# To Whom It May Concern

## Subject: Modern e-learning and telemedicine require high-speed access to the World Wide Web through Global University System/Palestine/Gaza Strip & West Bank

**I am sending you an opportunity to improve your medical technology through e-Health and Telemedicine, and also;**

I have learned that the Palestinian people have accomplished a great deal on e-learning University in Gaza after we completed an e-Learning agreement with the University of Northern Virginia in USA with connectivity through narrowband Internet. My wholehearted congratulation to this accomplishment!!

However, I think that, the next step of the Ministries of Health, Education & Higher Education and the Communication and Information Technology (IT) are to have an option to narrowband or broadband Internet; **Modern e-learning and telemedicine require high-speed access to the World Wide Web.** Multi-media requirements might include two-way audio, full-motion videoconferencing up to MPEG4 quality, television-quality net casting, and high-resolution image transfer for telemedicine. The objective of increasing quality of audio/video delivery, high interactivity, and broadband throughput can be seen as a high objective of closing the digital divide to improve e-learning and e-healthcare services in order to eradicate poverty and isolation in the Palestinian rural/remote areas.

I do have a real vision plan to be completed with the Ministry of Health if they are interested.

### Challenges to rural health delivery:

Symptomatic of many challenges is the problem of the Palestinian citizens not coming forward with their health issues until it is too late (for example smoking). Contributing to this are distance, poverty, lack of education and a certain fatalism, which grips people who struggle long enough so they become chronically discouraged.

Also, clinical resources and medical infrastructure do not necessarily reach those most vulnerable communities. Rural "brain drain" takes talent from rural communities to the cities where there are more opportunities. So the situations are complex and often seem untenable.

Recently, understand the Ministry of Health in Gaza Strip Region and West bank, revealed a situation which is emblematic of remote communities across the followings:

Lack of infrastructure for medical personnel

- probable errors in diagnoses and patient treatment
- lack of ongoing education, probably reducing care quality
- probable inconsistencies in medical management

Lack of communication and transportation of patients to health facilities

- patients waiting too long before seeking medical care
- higher risks with lack of adequate emergency response
- probable maternal and child health impact
- lack of basic clinic and hospital equipment, appropriate to service needs
- higher risk for medical errors
- hesitation of community members to come for treatment

### New approaches to rural health

There is an upswing in the use of communications, which can bridge health centers with rural health workers; there are creative means of using community radio and school curricula for educating the public, and there is then the potential of mobile, satellite-linked clinics, which can travel to rural outposts on a regular basis.

We are looking for an excellent example for a Telemedicine Project, which serves remote villages and indigenous peoples, supporting health workers to successfully use these technologies, even with minimal education. This and other models, both in Gaza and West bank, are now available and can be integrated into our existing practices and education for clinical practitioners.

## Assets for implementation of telemedicine

Our academic institutions and Palestinian academics in Diaspora can become more central in design of health systems in the Palestinian Authority. This human capital has increasingly better tools to be on the frontline, cooperating across borders with international partners and local communities for peer education, access to medical libraries and new medical technologies.

## Examples of Medical institutions can include:

**Aquds, Al-Azher, Birzait and Najah Universities in Gaza and West Bank** respectively are the leading medical institutions of the Palestinian Authority. We have looking for a high scientific-educational and medical personnel potential, cooperates with well-known universities of the USA, Canada and Europe on education and healthcare issues.

Also, We are looking for a new broadband or narrowband (via Global University System (GUS) to be an agreement later) and are in position to partner with universities across Palestinian Authority and internationally on health information systems, both for surveillance of infectious disease and assessment of community vulnerabilities, and for support systems to clinicians in urban and rural settings.

Theses universities have major potential for international cooperation and experience along with attraction of students and teachers toward realization of real innovative a project that increases quality of health services and promotes training specialists of high level.

To assess community health needs, a community-initiated decision-making process was employed at The Ministry of Health, as part of the primary care partnership, they conducted a telehealth pilot trial between a primary care Palestinian hospitals in Gaza and a tertiary care facility in West bank. Videoconferencing and the transmission of heart and lung sounds were transmitted via telephone lines.

Telephone-based videoconferencing may prove to be important in helping rural medical practitioners in the Palestinian Territory to enhance the quality of health-care.

## Key considerations for Palestinian Authority telemedicine can be:

1. Comprehensive review and analysis of (existing) telemedicine clinical outcomes, with special emphasis on new research design and outcome measurement in a variety of health care settings.

2. Exploration of wireless and broadband systems, for telemedicine and clinical decision support with an emphasis on the practicality, advantages and disadvantages, and potential cost-effectiveness of their application.

3. Mobile telemedicine units which can transmit data for local diagnostics, has flexibility for travel, can cooperate with local groups for establishment of standardized remote treatment and transport.

4. Distance learning training for health workers as they address maternal health and delivery, HIV/AIDS clinic protocols (prevention techniques with in-service for sharps, reporting, health worker protection, etc).

5. Architecture for interoperability to support telemedicine services, the barriers for their implementation and recommendations for addressing these barriers in the United States and on a global basis (attention to EU protocols for inter-operability) strategic pilots which can demonstrate such technologies as:

6. Tele-radiology for clinician support, even reviewing international partnerships which would take advantage of differing time zones for daytime consultation with clinicians who are serving during the night in their locale, or who do not have adequate expertise for specialized x-ray readings.

7. Mobile telemedicine units.

8. Surveillance systems for infectious disease which include community-based, standardized transmission of data to university hubs for mapping and modeling, then return to remote stakeholders via satellite radio (picture radio), even where internet is not present.

9. Interim method prior to full availability of broadband/narrowband systems.

10. Providing baseline which informs health policy, practice, education.

## Priority needs for telemedicine and telehealth in The Palestinian Authority:

1. Executive administration: Training of medical personnel in informatics, telemedicine and e-documentation (clinical information systems). Operational logistics (telemedicine systems, patient records, supply chain, patient hotlines and transport).

2. Baseline data transmission, (numeralization, compression, public health data mapping for decision support).

3. Distance learning and procedure training, certification, for rural health workers.

4. We need Remote diagnostics, treatment planning, monitoring of essential functions, tracking of progress.

5. Emergency advisement, situational management in risk and range of disaster situations.

6. Regulation, standardization and legal codification of interactions for inter-operability of systems.

## Preparation for expansion of telemedicine includes:

1. Ethical aspects of telemedicine technologies application while consulting and treating patients. Preparation of medical and technical staff for telemedicine centers. Information protection in telemedicine (networks, tele-consulting, etc.).

2. Legal aspects of telemedicine technologies application.

3. Efforts on coordination with international and foreign organizations. Perspectives of switching to e-Health.

4. Regulations of interaction of regional and corporative networks, functioning of Palestine and/or all-Arab World "telemedicine" network.

## Basic resources needed:

1. Connection to the broadband Internet for the anticipants. Necessary equipment for teleconferences.

2. Training of medical personnel in informatics, telemedicine and E-documentation (clinical information systems), computers with appropriate software for researchers, teachers and students.

3. Wages for research officers, teachers and interpreters.

4. Stationary and consumables.

Please let me know if you are interested.

Thank You.

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