<sup>7</sup> To give an example from one of the most effective epidemics in the 14th century which is called the Black Death or Black Plague had a very serious impact on society, both in terms of health and economy. This pandemic affected most of Asia, especially Europe, and North Africa. This pandemic also effected most of people and death of up to 30%–60% of the total population in Europe. This pandemic, which spread over such a large area and had great effects on almost every aspect of human life, caused the massive destruction of the human workforce and resources as well.<sup>8</sup>

We can say that Covid-19 also has created similar effects on societies and is effective in many areas of lifestyle, behaviours, health policies, resources and socioeconomic changes.<sup>9</sup> When we evaluate the pandemics from the past to the present, we can foreseen that pandemics such as Covid-19 will continue to exist in the future as well. Such these pandemics mostly reach a global size, starting from the local and unnoticed in the first place. The presence of rapid response systems especially in local and trained, qualified personnel for the prevention of such this pandemic will become more important in the future. If systems such as EWARs are adopted as a policy and implemented in various regions, both rapid reporting and preventive response will be created from a single point.

## 1.2 | The need for a global disease alert system to prevent the next pandemic

The virus which is described as 'SARS-CoV-2' or '2019-nCoV' first appeared in China in December 2019.<sup>10</sup> According to the WHO; 'Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases'. Due to the rapid spread of this virus the WHO has declared the global outbreak of the 'pandemic' on 11 February 2020.

The outbreak of Covid-19, which reached a significant level in 2020, requires the creation of preventive policies in the future. It is therefore important for future outbreaks to act as the presence of warning systems and as a prevention mechanism for these systems. Many policymakers and organizations such as the WHO are known to have made calls and are working on new alert systems. In his message, which he shared on Twitter on 2 February 2021, Gates stated that scientific tools are not sufficient for new outbreaks that may occur in the future and that a warning system is needed.

As seen at Figure 1, Bill Gates said that a 'mega test' and global disease alert system are required to prevent the next pandemic. Gates explains it as: 'to prevent the hardship of this last year from happening again, pandemic preparedness must be taken as seriously as we take the threat of war'.<sup>11</sup>



Bill Gates  
@BillGates



When it comes to preventing pandemics, scientific tools alone aren't enough. We also need new capabilities, including a global alert system and infectious disease first responders (or what I like to call a pandemic fire squad): [gatesnot.es/3arvuZZ](https://gatesnot.es/3arvuZZ)

FIGURE 1 Bill Gates calls for 'mega testing' and global disease alert system to prevent the next pandemic. Source: Twitter

The COVID-19 pandemic highlighted poor public health preparation, weak human resources, and the importance of emergency management. Therefore, policy building is needed in the direction of the emergency and prevention mechanism.<sup>12</sup> In order to fill the gap in this area new policies have begun to be discussed, and systems such as EWARs are seen as an important prevention mechanism for the future. The Early Warning Alert And Response System (EWARs), which is also currently being implemented by the WHO in Syria and African countries, and the transfer of this mechanism to other regions as policy transfer, first regional and then global warning mechanisms should be established. Based on the successful operation of this system and the experience in the application, it is assessed that application phases will be faster to set up and impact than a newly created system. It is recommended that the WHO develop training and the technical experts who are still involved in this field, and that this system be moved to all regions in a short time. In addition, according to lessons learned from the 2020 outbreak, such a pandemic is likely to reoccur in the future, but a prepared mechanism is needed.

### 1.3 | EWAR system and COVID-19 surveillance

As an early warning system, EWARs is actively used in Syria in cooperation with non-governmental organizations such as Assistance Coordination Unit (INGO) and WHO (UN) supports the implementation of this system in the detection and investigation of epidemics and diseases. This early warning system has also been observed to have success in the field of the COVID-19 outbreak. As shown in Table 1 below, COVID-19 cases were confirmed by EWARs in north of Syria, the total confirmed COVID-19 cases as of 8 August 48 cases out of 4062 test in a week. At this point, it is important to identify and report cases quickly and investigate them. In the later process, these suspected cases are immediately identified and reported to the WHO.

By establishing a preparedness and Response Task Force team, meetings are held via Skype by establishing an active communication network and sharing the activities implemented is shared up-to-date with field officials. In addition, hierarchical reporting and information sharing are taken from health care workers or doctors. Suspicious cases are directed to specific laboratories that work in the field. The greatest achievement of this system is to be organized quickly, up-to-date communication and the ability to be in a plan. This ensures rapid diagnosis and control in case of possible outbreaks.

### 1.4 | Early Warning Alert and Response system

#### 1.4.1 | Structure of EWARs

EWAR System (EWARs) focuses on the collection of data, and reports this data timely from health facilities to district level. Reports are being submitted on a weekly basis and the information is reviewed by the coordinator. In order for

TABLE 1 Acute respiratory illness and COVID-19 surveillance bulletin

Directions	Governorate	Tested (in Idleb lab)	Total Covid-19–POS	Covid-19–NEG	Pending
NWS	Aleppo	1694	21	1673	4
	Idleb	2151	22	2129	3
	<b>Total</b>	<b>3845</b>	<b>43</b>	<b>3802</b>	<b>7</b>
NES	Al Hasakeh	3	0	3	0
	Al Raqqa	122	2	120	4
	Deir-ez Zor	92	3	89	1
	<b>Total</b>	<b>217</b>	<b>5</b>	<b>212</b>	<b>5</b>
Grand total		<b>4062</b>	<b>48</b>	<b>4014</b>	<b>12</b>

Source: Assistance Coordination Unit (ACU), (Access Date: 24.11.2020).

the management of EWARs to work successfully, there should be an epidemiologist or a coordinator with an expertise on public health.

EWARs has two components. These components are used to ensure that any outbreaks are detected and verified on time. The first of these components is *the emergency warning component* and the second is *an urgent research approach*. These two components are used basically to collect information on health status reporting and development.<sup>13</sup> The EWARs structure is primarily intended for rapid data collection and information in unusual situations. With the quick response mechanism, gathering information about unusual health events, making warnings, gathering information and reporting, applying necessary controls and measures, conducting field research and establishing adequate control mechanism for rapid response to disease outbreaks. EWAR reporting system can be seen in Figure 2.

EWARs has two types of reporting. As can be seen in the Figure 2; the first one is *weekly reporting* and the second one is *immediate alert notification*. These notifications are analysed by a coordinator and the information is systematically processed. The types of alerts and notifications, emergencies and controls are evaluated and quality data is made, and if necessary, an action plan is created for the intervention. This warning and reporting system is of great importance in emergency areas or in areas where access is limited. It is possible to respond quickly and intervene in areas where information and communication is difficult. The EWARs management and implementation process is created by a responsible coordinator, focal points and field staffs. These processes are important for coordinated information flow and quality reporting. This system of information and warning notifications from districts to provinces and finally to centres has become easy by the implementation of this system. Steps in the process of notification and verification of alerts, and investigation and outbreak response are given at the Figure 3.

Coordinative communication is very important for the operation of the EWAR System. This communication is carried out with many tools in order to respond quickly. Sometimes phone and SMS notifications may vary depending on the security, availability or the conflict situation of the region. EWAR system basically works on two main types of alerts. First of them is *Type A Alert of Immediate Notification*. Second is *Type B Alert of Weekly Reporting*. Alert systems create a warning mechanism with a summary report and a suspicious number of cases. The EWAR system requires rapid response and immediate reporting to be able to respond quickly to potential outbreaks. During these reporting phases, the first warning phone is made and reported by SMS or alert hotline. This stage is made with the immediate

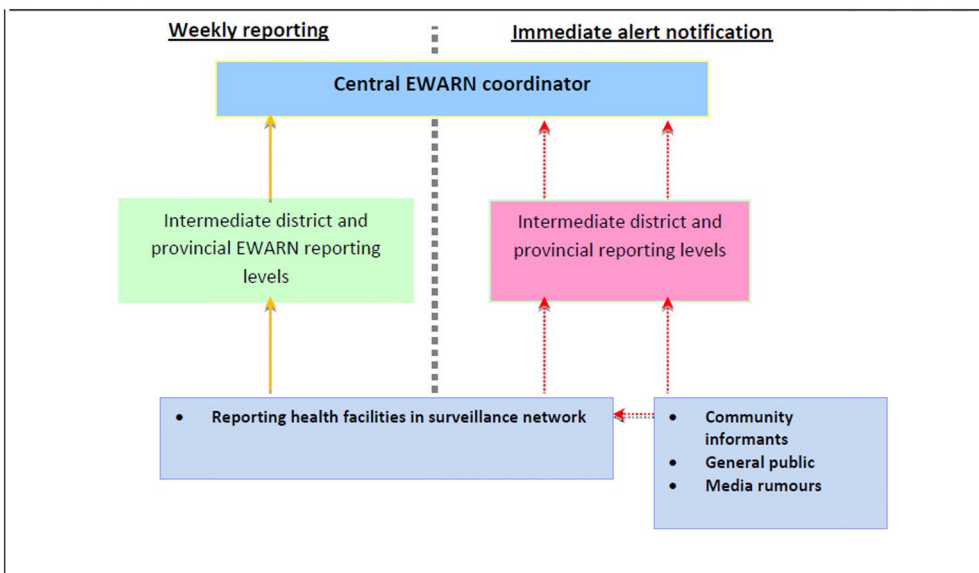


FIGURE 2 EWAR Reporting System. Source: Disease Control in Humanitarian Emergencies, 2012

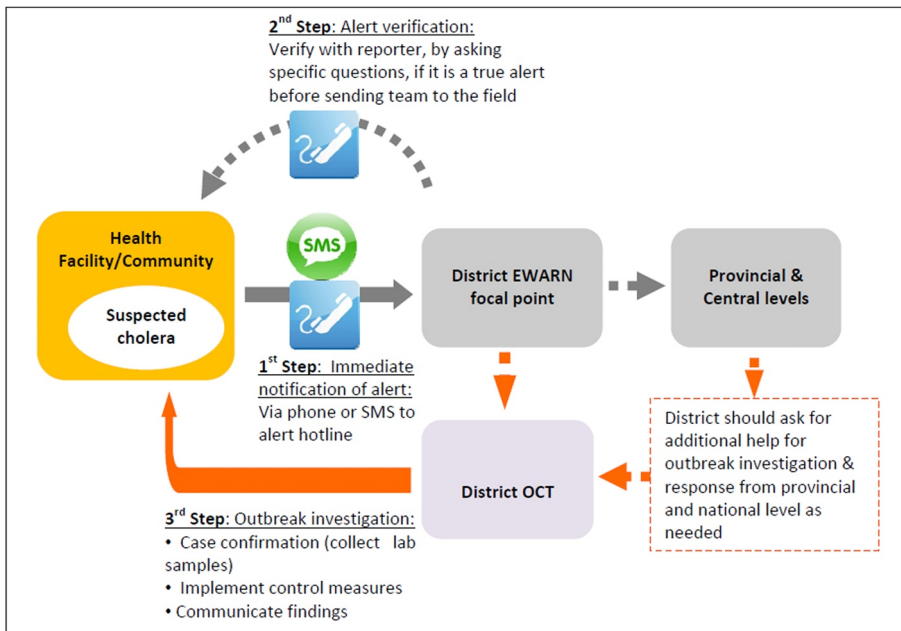


FIGURE 3 Steps in the process of notification and verification of alerts, and investigation and outbreak response. Source: Disease Control in Humanitarian Emergencies, 2012

notification of the data and then the verification process begins. If the verification of the notification is determined as positive, the investigation phase is started immediately.

#### 1.4.2 | The establishment of the system and stages of EWARs

The EWAR system must pass through certain stages before it is established. Stage 1 is Preparation, Planning and System Analysis Stage. It includes (a) Preparation, Planning and System Analysis, (b) System Analysis and Requirements phases. At this stage, the first things to be determined are purpose and objectives. Then it should follow this steps; definition of all responsibilities/roles, decision making processes and team building, building communication and response plan, identify issues and complete a risk assessment, creating equipment and inventory, prepare road map and strategy. When conducting these stages, some situations should be analysed with greater importance. These are communication and capacity status of the regions where the system will be implemented, security and political situation of the region, culture and language, list of diseases, case definitions, difficulties, warnings and warning thresholds, emergency response scenarios. After preparation, planning and system analysis stage, which is a part of the preparation and planning phase, the necessary equipment and staffs organization for the integration of the system should be carried out. Focal points and reporting mechanisms should be created. The system scheme should be created for providing quick response and epidemic interventions in the field. At this stage, the reporting mechanism should also be established. The main purpose of creating this system is to access to restricted areas where communication or interference is difficult.<sup>14</sup>

The second and third stages are *System Design and Deployment* and *Execution and Evaluation* stages. In order for the system to function properly and effectively, equipment should be sent to certain risk zones and regular surveillance should be carried out at the second stage. The third stage includes two phases as: (a) *Implementation and Monitoring*, and (b) *Evaluation*. At the third Stage, repeated patient visits, double counts, patient residence and the regions where

they are located should be kept under constant surveillance in order to collect effective data and create an epidemic alert system. Local and regional teams should be ready for quick response and in act in coordination against possible outbreaks.

The fourth and final Stage is *Redeployment and Lessons Learned*. This stage includes two phases as: (a) *Termination* and (b) *Lessons Learned* phases. At Phase 1 the administrators identify the reasons for termination first. Then they communicate and coordinate the process with local and/or international stakeholders. All the branches and sections check the recording of previous reports and inventory. If the final decision for termination is given and authorized, then the transfer of personnel and required equipment starts. If approved, sale or donation of system equipment is completed. If there is an urgency and high security treat then all or at least some of the steps can be executed simultaneously according to the Mission Security and Evacuation Plans.

## 1.5 | EWARs coverage in worldwide

The EWARs is known to be used in some regions around the world. These regions are mainly focused on areas where there are humanitarian crises and health systems are unable to operate autonomously. Some of these regions are; Syria, Eastern Nigeria, Afghanistan, Iraq, Libya, Somalia, Sudan and Yemen. For example, this system has achieved significant success in eastern Nigeria. With the initiative of the WHO, this system was adapted in 56 healthcare facilities in the state of Borno, providing access to hard-to-reach areas, achieving disease detection success up to three times from normal time. In addition, this system covered 1.3 million people in 2016. This is also gives us information about the area of effect of the system.<sup>15</sup>

Another example can be given from southern Sudan in 1998. EWARs have had significant influence with local partners in these regions. During implementation of the EWARs local partners also supported this system and 91 health workers, 227 community leaders, 128 NGO field staff and 10 laboratories has been served in this field.<sup>16</sup>

Another region where EWARs has been used frequently recently is Syria. The primary priority of the EWAR system in this region is providing a rapid detection and response to signal and cluster of epidemic-prone diseases (WHO, 2020). This system has been used actively in many sub regions in Syria. According to UN OCHA and WHO data, approximately 51% (9,560,115) of the total Syrian population, which is 18,840,839, were covered by EWARs and a rapid monitoring system was established against possible outbreaks.<sup>17</sup> The covered area in Syria includes 118 sub-districts in 38 districts for 11 governorates. It also allows for regular feedback with technical guidance to all involved partners in the field and it is building local capacity for early detection, prompt investigation and rapid response.

## 2 | METHODS

The study is based on a qualitative approach. The data related to the EWAR system was collected by using the content of the documents of WHO which contains information about the system. In the study, in order to access primary sources for the EWAR system, the publications and reports (seven sources) of WHO, which makes the extensive studies in this field, were emphasized. In addition, the data were supported by making use of the studies of local and international NGOs (e.g., ACU, etc.) under the leadership of WHO. Afterwards, collected data was analysed through the *policy transfer analysis questions*. Additionally, this information is supported by a semi-structured interview conducted with a technical officer (EWARs specialist) at the WHO who was involved in the policy transfer progress to Syria to follow the paths to find out 'who were the actors playing active role in this transfer progress?'. The interview was conducted with the technical officer in charge of the region in the field of EWAR system at the WHO Europe Regional Office in Gaziantep, Turkey, which provides support to the Syria region, on 20 March 2019. This interview was conducted taking into account the experiences of WHO on the example of Syria region and information about the

system was collected. Since there is only one high-ranking responsible person from EWAR system only one interview could be conducted. Even if this is a limitation of the research, in some cases interview with one key person might give a deep understanding during the qualitative studies. Because the main advantage of the qualitative studies is having a deep understanding on the case instead of generalization.

## 2.1 | Conducting policy transfer analysis

In the most fundamental sense, Dolowitz and Marsh asserts that, policy transfer is an effort to change or develop a variety of information, experiences or systems, regardless of time or location, to bring out better practices.<sup>18</sup> The conceptual framework of policy transfer has been developed by Dolowitz and Marsh and is generally defined as the transfer of administrative arrangements from one place to another. In defining the transfer of policies, Rose explains that there is a lot to learn from one another about solving the problems faced by states.<sup>19</sup> EWAR system, the application of the WHO is an example of policy transfer in terms of transferring experience, knowledge and systems in Syria to other regions.

One of the important questions of policy transfer is related to the *reasons for the transfer*.<sup>20</sup> Among these reasons: uncertainty about the current situation, the existence of problems, dissatisfaction with the present situation, externalities, liabilities, conditionality (borrowing, commercial conditions, etc.), gaining legitimacy, feeling backward, compliance with international standards can be counted as many reasons but not limited with those of course.<sup>21</sup> When examining all these reasons, it is important to consider whether the transfer of the policy is voluntary or coercive ways and the way in which the transfer will be carried out.<sup>22</sup>

There are factors those are caused by some intrinsic qualities that facilitate policy transfer or are effective in decision-making. Some of the factors that facilitate transfer are *similar political ideologies, languages, similar policy styles, institutions or administrative arrangements*, and of course we have to add *the technological innovations that accelerate the speed of information sharing and learning from others*.<sup>23</sup> So establishing good practice examples of the EWARs system, experiences and emergency warning system in potential epidemic regions, forming teams and establishing a rapid response mechanism can be carried out within the framework of a policy transfer, with degrees such as copying and inspiration.

## 3 | FINDINGS

All the investigation and the status of the current pandemic shows that a warning system is needed for new outbreaks that may occur in the future. The Early Warning Alert and Response (EWAR) is a system designed to respond rapidly to emergency public health interventions in difficult areas such as Syria, to collect early information about outbreaks. In this context, the implementation and dissemination of the EWARs has become important on the basis of the requirements after the global outbreaks or COVID-19 Pandemic. As a result of the examination, it was concluded that if the EWAR system is disseminated globally and used in a functional and integrated manner, the early detection of global outbreaks such as COVID-19 may be possible in its early stages, and this system shall significantly contribute to the applied measures and to the adoption of the coordinated precautions at the global scale so that controlling the disease before it has become a pandemic might be possible. Because one of the most important features of this system is its proven success in the implemented areas. The experience gained so far will make transferring this system easier to other parts of the world. From this point of view, when we investigate the progress to find out the answer for the question of 'what is transferred?' we can say that, as a *Public Health Policy transfer*, the establishment of EWARs in Syria is basically a *system transfer*.<sup>24</sup> The success of this transfer in Syria may well create good lessons learned for other regions. That is why this system is carefully adapted into Syria and designed to create an emergency



response to epidemics by WHO. When the initial pre-operation phase is investigated we see that before the transfer, this system should pass through some important phases and steps. These stages are *preparation and planning, system analysis and requirements, system design, system development and capacity building, integration and testing, implementation, monitoring, evaluation and termination*. Table 2 shows the work plan for the stages of the transfer of EWARs as a policy transfer to be applied to a new region.

When EWAR system policy is to be applied to any region of the world, the system can be set up by the given steps shown in the Table 2. It is important that this system provides an effective reporting and easy to install mechanism. With the *creation of teams* for the functioning of this system in potentially pandemic regions, *the establishment of effective communication mechanism* and *hierarchical task sharing*, this policy is viable in conflict or crisis areas, even where governments are not present.

The fact that this system provides a sustainable and systematic flow of information, it facilitates the collection of effective epidemiological health data within a given time frame. Therefore, it is thought that the global diffusion as a policy transfer of this system developed by the WHO will contribute significantly to the effective monitoring and taking emergency measures before the global pandemic emerges. This system will increase the knowledge and experience sharing among the countries before an outbreak turns out to be a global pandemic. Then, learning and lesson drawing from successful practices will bring positive results in preventing from emergency health threats by taking quick and effective safety measures.

So one of the *lessons learned from the pandemic* of COVID-19 is the need for early warning, information sharing and transparent reporting by developing and designing systems such as EWARs. The negative impacts of the lack of such a system in many countries were clearly identified during this recent global pandemic. Many countries have failed and felt desperate during the COVID-19 outbreak. Since such an early diagnosis and warning system is not available in many countries yet, and there is a lack of the communication network on a global scale, unfortunately the outbreak could not be diagnosed earlier and could not be controlled before spreading globally. That is why even economically developed countries were caught unprepared for such a situation, and suffered for the inadequacy of medicines, health supplies, beds, masks, and protective clothing for medical personnel. As the problem grown rapidly and spread globally, production of the goods and international trade almost came to a halt. The sectors most affected by this situation were naturally the transportation sector, especially the air transportation, and the tourism and hotel management sectors. It is clear that the year 2020 will be a very difficult fiscal period especially for the tourism and transportation sectors, since the international passenger transfer has almost come to a halt, except for so limited special permitted conditions. Moreover the exact duration of the outbreak has not been fully known, and the transmission momentum of the virus has not yet been reversed. The important thing about these two sectors is that these industries indirectly support food, agriculture, textile, souvenirs, entertainment, and many other related sectors. So all these affiliated sectors will also be seriously affected. In order to prevent from the threatening of such situations again or at least to keep their effects to a lesser extent, transfer of the EWAR system to all countries which doesn't have such a system yet, and facilitating rapid exchange of information will be useful in terms of securing safe living conditions especially in the favourite tourism destinations.

To find out the active actors playing role in this transfer progress, a semi-structured interview was conducted with a technical officer (EWARs specialist) at the WHO and the question of 'who were the actors associated with this system?' was asked. According to the information given by the technical officer, EWAR System was first developed in cooperation with the WHO, *Centres for Disease Control and Prevention (CDC)* and *Bill and Melinda Gates Foundation (BMGF)*. As a public health policy, this system is now being used in many countries. Some of such these countries are Lebanon, Jordan, Iraq and Syria. According to technical officer, the institutions acting as international actors in the transfer of this system are *CDC, BMGF and WHO*. After designating the actors, those are also important to assess before the transfer is performed that, 'What will be transferred with the process?' and 'What will be the subject of the transfer?' It has been observed that the EWAR system is associated with the historical experience of WHO. During

TABLE 2 Early Warning, Alert and Response System work plan

Early Warning, Alert and Response Network work plan					
		Stage 1		Stage 2	
Stages		Preparation, planning and system analysis		System design and deployment	
		Phase 1	Phase 2	Phase 3	Phase 4
Phases		Preparation and planning	System analysis and requirements	System design	System development and capacity building
Steps	Step 1	Purpose /Objectives	Identify System Users	Identify system design goals	Prepare organisational learning capacity and trainings
	Step 2	Discussion of plan and key components with stakeholders or Authorities	Define system usage models	System decomposition and modelling	Strategic plans and policy development
	Step 3	Definition of all responsibilities and roles	Applicability of the system	Prepare data flow diagram	Creating work structure
	Step 4	Decision making processes and team building	Adaptability	Prepare reporting and analysis chart	Administrative functions and financial management
	Step 5	Building communication and response plan	Deficiencies of existing policies	Prepare action plan for emergency cases	Building network and strategic partnerships
	Step 6	Identify issues and complete a risk assessment	Creating a communication and reporting system	Concurrency in field interventions	Planning of technical competency
	Step 7	Creating equipment and inventory	Identify controls on data entry, security, and processing	-	Periodic internal assessment of quality
	Step 8	Prepare road map and strategy	Prepare organization chart and user roles	-	-

Source: Own study. All data were collected from various sources and table was created by the Authors after the analysis.

the transfer, of course it has been affected by the sociological and cultural values as well. That is why the adaptation of the program and institutional structures should be planned and transferred carefully and in a case-sensitive manner. All these norms were taken into account when implementing this policy transfer to Syria also. The technical officer stated that, *in Syria case, none of the past official institutions of Syria have been involved within the progress during the transfer.* It is seen that the EWAR system is also an international structure in terms of policy transfer resources. This system has a unique character for Syria, and only the WHO guidelines are followed. NGOs have been inspired from this system and they have started reporting some indicators related to the successful results of the system. According to the technical officer, *this system is easy to apply in other regions as well. The system has a high success in terms of reporting and rapid response as planned.* Especially in Syria, EWARs covers a population of 9,560,115 people,

	Stage 3		Stage 4	
	Execution and evaluation		Redeployment and lessons learned	
Phase 5	Phase 6	Phase 7	Phase 8	Phase 9
Integration and testing	Implementations	Monitoring and evaluation	Termination	Lessons learned
Evaluation of legal and cultural context	Prepare the infrastructure for implementation	Identify M&E roles and responsibilities	Identify reasons for termination	Hot wash up after redeployment completed
Identify stakeholders	Evaluation and communication of the Strategic plan	Define indicators	Communication and coordination with local or international stakeholders	Hot wash up report
Prepare integration of the evaluation plan	Prepare of an implementation structure	Coordinate data collection and timeline management	Recording of previous reports and inventory	Detailed after action review within teams and units
Investigation of similar systems applied in the region	Creating surveillance teams for regular reporting	Create an analysis plan and reporting templates	Transfer or shutdown of the system	Syndicate work within branches
Test of the system in the field	Conduct implementing training	Developing key indicators to monitor outcomes	Sale or donation of system equipment	After action review for all organization
-	Installation of the transferred system	Analysis of impacts and contributions	-	Lessons learned (LL) draft report
-	Coordination and case intervention	Data protection and sharing reports	-	Discussing the draft LL report and final version
-	-	-	-	Submitting the Final LL Report

representing 51% of the total population of Syria according to 2016 census. About 500 EWARs Sentinel sites are operating in 11 governorates, 38 Districts and 118 sub-districts. The system monitors high priority syndromes such as Influenza like illness and Severe Acute Respiratory Illness. EWARs staffs work through three levels; these are Central, Field and Field Officers with Rapid Response, WASH, Vaccination and Nutrition teams. The implementation of the system in Syria has been successful so far and based on WHO/EWARs assessment reports; the system has played an active role in the identification and intervention of many outbreaks. However, there were some challenges during the execution phase of the system. Some of these challenges are communication and language problems, security problems, war situation, political changes and financial problems.

## 4 | DISCUSSION

This study examined whether a Global Disease and/or Pandemic Warning System is Required to Prevent the Next Outbreak, as Bill Gates suggested. The research concludes that, transferring EWARs to other parts of the globe shall be an efficient policy proposal, since it is a successfully being implemented in sample countries such as Syria. This system is normally used for unstable areas where there is a conflict or war. Elements, paradigms and effects of the transfer of such a system and the step-by-step stages of the this policy transfer have been examined, and it is found that setting up an alert system for outbreaks such as COVID-19 elsewhere shall provide significant contributions to prevent potential future pandemics. So the findings of this study may be used as a reference for the future policies in this respect. The studied EWARs is an inspection system used in emergency areas, where there is no regular state surveillance and there is no adequate intervention. This system's successful achievements and covering 51% of the total population in Syria (including 9.560.155 people) has increased the significance of the system. We also know that this system is applied regionally in many countries that have humanitarian crisis regions such as Syria, Eastern Nigeria, Afghanistan, Iraq, Libya, Somalia, Sudan and Yemen. Although this system has been applied regionally, it has had wide-ranging effects in this regions and has achieved success. Additionally this system which was adapted by initiative of the WHO, for example, in 56 healthcare facilities in the state of Borno, managed to reach 1.3 million people in 2016 by providing access to hard-to-reach areas. EWARs has also taken an active role in sharing early outbreak warnings and information against the danger of coronavirus that occurs as pandemic. One of the best examples of this is the rapid detection and investigation of COVID-19 cases seen in some cities in Syria in 2020, and to carry out successful reporting and control of the outbreak through rapid communication.

The most important lessons learned from regional and global epidemics is the early establishment of prevention and control mechanisms when the epidemic begins. Many pandemics that have emerged in history often start from the locally and reach a global dimension without being noticed in the first place. At this point, this also becomes difficult to follow the origin and spread of the epidemic. In order to prevent such as this situations, the existence of rapid response systems will become more important in the future. The adoption of the EWAR system can also be considered as an important advantage in that it already has local and trained qualified personnel. Also In this sense, the EWAR system emerges as a system that was initiated by the WHO initiative and has proven its success worldwide. If systems such as EWAR are adopted as policy and implemented in various regions, both rapid reporting and preventive response will be created from a central and single point. We can also say that pandemics such as COVID-19 will continue to exist in the future. Therefore, there is a need for a policy that can be adapted to suit many cultures, policies and regions. Also policies that are easy to implement need to be developed and spread around the world so that such pandemics can be reported early and brought under control. In this sense with policy transfer, the EWAR system has experience working with both NGOs and governments. In this respect, its adoption as a policy within the framework of national action plans will have an important role in controlling future outbreaks.

## 5 | CONCLUSION

One of the significant lessons learned from the system's implementation in Syria and the successful performance of this early warning system can be transferred as a public health policy transfer to other countries and regions in the world. Thus, such a globally diffused and integrated early warning and alert system will provide a suitable environment for sending and receiving data and reports rapidly from the regions where possible outbreaks occur. It also will facilitate a transparent information sharing environment and in case of a possible wide range of threats against public health, it will allow developing safety measures in advance. The effective and efficient running of this system may prevent the outbreaks of the diseases and rapid measures can be taken to control the situation before it turns out to be a pandemic.

As a policy transfer, Syria, Eastern Nigeria, Afghanistan, Iraq, Libya, Somalia, Sudan and Yemen cases proves evidence that, it is easy to adapt even in those regions suffering by significant security and humanitarian problems. For example, the Syrian case shows that if a system being transferred is not complex, easy to be applied and the results can be foreseen, then the success possibility increases as well. Recently the successful transfer of EWAR System to Syria provides a good sample for the integration of a system developed by international and/or non-governmental organizations into an administration system of a state under pandemic conditions. If successful results can be obtained, the framework applied during this progress may provide a good sample for lesson drawing related to the possible future public policy transfer progresses on public health systems elsewhere. When the experiences and achievements of the EWAR system are examined, we seen that this system can be easily transferred and adapted to many regions with policy transfer.

## ACKNOWLEDGEMENT

None to declare.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ETHICAL APPROVAL

This manuscript is the authors' original work, which has not been previously published elsewhere.

## DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as it is based on qualitative approach.

## ORCID

Ahmet Keser  <https://orcid.org/0000-0002-1064-7807>

Cumali Ozbek  <https://orcid.org/0000-0003-0587-3751>

Elihsu Keser  <https://orcid.org/0000-0001-9479-1453>

## REFERENCES

1. World Health Organization (WHO). *Early Warning Experts Assess Syria's Early warning Disease Surveillance System*. Cairo, Egypt: WHO Regional Office for the Eastern Mediterranean; 2017. <http://www.emro.who.int/pandemic-epidemic-diseases/news/who-conducts-first-ewars-assessment-in-syria.html>
2. ACU. *Early Warning Alert and Response System (EWARs), A Field Manual*. Gaziantep, Turkey: Assistance Coordination Unit; 2014.
3. ACU. *Early Warning Alert and Response System (EWARs), A Field Manual*. Gaziantep, Turkey: Assistance Coordination Unit; 2014.
4. World Health Organization (WHO). *Disease early warning, alert and response in emergencies*; 2016. <https://www.who.int/news-room/feature-stories/detail/disease-early-warning-alert-and-response-in-emergencies>
5. ACU. *Early Warning Alert and Response Network Annual Technical Report*. Gaziantep, Turkey: Assistance Coordination Unit; 2017.
6. World Health Organization (WHO) & WHO Disease Control in Humanitarian Emergencies Programme. *Outbreak surveillance and response in humanitarian emergencies: WHO guidelines for EWAR implementation*; 2012. <https://apps.who.int/iris/handle/10665/70812>
7. Owen J. 20 of the worst epidemics and pandemics in history. *Live Science*; 2020. <https://www.livescience.com/worst-epidemics-and-pandemics-in-history.html>
8. Guido A, Murphy T. Plague and lethal epidemics in the pre-industrial World. *J Econ Hist*. 2017;77(1):314-343.
9. Bayin Donar G, Aydan S. Association of COVID-19 with lifestyle behaviors and socio-economic variables in Turkey: an analysis of Google Trends [published online ahead of print September 22, 2021]. *Int J Health Plann Manag*. 2021. <https://doi.org/10.1002/hpm.3342>
10. Correia T. SARS-CoV-2 pandemics: the lack of critical reflection addressing short- and long-term challenges. *Int J Health Plann Manag*. 2020;35:669-672. <https://doi.org/10.1002/hpm.2977>

11. Gates B, Gates M. The year global health went local. The Gates Notes; 2021. [https://www.gatesnotes.com/2021-Annual-Letter?WT.mc\\_id=20210201080000\\_AL2021\\_BG-TW\\_&WT.tsrc=BGTW](https://www.gatesnotes.com/2021-Annual-Letter?WT.mc_id=20210201080000_AL2021_BG-TW_&WT.tsrc=BGTW)
12. Czabanowska K, Kuhlmann E. Public health competences through the lens of the COVID-19 pandemic: what matters for health workforce preparedness for global health emergencies. *Int J Health Plann Manag*. 2021;36(S1):14-19. <https://doi.org/10.1002/hpm.31316>
13. World Health Organization (WHO). *Early Warning Experts Assess Syria's Early warning Disease Surveillance System*. Cairo, Egypt: WHO Regional Office for the Eastern Mediterranean; 2017. <http://www.emro.who.int/pandemic-epidemic-diseases/news/who-conducts-first-ewars-assessment-in-syria.html>
14. World Health Organization (WHO). Emergencies preparedness, response- Early warning systems; 2020. <https://www.who.int/csr/labepidemiology/projects/earlywarnsystem/en/>
15. World Health Organization (WHO). *Early warnings on disease outbreaks help guide WHO's response in north eastern Nigeria*; 20 October 2016. <https://www.who.int/news-room/feature-stories/detail/early-warnings-on-disease-outbreaks-help-guide-who-s-response-in-north-eastern-nigeria>
16. World Health Organization (WHO). WHO Early Warning and Response Network (EWARN), Southern Sudan. *Wkly Epidemiol Rec*. 2002;77(04):26-27. [https://apps.who.int/iris/bitstream/handle/10665/231753/WER7704\\_26-27.PDF?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/231753/WER7704_26-27.PDF?sequence=1&isAllowed=y)
17. ACU. *Early Warning Alert and Response Network Annual Technical Report*. Gaziantep, Turkey: Assistance Coordination Unit; 2017.
18. Dolowitz D, Marsh D. Who learns what from whom: a review of the policy transfer literature. *Polit Stud*. 1996;44(2):343-357.
19. Rose R. *Lesson-drawing in Public Policy: A Guide to Learning across Time and Space*. CQ Press; 1993.
20. Benson D, Jordan A. What have we learned from policy transfer research? Dolowitz and Marsh revisited. *Polit Stud Rev*. 2011;9(3):366-378.
21. Keser A. Politika Transferi ve Türk Kamu Yönetiminde Etik. *Amme İdaresi Derg*. 2012;4(45):25-50.
22. Evans M. *New Directions in the Study of Policy Transfer*. New York, NY: Routledge; 2010.
23. Kutlu Ö. *İdari Reform Transferi: Ülkelerin Birbirinden Kamu Politikaları Transfer Etmeleri ve Öğrenmeleri*. Ankara, Turkey: Seçkin Yayınevi; 2003.
24. Yay E. Bir Kamu Politikası Olarak Politika Transferi ve Türkiye Örneği. *Hukuk ve İktisat Araştırmaları Derg*. 2016;8(2):48-63.

**How to cite this article:** Keser A, Ozbek C, Keser E. What does Bill Gates' call mean? A policy transfer analysis on creating an early warning system to prevent the next pandemic. *Int J Health Plann Mgmt*. 2021; 1-14. <https://doi.org/10.1002/hpm.3390>