EVALUATION OF AN INTERVENTION TO DECREASE DELAYS IN EXTERNAL HEALTH CARE DELIVERY TO PRISONERS IN A CORRECTIONAL FACILITY IN LEBANON

Habib El Takach, MPH, MD

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Approved by:
John Paul
Suzanne Hobbs
Edward Brooks
Salim Adib
Kassem Kassak

ABSTRACT

Health care delivery in prisons is not similar to that in an open community. Constraints exist which may jeopardize the capacity of in-house physicians to provide quality care, or the timely delivery to prisoners of care needed outside. Obstacles to delivery of adequate care to prisoners in the specific context of the Roumieh incarceration center in Lebanon have been identified through an analysis of the current functioning of that system.

The purpose of this study was to evaluate an intervention that aimed at decreasing delays in external health care delivery to prisoners at Roumieh. The delay time had usually been from 2 to 4 weeks, a period perceived to be deleterious for the well-being of prisoners. This study aims at evaluating the reform in terms of shortening the delays without inducing fictitious demands for care. Ultimately, shorter transfer delays will impact positively on prisoners' health, thus, fulfilling the moral mandate of a correctional system towards all incarcerated persons.

The study followed a before-after design. Two indicators: 1) the timeliness of transfer, and 2) the number of requests for external health care were measured for transferring patient prisoners to an external health care provider before and after the implementation of the reform. The indicators were collected during a period of 18 months starting November 1st, 2007 and ending May 30th, 2009. External health care requests in the month of August 2008

during which the new policy was implemented were excluded from the data analysis. Furthermore, the evaluation of the intervention was only based on the analysis of non-urgent cases.

Upon the implementation of the reform, the delay between the problem report and approval of requested medical services has shortened for all types of healthcare needs (radiology, laboratory, and hospitalization). However, the intervention did not yield the shortened delay expected between problem report and administrative request for all types of healthcare needs. Furthermore, the delay between the realization of healthcare services and reporting results to the polyclinic from the external health care provider has shortened for radiology unlike laboratory, and the delay between the administrative request approval for hospitalization and admission has shortened. Although the reform targeted shortening delay across all external health care needs, the implementation yielded unexpected administrative consequences such as an increase in the frequency of requests for outside transfers. Upon the implementation of the reform, the total number of requests has increased for laboratory and radiology investigations but has decreased for hospitalization.

This study has also evaluated whether there was evidence of discrimination based on age, duration of incarceration, education, or type of disease following the implementation of the reform and who benefited more from the reduction in waiting time for external care services. This study found no evidence of discrimination in delaying health services or requesting health services based on nationality, educational attainment, age, unit or duration of incarceration.

The implementation of the reform had a direct impact not only on the welfare of prisoners but also on the system of delivery of health care services in prisons. Planned administrative reforms are rare in Lebanon, and when they are initiated, they often fail to reach their goals. Failure of administrative reforms is even more pronounced in military structures such as the ISF administration in particular in the administration of prisons in Lebanon. These structures are notoriously more rigid than civilian public administrations, and the chain of command is strictly adhered to, which may discourage any budding attempt at change. That the command approved and supported this particular change is a clear indication of a new direction decided by the ISF in favor of improving the living conditions of prisoners and upholding their basic human rights.

To my beloved little Emma who has completed her three months of age the day of my dissertation defense on November 17, 2010 and to my parents who taught me the value of hard work, perseverance and knowledge.

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LIST OF ABBREVIATIONS

ISF	Internal Security Forces
MENA	Middle East and North Africa
MOI	Ministry of Interior
MOJ	Ministry of Justice
NGO	Non Governmental Organization
OPS	Organization and Planning Section
RGU	Regional Gendarmerie Unit
BCJ	Baltimore City Jail
BJ	Baltimore Jail
CPPA	Chesapeake Physicians Professional Association
WHO	World Health Organization
ICD10	International Classification of Diseases version 10
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
HIV	Human Immunodeficiency Virus
VDRL	Venereal Disease Research Laboratory
HBAgS	Hepatitis B Antigen Surface
PPD	Purified Protein Derivative
STD	Sexually Transmitted Diseases
IT	Information Technology
EMR	Electronic Medical Record
UNODC	United Nation Office of Drugs and Crime

MOH	Ministry of Health
TB	Tuberculosis
AIDS	Acquired Immune Deficiency Syndrome
ICRC	International Committee of Red Cross
IRB	Institutional Review Board
CFR	Code of Federal Regulations
CME	Continuing Medical Education

CHAPTER I: INTRODUCTION

Health care delivery in prisons is not similar to that in an open community. Constraints exist which may jeopardize the capacity of in-house physicians to provide quality care, or the timely delivery to prisoners of care needed outside. Obstacles to delivery of adequate care to prisoners in the specific context of the Roumieh incarceration center in Lebanon have been identified through an analysis of the current functioning of that system. Feasible solutions for each identified obstacle, constituting an overall administrative reform, have been proposed. Similar to all reforms, the suggested reform can face administrative neglect or outright opposition. It is therefore important to show during the early implementation phase that such a reform may actually be an efficient and effective procedure in the context of prison health. This study aims at evaluating the reform in terms of shortening the delays without inducing fictitious demands for care. Ultimately, shorter transfer delays will impact positively on prisoners' health, thus fulfilling the moral mandate of a correctional system towards all incarcerated persons. It will also benefit the public's health in this manner.

Background

a. Structure and resources for health care delivery in Roumieh

Roumieh is the largest correctional facility in the Republic of Lebanon (4,035 square miles; pop estimated at 4,500,000). The Roumieh facility was built in the early 1970s and consists of four units of incarceration for male prisoners:

Unit A comprises prisoners who are sentenced and incarcerated for a period of time exceeding one year. It hosts a daily average number of 911 prisoners.

Unit B comprises prisoners who are arrested and incarcerated for a period of time exceeding one year. It hosts a daily average number of 896 prisoners.

Unit C houses prisoners who are arrested and incarcerated for a period of less than a year. It hosts a daily average number of 767 prisoners.

Unit D hosts prisoners who are arrested and incarcerated for a period of less than a year as well as newly incoming prisoners who are arrested for a short period of time until their redistribution to the corresponding units. Unit D houses a daily average number of 1,009 prisoners.

Roumieh's population changes all the time, due to different periods of incarceration, and different types of charges. Prisoners come from different backgrounds within Lebanon, and include residents from different nationalities around the Middle East, North Africa and other countries. Correctional facilities in Lebanon are under the supervision of the Internal Security Forces (ISF), a police force administered by the Ministry of Interior. Inside ISF, three of ten units are directly involved with issues related to correctional facilities: the Gendarmerie manages the facilities; the Administrative Affairs Section within the Office of

the Chief of Staff oversees financial allocations, and Central Administration, which includes the Medical Department which is in charge of all health issues for ISF staff as well as for inmates.

The health responsibility of prisoners in Roumieh is delegated from the Central Medical Department to the polyclinic at the prison. The polyclinic staff is composed of three general practitioners "resident doctors" who attend to inmates around the clock, carry out treatments, and prescribe drugs accordingly. Those drugs are delivered from the polyclinic's pharmacy, and distributed later, by a special team, directly to the patients in their cells. Sometimes prescribed drugs are not available at the jail's pharmacy and family members or non-governmental organizations (NGOs) working with prisoners have to purchase them from private pharmacies. Prisoners are also referred for consultation, when needed, to specialists, some of whom come to the polyclinic on a voluntary basis. If the needed specialty is not available in-house, a prisoner may be sent upon prior appointment and accompanied by an escort, to be seen by a specialist outside the prison. The consultation fees, in a system that is largely fee-for-service, are covered directly by the Administrative Affairs Section. Physicians at the polyclinic or physicians at the external health care providers can occasionally request medical laboratory analyses, radiological examinations, or referrals to the hospital for further investigation and evaluation, treatment, or surgery if necessary. The most common areas for consultations in the polyclinic in 2008 were:

Specialty	Number of Consultations
General Examinations	7346
Cardiology	915
Ophthalmology	650
Psychiatry	570
Orthopedics	506
General Surgery	420
Dentistry	1551
Physiotherapy	721
Total	12679

Observing the healthcare delivery procedures at the Roumieh Central Prison over the last three years revealed that major problems existed in the delivery of timely health care outside the prison. The structure of the health delivery comprised manpower and management that consists of the policies and procedures that govern external health delivery. Security and administrative bureaucracy are structural components within policies and procedures that affect the outcomes of health delivery such as delay in providing external care. Excessive delays occur between the time when a health complaint is filed and the time the prisoner-patient is actually transferred to the hospital or any other health care facility, e.g. laboratory, radiology, etc., to receive the care needed. The direct cause of these delays is the multiplicity of layers of administrative paperwork required to get a prisoner to an "outside" health care provider. A reform of these procedures was therefore developed, proposed, and approved, aiming at decreasing those administrative layers which are of no value to the care process, in order to subsequently impact on delay time and improve quality of care.

b. Procedures for requesting care outside the Roumieh prison

When the in-house physician determines that external health care services of any nature are required, he prepares a Problem Report requesting this service. A policeman stationed at the

prison is then appointed for the specific mission of obtaining all necessary signatures leading to the realization of the request. The delay to a final approval may vary widely from two weeks to two months, depending on a variety of intrinsic and extrinsic factors. However, in emergency cases or life threatening conditions, the delay can be circumvented. A sick prisoner may be transported on the spot to a health facility located nearby upon the sole authorization from the polyclinic director, and all the administrative routine procedures are completed later on.

However, for all non-urgent medical situations, after an initial consultation, a prisoner may be transferred several times to outpatient care facilities, depending on in-house physicians' requests, regardless of whether ultimately he is required to enter the hospital or not.

For each of these transfer requests, procedures can be dissected into the following steps:

Before the transfer:

- A prisoner requests to see a doctor for a health complaint.
- A designated prisoner who acts as "medical coordinator" in each Unit of the facility registers the prisoner's request and schedules him to see the doctor on duty the next day if the case does not require immediate medical attention. A doctor is available at the facility 24 hours a day, 7 days a week. Emergency cases are seen immediately by the doctor on duty.
- When the prisoner arrives for his visit to the doctor, the "coordinator" registers and dates the patient's visit in a dedicated register. As there is no unique medical

identifier for the prisoners, a corresponding medical checkup number is recorded and dated on the prisoner's medical file as well as for follow-up purposes.

- The doctor on duty examines the prisoner and documents the results of the check-up in the prisoner's medical file, e.g., drug prescription, paramedical investigations, external specialized consultation, or hospitalization.
- The doctor on duty writes a medical (i.e., problem) report, dates it and signs it. The Problem Report is numbered according to a sequential numbering preprinted on the Problem Report booklet. The original Problem Report copy accompanies the prisoner to the external health care provider and the second carbon copy is kept in the register.

Pre-Reform Transfer procedures (see Figure 1):

- The Director of the Polyclinic reviews and authorizes the problem report for external health care request processing.
- The Director has to determine which medical facility should receive the patient, since only a limited number of facilities contract with the ISF administration for health delivery to the prisoners. The lack of openings to receive prisoners in external facilities at any given time is the main "extrinsic" cause which may result in delayed care.
- A police officer from the prison's administration is appointed with the responsibility to oversee the practical implementation of the medical services request. This police officer has to send a "telegram" (in fact, a fax) to the Department of Prisons at the Central Gendarmerie Administration through the regional directorate, asking for the financing procurement needed for outside care.

- The Gendarmerie in turn has to ask the Administrative Affairs Section to allocate funds needed to provide the full health care needed by this sick prisoner.
- The Administrative Affairs Section then sends a "telegram" (fax) of approval to the prison's polyclinic (the "medical" side). Concomitantly, it sends the approval to the Department of Prisons at the central Gendarmerie Administration, which in turn notifies the regional directorate, which will then notify the prison's administration (the "administrative" side).
- The police officer in charge of the file has now to contact the Attorney General to obtain the permission to take the prisoner out of prison.
- The police officer has also to contact the intended medical facility to obtain an appointment for the needed health service, which again may not be immediately obtained, depending on space availability and the willingness of private facilities to accommodate prisoners.
- Once all of this is done, the prisoner is transported to the medical facility, providing that a patrol is available for a transportation convoy.

Thus, approval reaches the prison through two different channels, with two time frames, and is then executed at a relatively slow and inconsistent pace. Prison physicians know and have come to expect these delays. This knowledge may affect their readiness to request outside care even if needed. When the new process will be implemented, changes in the volume of the procedures requested by resident physicians are expected to take place, and quality of care will go up.

In addition to the routine administrative delays, other operational factors occurring after the administrative procedures are completed may also contribute to the delay in health services delivery. These factors include:

1. Specialists may not arrive for their scheduled consultation on time.
2. Convoys needed to transport patient prisoners to the health care providers may be logistically difficult to arrange.
3. Hospitalization beds provided per contractual agreement with the ISF for prisoners' care may be in short numbers.

While these factors undeniably affect delay times, they are unpredictable in nature. They cannot be targeted in an overall process to improve the efficiency of the administrative process, and will likely remain as delay factors for the foreseeable future.

c. Administrative steps to implementation

The workflow for the authorization of the administrative reform was composed of the following steps (see Figure 2 for the concerned units and departments and Figure 3. Gantt Chart for Authorization of the Administrative Reform):

1. The Director of the Roumieh Polyclinic made a written recommendation for a new regulation to the ISF Department of Health which forwarded it to the Central Administration which in turn forwarded it to the Staff Unit for evaluation. The process took 17 days.

2. The Staff Unit forwarded it to the Regional Gendarmerie Unit for study and feedback, which in turn forwarded it to Regional Gendarmerie Headquarters. The latter forwarded it to Roumieh Prison Administration for evaluation. The Roumieh Prison Administration did not object to the proposition. The process took 21 days.
3. The Staff Unit's Administrative Affairs Section forwarded its Organization and Planning Section (OPS) for evaluation and feedback. The OPS was mostly concerned that the new regulation would not conflict with existing laws, regulations, and working memos. The OPS needed clarification from the Director of the Polyclinic in that regards. The Director of the Polyclinic corresponded through the Central Administration Unit's Department of Health clarifying that the proposed regulation does not indeed conflict with the stated laws and regulations. The process took 3 months and 14 days.
4. The Staff Unit wanted clarifications from the Regional Gendarmerie Unit (RGU) that the proposed regulation would not conflict with existing laws and regulations. The RGU clarified to the OPS that the proposed regulation posed no conflict. Moreover, the OPS recommended to the RGU that the following proposition be applied to all prisons in Lebanon. Consequently, the RGU approved the recommendation. The process took 2 months and 16 days.
5. The Staff Unit forwarded the recommended amendments to the Judiciary Police for evaluation. The Judiciary Police agreed with the proposed regulation. The process took 9 days.

6. The Staff Unit forwarded the proposed document also to the Beirut Police Unit for evaluation and opinion. The Police did not object to the proposed regulation after consultation with the administration of its only prison. The process took 25 days.
7. The Police sent it to the Staff Unit for approval by the ISF General Director.
8. The General Director approved the regulation on August 07, 2008, within 41 days of receiving it.

The total duration of the policy development and authorization process was thus ten months.

Objectives

This study proposes to measure and compare indicators before and after the implementation of the administrative reform, in order to evaluate its effect on transfer times to outside medical care. These indicators are:

1. Prisoners' transfer times to external health care services.
2. Unexpected administrative consequences, such as an increase in the frequency of requests for outside transfers.

A secondary objective was to monitor whether the implementation was affected by any discrimination on the basis of age, education, incarceration, nationality, or type of disease.

Hypotheses

1. Timeliness of external care delivery for non-emergency cases, defined as the mean period between the initial consultation and final treatment, will be less after the reform than before the reform.
2. The number of demands for transfers will increase after reform implementation.

3. Older inmates or those with longer incarceration periods will have smaller reductions in mean times for referrals than other inmates.
4. More educated inmates will have greater reductions in mean times for referrals than those less educated.
5. Lebanese inmates will have greater reductions in mean times for referrals than non Lebanese nationals.

Literature Review

Administrative obstacles to better care for prisoners have never been addressed in Lebanon. The disadvantages of the current situation on the welfare of prisoners, especially in the large Roumieh prison, have been brought out in informal discussion with NGOs working inside prisons, and by concerned elements within the authority supervising prisons. One of the indicators of the non-interest associated with prisons up to recent times is the paucity of papers published on the issue of health in jails in Lebanon [1, 2].

Elsewhere however, several publications have provided suggestions for solutions, which may or may not be feasible within the current Lebanese context. Some of these international publications were published in the 1970s and 80s. They were considered of value for this proposal as the kind of reform under consideration in Lebanon now actually mirrors what was done about 30 years ago in other nations. The literature review included papers describing all aspects of reform in care setting, delivery, management and administration. Papers considering mental health issues, however, were excluded. Mental health, while an important source of morbidity and demand for care, is generally much less well-served in

Lebanese correctional facilities than physical health. This important gap in prison health care needs to be addressed separately, outside the immediate aim of this dissertation.

a. Administrative reform of health care delivery systems

Efforts to reform the health care delivery system in prisons started in North America and Western Europe in the 1970s, as more inmates started profiting from early discharge to return to society. It was obvious that good conduct which earned an inmate freedom should also be accompanied by a good bill of health, so that the freed convict would not become a public health disease risk for contacts in the community. Thus, care in jail had to be revisited and improved. The magnitude and extent of reforms depended on the general set-up of health care in a given country, as well its socio-economic development and the philosophy which underlies the correctional concepts. One aspect of reform often found in the shift of the administrative oversight from law enforcement agencies to healthcare agencies and academic training centers. This shift eliminated several layers of administrative bureaucracy which had caused clogging in the system [3-6].

Many interesting examples of administrative reforms of the correctional care delivery system have come from the already-diversified correctional system in the United States. The administration of the jail system varies in the U.S. according to federal, state or county levels of government, and the health care delivery varies accordingly [4]. An interesting case-story of administrative reform of health care at the city jail level comes from the Baltimore City Jail (BCJ) system. Prisoners in the BCJ Women's Detention Center conducted a food strike for several days in the autumn of 1974 in order to draw attention to their allegations of

inadequate medical services. In response, a student from the Johns Hopkins Health Associate Program initiated a 2-year planning process leading to the implementation in July 1977 of new services for male and female prisoners. In the old system, the BCJ employed health professionals and administered the program. On July 1, 1977, the Chesapeake Physicians Professional Association (CPPA) contracted with the City of Baltimore to assure responsibility for all medical services, and to recruit the majority of health workers. CPPA and BCJ became co-administrators of the program. The increase in resources thus allowed more time for human and professional encounters between providers and patients, with measurable improvements in health care access and health outcomes, measured by length and number of visits, frequency of complaints and drugs dispensed [7].

An innovative approach for correctional care delivery reform at the state level has also come from Texas, and has since been duplicated elsewhere. Faced with explosive growth in its prison population and a legal mandate to improve medical care for incarcerated offenders, Texas decided in 1992 to start a cooperative process between academia and the correctional system in order to improve the quality of health care delivery to prisoners. A novel correctional system managed health care program was launched in 1994. The organizational structure of the program is based on a series of contractual relationships between the state prison system, two of the state's academic medical centers, and a separate governing body composed of nine appointed members, which include five physicians. All medical, dental, and psychiatric care for more than 145,000 offenders, incarcerated under the jurisdiction of the Texas Department of Criminal Justice, is provided by the University of Texas medical branches and Texas Tech University health sciences centers. The health delivery system was

reformed to create specialized treatment programs and regionally dedicated prison hospitals with a full range of services. Most noteworthy consequences of these structural changes were the increase in health care staffing, improvement in compliance with performance standards under the managed care program, and statistically significant changes in several disease-specific end points [8].

At all levels of the correctional system in the U.S., privatization of health service delivery is one of the solutions proposed to improve the current situation, mainly in terms of preparing prisoners to be released back to society. Annually, private correctional health care vendors provide $3 billion worth of health care services to inmates in correctional facilities throughout the U.S. [9-11].

While cooperation with academic centers has been discussed in Lebanon, the idea of transferring the decision-making process in prisoners' health to academic institutions or to a private organization, away from the ISF administration, is not even a remote possibility at this point in time. However, apart from outright jurisdictional transfer of authority, improvement can be obtained through independent monitoring of activities. In England and Wales, correctional facilities are under regular inspection and supervision from the independent "Inspectorate of Prisons." A reform of the health care delivery system to inmates there was implemented starting the late 1980s. The reform moved health care in prisons from jail administration to the umbrella of the National Health Service (NHS) to make sure that care delivered to prisoners is similar to that delivered to general population.

This move was recommended by the Inspectorate to ensure that a jailed person should not be victimized in his/her health in addition to being deprived of liberty [12].

In most other European systems, health care in prisons remains largely under the overall authority running the prisons system, whether an arm of the Ministry of Justice or any other public or semi-public agency. The World Health Organization (WHO) has regularly called upon European nations who have not done so to follow the UK's example in delegating the health care in prisons to a public health agency, rather than leaving it under the sole tutelage of the jail's administration [13]. Such an independent inspection entity for correctional facilities does not currently exist in Lebanon, but it may be advocated and actually implemented in the future as part of an overall reform of the jails systems. There is currently an inter-ministerial commission discussing the transfer of jail authority from the ISF to the Ministry of Justice. In the context of that transfer of responsibility, a major reform can take place in which quality control and improvement can occur.

CHAPTER II: METHODOLOGY

Study Design

This is a before-after study design. Two indicators: 1) the timeliness of transfer, and 2) the number of requests for external health care are measured before and after the implementation of the administrative reform (the intervention) for transferring patient prisoners to an external health care provider.

Description of Intervention

As indicated above, currently the delay to a final approval of transfer to external care may vary widely from 2 weeks to 2 months, depending on a variety of intrinsic and extrinsic factors. The administrative intervention targeted the various approval steps previously required prior to transporting the prisoner to an external health care provider. The aim is to decrease delays in external health care delivery (see Figure 4).

Under the new proposition, most components of the transfer procedures within the prison are moved down to the polyclinic administration away from the central prison administration. This move included the following structural and operational steps:

1. The police officer responsible for securing approval for external health services request as per problem report is assigned permanently to the polyclinic administration, and is therefore always available for duty. This police officer is the one who sends the fax to the Administrative Affairs Section requesting allocation funds needed to provide external health services to the patient prisoner.
2. The outgoing request fax is registered in the polyclinic's dedicated register instead of that of the prison's administration.
3. The polyclinic administration directly contacts the corresponding health care provider to schedule an appointment for the needed health services, instead of the jail's central administration.
4. The Administrative Affairs Section sends the approval fax directly to the prison's polyclinic, bypassing all other intermediate administrative units.
5. Once the incoming approval fax is received, it is recorded immediately in the polyclinic's register.
6. The transfer request is now totally under the responsibility of the police officer at the polyclinic administration. He sends a fax to the prison's administration requesting to transport the prisoner to the external healthcare provider. No other authorizations are needed.

Sources of Data

Data related to non-urgent requests for external health care services were collected from administrative records of prisoners to whom external health care services in radiology, laboratory, and hospitalizations are prescribed. Data for the reform pre-implementation study

were collected from November 1st 2007 till July 31st 2008, whereas those for the reform post-implementation study were collected from September 1st 2008 till May 30th 2009. For analysis purposes, those 9-month post-intervention data are compared to data for the same duration in the pre-implementation phase. Since the intervention took effect on August 1st 2008, the analysis period, therefore, extends from November 1st 2007 till May 30, 2009. See Figure 5.

A clearance letter was obtained in order to conduct the present research by the University of North Carolina at Chapel Hill Public Health-Nursing IRB committee (Approval Date: 12/07/2009, Expedited Review: 45 CFR 46.110). See Appendix 1.

Study Variables

The following specific variables were obtained before and after the implementation of the new policy from the administrative records at the polyclinic:

- Date of the medical examination which led to the external transfer request;
- Date of the Problem Report recommending the external transfer;
- Date that the external services were administratively requested in response to the medical request;
- Date that the external services were approved;
- Date of admission date for hospitalization and diagnosis at discharge;
- Date of completion of investigations;
- Date of reception of investigations' results.

Outcome variables are:

1. Timeliness of transfer: derived from above listed dates. The timeliness is measured in days between the initial consultation and end solution of the patient medical episode/complaint, which is either: 1) date of admission, if hospitalization had been requested or 2) obtaining laboratory/radiology results, if out-patient investigations had been requested. Mean durations in days are compared over 9-month intervals, and where possible month-to-month. The timeliness is measured separately for the following scenarios which can follow the initial consultation:

    - Simple/Multiple transfer(s) to out-patient care without hospitalization.
    - Hospitalization with/without prior transfer(s) to outpatient care.

2. Number of requests for external health care in each of the previous scenarios grouped according to the ICD10 classification of diseases.

Confounding variables are the three personal attributes of patients that are also obtained from the correctional facility database. These are:

- Age of patients.
- Duration of incarceration in years.
- Educational attainment: illiterate or elementary, under secondary, secondary, or above secondary.

These personal factors should not affect the delay time directly. However, they can reflect the global health status and the nature and gravity of diseases and their prognosis. In as much as epidemiological, demographic and behavioral dimensions of diseases affect the probability of being rapidly admitted/discharged from hospital, they impact the delay time. For example, younger men or men not yet deteriorated by a long incarceration may have more acute if less complicated problems which require rapid admission but short stays. In contrast, older men or long-term inmates may present much more complex and serious diseases which hospitals may be reluctant to admit. Thus, these demographic factors have to be included as confounding variables.

Costs

While we were able to measure the administrative complexity of the reform in terms of delay and demand, we thought we could not calculate the spending costs on health care requests, but going back to the polyclinic administrative records, we managed to compute the spending costs on all healthcare claims (associated with urgent and non urgent healthcare requests). We were unable to capture the cost of non urgent health care requests separately because the medical claim record does not distinguish urgent from non urgent.

Plan of Analysis

All variables were tabulated and presented according to their nature. Qualitative variables are presented as frequencies and percentages. Quantitative variables are presented as means, standard deviations (SD), medians, and intervals. Frequencies are compared using the Chi-

squared test, and means are compared using the t-test. Differences are considered statistically significant for a $p \leq 0.05$. Potential confounders were tested using stratified analysis. Those variables with some effect modification on before-after differences were included in a multivariate regression analysis depending on results. All analyses were performed using SPSS statistics software version 17.

CHAPTER III: RESULTS

The data associated with the present study were collected during a period of 18 months starting November 1st 2007 and ending May 30th 2009. External health care requests in the month of August 2008, during which the new policy was implemented, were excluded from the data analysis. Furthermore, the evaluation of the intervention is only based on the analysis of non-urgent cases.

1. Characteristics of prisoners requesting external health care

A total of 943 prisoners requested 1306 external care services in the study period, of whom 710 (75.3%) did so only once. Of the services requested, 462 (35.4%) were filed before the reform implementation and the rest after that date. Of the 943 prisoners, the majority (40%) had an intermediate level of education. The average age was 39.4 years and the average duration of incarceration was 44.8 months. Details can be seen in Table 1.

2. Distribution of external health care requests after reform

The total demand for external health care services increased after the reform. Of the 844 services requested and filed after the reform implementation, demand for hospitalization decreased to 83 (9.8%), demand for laboratory investigations increased to 506 (59.9%) and that for radiology also increased to 255 (30.2%). Details can be seen in Table 2 and Figure 6.

The changes are statistically significant in hospitalization, laboratory, and radiology service request after the reform implementation compared to before ($p < 0.05$).

3. Changes in mean waiting time

Radiology

The total administrative waiting time for radiology investigations decreased by one day after the reform implementation (9.1 (5.4) after *vs.* 10.1 (3.1) before). The results were statistically significant ($p<0.05$). The number of days between realization and results of radiology investigations has also decreased after the reform (2.1 (3.3) after *vs.* 4.8 (6.7) before). Details can be seen in Table 3 and Figure 7.

Laboratory

The total administrative waiting time for laboratory investigations has decreased by one day and a half after the reform implementation (8.9 (6.2) after *vs.* 10.4 (2.9) before). The results were statistically significant ($p<0.05$). The number of days between realization and results of laboratory investigations has increased after the reform (1.8 (2.7) after *vs.* 1.4 (2.1) before). Details can be seen in Table 4 and Figure 8.

Hospitalization

The total administrative waiting time for hospitalization has decreased by 1.7 days after the reform implementation (8.2 (4.3) after *vs.* 9.9 (2.5) before). The results were statistically significant ($p<0.05$). The number of days between approval and admission to the hospital has

also decreased (29.4 (25.8) after *vs.* 37.1 (36.4) before). Details can be seen in Table 5 and Figure 9.

4. Waiting Time by Prisoner's Characteristics after Reform

Age

The waiting time between the medical problem and admission to the hospital was shorter for prisoners above 40 years of age (mean duration 23.2 days after *vs.* 32.0 days before), even as the total number of hospitalization requests has decreased after the reform for that age group (42 requests after *vs.* 57 requests before). The results were not statistically significant. Details can be seen in Table 6 and Figure 10.

The waiting time between the medical problem and results of laboratory investigations has been noted to increase significantly for prisoners of all ages under or above 40 years of age as the number of laboratory investigations have increased after the reform. The results were statistically significant ($p<0.05$). Details can be seen in Table 6 and Figure 11.

The waiting time between the medical problem and results of radiology investigations was shorter for prisoners above 40 years of age (mean duration 21.8 days after *vs.* 24.1 days before) while the number of radiology investigations increased after the reform for that age group (65 requests after *vs.* 45 requests before). Details can be seen in Table 6 and Figure 12.

Duration of Incarceration

The waiting time between the problem report and admission to the hospital has decreased for all prisoners regardless of their duration of incarceration. Further investigation showed that

the number of hospitalization requests has decreased more for prisoners who have been incarcerated for more than 4 years (28.2 days before *vs.* 21.2 days after) than for those incarcerated for less than 4 years (29.8 days before *vs.* 27.6 days after) (Figure 13). The results were statistically significant ($p<0.05$). Details can be seen in Table 7 and Figure 13.

The waiting time between the Problem Report and results of radiology investigations has been noted to be shorter for prisoners of all duration of incarceration as the number of requests for radiology investigations has increased after the reform implementation. The results were not statistically significant. Details can be seen in Table 7 and Figure 14.

The waiting time between the Problem Report and results of Laboratory investigations has been noted to increase significantly for prisoners regardless of their duration of incarceration as the number of requests for laboratory investigations has increased after the reform implementation. The results were not statistically significant. Details can be seen in Table 7 and Figure 15.

Educational Attainment

The waiting time between the Problem Report and admission to the hospital has been noted to be shorter for prisoners who had received secondary or above level of education (Mean duration 16.2 days after *vs.* 35.2 days before) as the number of hospitalization requests has decreased (18 requests after *vs.* 21 requests before) for those patient prisoners after the reform implementation. The results were statistically significant ($p<0.05$). Otherwise, there has been noted an increase in waiting time. Details can be seen Table 8 and Figure 16.

The waiting time between the Problem Report and results of radiology investigations has been noted to be shorter for prisoners of all education level attainment. The results were statistically significant ($p<0.05$). Details can be seen in Table 8 and Figure 17.

The waiting time between the Problem Report and results of laboratory investigations has been noted to increase for prisoners of all education level attainment. The results were not statistically significant. Details can be seen in Table 8 and Figure 18.

Nationality

Table 9 shows that the waiting time between the problem report and admission to the hospital has decreased for all prisoners regardless of their nationality. Further investigation showed that the number for hospitalization requests has decreased and delay has shortened more for non-Lebanese prisoners (28.12 days before *vs.* 13.8 days after) than Lebanese nationals (29.12 days before *vs.* 27.42 days after). The results were statistically significant ($p<0.05$). Details can be seen in Table 9 and Figure 19.

The waiting time between the Problem Report and results of Radiology investigations has been noted to be shorter for all prisoners as the number of requests for Radiology investigations has increased after the reform implementation. Further investigation showed that the number for Radiology requests has increased and delay has shortened more for non Lebanese prisoners (32 days before *vs.* 18.45 days after) than Lebanese (22.10 days before *vs.* 15.34 days after). The results were statistically significant ($p<0.05$). Details can be seen in Table 9 and Figure 20.

The waiting time between the Problem Report and results of Laboratory investigations has been noted to increase significantly for all prisoners regardless of their nationality as the number of requests for Laboratory investigations has increased after the reform implementation. The results were statistically significant ($p<0.05$). Details can be seen in Table 9 and Figure 21.

5. Waiting Time by ICD10 after Reform

The study of the waiting time between the medical problem and the realization of the investigations or admission to the hospital by ICD10 classification revealed an increase in waiting time for the majority of the classes. We found statistical significance ($p<0.05$) for the following ICD10 classes: Signs and Symptoms and Abnormal clinical and laboratory findings, not elsewhere classified (3.3 days before vs. 7.1 days after), Diseases of the genitourinary system (4.6 days before vs. 7.3 days after), and Endocrine, nutritional and metabolic diseases (2.4 days before vs. 4.9 days after). In general, it was observed that for all ICD10 classifications, the number of requests has increased after the reform implementation. Details can be seen in Table 10.

It is worth noting that the impact of the prisoner's characteristics discussed earlier (age, duration of incarceration, and educational attainment) upon the waiting time is evaluated between the medical problems and results for laboratory and radiology requests and between the Problem Report and admission for hospitalization. For the ICD10 analyses, however, all requests (laboratory, radiology, and hospitalization) were grouped together, and the waiting time is studied between the Problem Report and realization/admission.

A breakdown of ICD10 by type of investigation was not performed for two main reasons. First, for the ethical purpose to protect the patient prisoner's privacy, and second to avoid having groups with smaller frequencies (less than five), where meaningful means and standard deviations could not be calculated. Hence, our need to assemble different diagnoses in one group of health problems.

6. Requests by Selected Variables

Units of Incarceration

The number of demand for hospitalization in Prison Unit A decreased by 42%, whereas it increased or remained the same in other units. The demand for laboratory and radiology increased in all units after the reform implementation by 88% and 76%, respectively. Details can be seen in Table 11 and Figure 22.

Educational Attainment

The higher demand for external health care services after the reform implementation persisted for patient prisoners who had received intermediate level education. Similarly, the demand for hospitalization remained constant for those of intermediate level but decreased for those who were Illiterate or had received elementary or secondary level of education. It increased for those above secondary education level. The results were statistically significant ($p < 0.05$) except for above secondary education level prisoners ($p=0.73$).

The demand for laboratory increased for all prisoners of all education levels, but the results were not statistically significant. On the other hand, the demand for radiology increased for

all prisoners of all education levels, and the results were statistically significant ($p < 0.05$) for illiterate prisoners. Details can be seen in Table 12 and Figure 23.

Nationality

Twelve external health care requests were made by prisoners of non-Arabic nationalities prior to the implementation of the reform and 11 requests post implementation. These requests were removed from this part of the data analysis because of small numbers.
The higher demand for external health care services after the reform implementation persisted for patient prisoners of Lebanese nationality.

The demand for hospitalization decreased for prisoners of all nationalities. The results were statistically significant for Lebanese and other Arab nationalities except Palestinians.

The demand for laboratory services increased for prisoners of all nationalities. The results were statistically significant for Lebanese nationals only.
The demand for radiology has increased for prisoners of all nationalities. The results were not statistically significant. Details can be seen in Table 13 and Figure 24.

Age

Table 14 shows that the mean age did not vary for all types of investigations after the implementation ($p>0.05$). See Figure 25.

Duration of Incarceration

The mean duration of incarceration (months) has decreased after the reform implementation for all types of investigations. The average period of incarceration of hospitalized prisoners was reduced from 63 months to 40 months. The results were statistically significant ($p<0.05$). Details can be seen in Table 15 and Figure 26.

7. Costs

While the volume of healthcare requests has increased, the cost has remained almost unchanged after the reform implementation (US$ 482,236 before versus US$ 498,939 after). This cost is associated with an overall demand that includes urgent and non urgent healthcare needs (1142 cases before vs. 1325 after). See Table 16.

CHAPTER IV: DISCUSSION

The purpose of this study was to evaluate an administrative reform that aimed at decreasing delays in external health care delivery to prisoners in a correctional facility in Lebanon. The delay time had usually been from 2 to 4 weeks, a period perceived to be deleterious for the well-being of prisoners and potentially more costly due to non-timely delivery of needed services. The overall impact on public health is also a consideration. It was hypothesized that the time for obtaining external healthcare services would be shortened, as a result of the intervention, to an interval of 3 to 10 days. Practically all intervening steps were revised and simplified, some even canceled totally. Planning the intervention was, expectedly, a long and slow process of ten months, as authorizations to proceed had to go up and down the chains of command of a variety of departments within the ISF administration before being presented to a final agreement from the General Director. Nevertheless, once this agreement was secured, the implementation advanced rapidly.

This relatively small reform nevertheless carries major implications, first and most immediately on the welfare of prisoners and the professional satisfaction of their caregivers who now could see their requests for care filled within a reasonable period of time. Other implications are system-wise. Planned administrative reforms are rare in Lebanon, and when they are initiated, they often fail to reach their goals. This resistance to change is even more

pronounced in military structures, such as the ISF administration in charge of overseeing prisons in Lebanon. These structures are notoriously more rigid than those in the civilian public administration, and the chain of command is strictly adhered to, which may discourage any budding attempt at change. That the command approved and supported this particular change is a clear indication of a new direction decided by the ISF in favor of improving the living conditions of prisoners and upholding their basic human rights. This was often articulated in recent years, in particular by the Minister of Interior whose administration oversees the ISF. The support for a needed change in health care delivery to prisoners also emanated from the International Committee of the Red Cross report that was submitted to the Minister of Interior around the time this reform was being implemented.

The most determining step targeted to reduce the delay to care services was the waiting time from the moment a care request for a medical problem is made to the moment an administrative approval is obtained. The new policy implementation has delegated the responsibility of requesting fund allocation for external medical services to the polyclinic, whereas it used to be delegated to the prison's administration. Overall, the intervention yielded the expected results, as indicated by monitoring mean delays in the nine months following implementation and comparing them with those of nine months preceding it. The intervention yielded shortened delays incrementally as several obstacles were being resolved, such as:

1) A lack of experience in performing the new administrative procedure at the beginning of the implementation,
2) An increase in the workload because of the increase in the number of external requests;

3) The unavailability of the Director of the Polyclinic to sign the Problem Report due to competing responsibilities.

While generally successful in shortening delays, this intervention did not achieve the same magnitude of success across all types of healthcare needs. Delays were shortened primarily for obtaining radiology test results, but not for laboratory test results or for hospitalization requests. For radiology, the shortening may be explained by the increase in the number of requests for radiology investigations, which accompanied the changing attitudes of jail physicians, now reassured that care will be provided in time. This increase meant that the number of trips made by the prison's policemen to transport prisoners to external health care providers also increased. Thus, the opportunity arises for the policeman to pick up the results of previous tests while waiting for the procedure to be carried out. For laboratory tests, delays are generally an inherent part of the technical procedures, and are therefore less amenable to structural or organizational modifications. A change in the quality of laboratory tests, now involving more sophisticated investigations, is also likely to keep the delay time as long if not longer than before the intervention. In the past, physicians, knowing that care is inevitably delayed, preferred to request a hospitalization in which any such sophisticated laboratory investigations could be performed as a package along with immediately needed care. Now that they are reassured that waiting time to hospitalization is reduced, such investigations are being requested normally on an outpatient basis. This is further evidenced by the significant decrease in hospitalization rates post-implementation compared to those pre-implementation. This finding invalidates the original hypothesis, and can be considered as an unexpected yet welcome consequence of the reform.

Overall, the reform did not affect the delay time between a request for hospitalization and the realization of that request. This is very likely due to administrative learning time which would be alleviated over time as discussed above. However, a careful analysis of prisoners characteristics indicates that the absence of change in delay time is not true across all strata. For example, delay times decreased significantly for older prisoners compared to younger ones. Older prisoners are prone to more severe or chronic diseases requiring hospitalization. As competition for limited access to hospital beds decreased with reduced rates of un-needed hospitalizations, those who genuinely need hospital care were thus more likely to obtain it in short delays. Younger prisoners, who are generally more physically active, are more susceptible to musculoskeletal injuries that require radiology investigation, and they were now more likely to obtain it than before the intervention. Inmates with longer incarceration periods benefited more from hospitalization delay reductions than inmates with shorter period of incarceration, but this fact is very likely associated with the confounding effect of age, itself associated with longer incarceration periods. There were no differences in delay decreases by education, nationality or categories of diseases.

The improvement in the administrative processing time has encouraged sick prisoners to seek medical attention with the hope of obtaining timely care. Overall demand for external care thus almost doubled for various investigations, while decreasing for hospitalizations as discussed above. There was no evidence of discrimination based on nationality, educational attainment, age, or duration of incarceration. Primary care problems are now attended at earlier stages, further negating the need for hospitalizations after the case has deteriorated. The improvement in health outcomes for prisoners is matched by 11% decrease in overall

costs of care per case in the nine months after implementation. Thus, while overall costs of care have remained largely at the same level, money is being used more effectively (cost per case) and efficiently (health outcomes per cost).

CHAPTER V: PRACTICAL IMPLICATIONS

Plan for Change

The implementation of the administrative reform at the Roumieh correctional facility has shortened the delay for external health care delivery to prisoners, thus, improving one aspect in the health status of prisoners: the timely delivery of needed health services. However, this reform is only a small step in a venture that must be undertaken to promote good practices in delivering health care services to prisoners. We suggest the following provisional plans for change based upon our observations of the ISF administration and operation of health care services and their timely delivery in prison and based on best practices of health care delivery in prisons. These recommendations constitute solutions toward the improvement of health delivery and management in prisons. The implementation of these recommendations requires leadership skills and principles that would translate into better practices of health care services in prisons.

For the short term (1-3 years):

1. ISF operation of health care delivery in prisons.

2. ISF cooperation with academic institutions.

3. ISF Collaboration with other governmental ministries.

4. ISF Cooperation with Local and International Institutions and Organizations.

5. Initiatives with regional (Middle East and North Africa) ministries in charge of health in prisons.

For the long term (> 3 years):

6. Centralization of health services through an Independent Central Correctional Administration who reports directly to the Ministry of Justice (MOJ).

1. ISF Operation of Health Care Delivery in Prisons

a. Establish an office for Health in Prisons at the Department of Health at the ISF. This office has the responsibility to deal with health related issues for prisoners in all Lebanese Prisons. The presence of such an office will enable the ISF in determining the cost of health services offered to prisoners and in planning accordingly its budget reserved for health care expenditures in prisons. This office will also serve as the source of information for the ISF regarding the health status of prisoners, the types of medications and their costs, and the types of health care services offered in every prison and their costs. Furthermore, this office will build the databases needed for the ISF to track the incidence and frequency of diseases in every prison in order to prepare the appropriate awareness programs for promoting health, disease prevention, and disease management in the prison system and allocate the necessary budget for the realization of these programs. In addition, if an electronic database will be available in every Polyclinic in every prison, an office

for Health in Prisons will profit from it to conduct internal and external audits on the prison system in Lebanon to assess critically whether health care services delivered to prisoners are adequate or not.

b. Assign a specific budget for health in Prisons. This budget will cover hospitalization fees, specialized consultations, Laboratory and radiology investigations, as well as medical supplies. This budget will allow the Polyclinic to set its expenditure health priorities. In addition, this budget allocated by the Government to the Prisons should be different from that allotted to the ISF personnel on health.

c. Increase in the number of beds reserved for patient prisoners in public and private hospitals. Although there is an agreement between the ISF and some hospitals upon a pre-determined number of beds, the director of the Polyclinic has requested an increase in the total number of beds at these hospitals. Furthermore, the director of the Polyclinic has requested from the ISF to establish newer agreements with nearby hospitals to increase the overall number of beds allocated for prisoners.

d. Increase in the number of patrols (ISF policemen and vehicles that work under the jurisdiction of the Prison Administration or "Gendarmerie" but not at the Polyclinic) that are solely committed for the secure transport of patient prisoners outside Roumieh premises.

e. Human Resources at the Polyclinic. The ISF should appoint qualified and trained personnel at the Polyclinic with specific incentives for working within the context of a correctional facility. The current medical and paramedical personnel (policemen) are neither qualified nor appropriate in number to provide patient

prisoners with adequate health care. This has led to the use of the prisoners themselves as paramedical (administrative) support staff. Furthermore, there is a high turnover in the staff working at the polyclinic due to the restraints and security measures taken when working in a prison setting. Thus, the Director of the Polyclinic has contacted the Lebanese Red Cross to train the policemen on First Aid Services and on nursing services to assist in aiding the staff at the Polyclinic in Roumieh and in other Lebanese prisons. Moreover, the ISF need to consider the appointment at the Polyclinic of a qualified administrative staff responsible for fund allocation and securing appointments for appropriate health care services at external health care institutions. This will prevent the use of prisoners as a support staff at the Polyclinic. Qualified personnel will also be able to efficiently communicate with the patrol services to ensure a timely transfer of patient prisoners.

f. Appointment of an Assistant to the Director of the Polyclinic. Different tasks are assigned to the polyclinic's director outside the correctional facility, thereby, delaying the process of signing the Problem Report, and as a consequence, delaying the external health care request. Thus, the appointment of an assistant to the Director could prevent a delay in health care delivery.

g. Implement the Electronic Medical Record Database. Each prisoner should have an electronic medical record regardless of whether he is sick or not. This would also include assigning a unique Medical Identifier for each prisoner for continuity of care. At the present time, a paper-medical record is present only for prisoners who have a medical claim, take prescription drugs, have been hospitalized, or have requested or undergone laboratory and radiology investigations. The lack of

personnel at the Polyclinic has prevented an electronic set up in the form of a Database for the paper medical record currently available and the opening of an electronic medical file for each prisoner upon incarceration at Roumieh. Therefore, the necessity to activate the IT network that was installed at the polyclinic in 2005 without ever being used due to a lack in human resources. An electronic database will allow the Polyclinic the possibility to collect and study epidemiologic data in order to evaluate a disease and it's spreading among prisoners, thus, providing the decision makers to take the appropriate measures.

h. Establishment of an infirmary within each unit of incarceration in the Correctional Facility. Each unit of incarceration will have an infirmary in which medical and dental care is provided to patient prisoners. Currently, patient prisoners are transferred from their units of incarceration to the Polyclinic accompanied by policemen. When policemen are unavailable, patient prisoners miss their medical appointments. Therefore, the presence of the infirmary will avoid the transfer of patients from one incarceration unit to another, thus, by passing the need to deal with security issues and leading to a faster delivery of care.

i. Review of mandatory testing (HIV, VDRL, HBAgS, and PPD) of sentenced individuals upon incarceration at Roumieh. The mandatory testing can be looked upon from several perspectives. From a human right perspective, the prisoner has the right to refuse mandatory testing. If it is the case, he will be in solitary confinement because of the fear of spreading the virus to other prisoners. However, in an already overcrowded facility, the prison administration does not allow solitary confinement due to a lack of space. Furthermore, mandatory testing of a new

prisoner is providing a false sense of security to some inmates who could engage in a risky behavior with the new prisoner. I suggest voluntary testing for new prisoners accompanied by continuous awareness campaigns about the transmission of STDs. In fact, The Director of the Polyclinic is a member of a Task force that was initiated by the United Nations Office of Drugs and Crime (UNODC) to solicit funds from Kent University (UK) to spread awareness about sexually transmitted diseases (STDs) and conduct workshops in 14 prisons in Lebanon to promote voluntary counseling and testing.

j. Develop Policies of good practice and quality of health care throughout the prison. The policy main objective is to address the issues related to delay in the healthcare services delivery through devising concise procedures and/or regulations for the following:

   - Timely delivery of health care services to prisoners based on a service level mechanism that includes categorization and prioritization of prisoners' health needs or conditions, notification and escalation process for delivery of healthcare. The policy should include time standards for transfers for out-of-prison referrals based on clinical treatment guidelines and procedures the prison should follow for certain health conditions.
   - Standardize and streamline the process of health care delivery by instilling governance, policies and procedures and performance indicators.
   - Set measures and procedures for accountability and liability for health care delivery issues.

The policy should be implemented and communicated at every stage of the medical

intervention process in order to achieve high level and timely quality delivery of healthcare services to prisoners at the Central Prison of Roumieh in Lebanon.

2. Initiatives of Collaboration with other governmental ministries

a. Build a task force between the ISF and the MOH to establish the necessary national guidelines concerning the investigation, diagnosis, treatment, support, and care of TB, Hepatitis, and AIDS in prisons. The Ministry of Health (MOH) should be involved in the health status of prisoners taking into account Health in Prison when building its National Programs (TB, Hepatitis, and AIDS) to tailor these programs to fit the needs of prisons.

b. Develop and implement several "Memorandums of understanding" among governmental agencies, such as ministries, to involve them in the prison's activities. The Ministries of Health, Social Affairs, Education, and Industry must share the responsibility of rehabilitating the prisoner within the prison premises and before sending them back to the community. The ministries will be involved via providing health awareness campaigns within the prison (National Tuberculosis, National Hepatitis, and National Aids Programs), counseling the family of the prisoners, offering educational programs and degrees, and establishing industrial workshops and periodical apprenticeships that would allow the prisoner to secure at least a minimum wage paying job within the prison premises and once outside. These activities would allow the prisoners to make better use of their time and to feel productive instead of being left idle, a way by which the majority of prisoners would acquire the habit of substance abuse. Then, the vicious circle of addiction

and offenses starts during which the prisoner goes in and out of the correctional facility. This step will also assist the ISF in its effort to be independent upon local NGO's activities that have proven to be inefficient within prisons

c. Decrease the overcrowding in prisons. Awareness campaigns about the overcrowding in prisons and the deterioration of the health conditions in prisons has prompted the government to allocate funds for the building of new regional prisons in the North and South of the country. A new prison has also been inaugurated by the minister of Interior in Zahle on April 28, 2010. Prison overcrowding can be also alleviated by enhancing the court sentencing rate for arrested individuals and the repatriation of illegal immigrants upon serving their sentences.

3. ISF Cooperation with Academic Institutions

The author was closely working on the writing of a Memorandum of Understanding (MOU) between the ISF and administrators at Medical and Public Health Schools of several Lebanese Universities (Medical Schools and Health Policy and Management Departments at the Lebanese University, American University of Beirut, and Saint Joseph University) to put in place a process by which residents could come to the Polyclinic at Roumieh to mainly assist in the delivery of medical services according to a pre-set schedule and prolong the consultation time at the Polyclinic in order to allow a greater number of prisoners to benefit from the health services and to train the medical and paramedical staff. Moreover, university medical centers could organize conferences within a context of continuous medical education (CME) for the medical and paramedical staff in order to be trained periodically. Cooperation with academia may also include researchers from Health Policy and Management Departments to

audit the current administrative health system at Roumieh in order to provide solutions that may serve as the basis for drafting policies to improve the overall health care delivery. Once the MOU is signed between the Universities and ISF, the Ministry of Interior that oversees that ISF will request from the Ministry of Justice to issue a clearance allowing medical residents and researchers from the Health Policy and Management Departments to enter Roumieh premises. See Appendix 2 for the plan to call involved organizations to action.

4. ISF Cooperation with Local and International Institutions and Organizations

a. Re-define the relation between ISF and local NGOs. A rivalry between local NGOs is observed in their offering of health services to prisoners at Roumieh. Each local NGO is attempting to take over the health services away from another, and the ISF has failed to exert its role as the coordinator or the auditor of the activities of these NGOs. In fact, a local NGO that applies to work within Roumieh takes an ISF approval without any prior submission of its agenda. I suggest that the ISF takes over completely the health services of prisoners, since it is its responsibility. Furthermore, the local NGOs are not performing roles that the ISF can't undertake. The ISF can request from local NGOs to present their perspectives on health care delivery and to serve as advocates for good health in prisons by their ability to reach the community at large via their campaigns and media access. Moreover, the ISF could establish a task force on health in prisons in which local NGOs can be active participants.

b. Cooperation with international organizations. The Director of the Polyclinic has initiated the contact with the International Committee of the Red Cross (ICRC) via the ICRC Delegation after several discussions upon the administrative problems relating to health delivery and the lack of human resources in health care in the Lebanese prisons. Then, the ICRC sent an expert to assess the health situation and its management in the three largest (Roumieh, Tripoli, Zahle), and three small (Nabatieh, Jeb Jannine and Tripoli prison for women) prisons in Lebanon between October and November 2009. The Committee presented its report in a round table on April 23, 2010 to the ISF stakeholders. Refer to Appendix 3. The ICRC cooperation is highly recommended because of its international expertise in health assessment and management in prisons throughout the world, and its credibility and ability to grant support for hiring medical and paramedical staff.

5. Initiatives with Regional (Middles Eastern and North African) Ministries in Charge of Health in Prisons

The organization of yearly conferences on health care in prisons in Lebanon, and the Middle East, and North Africa (MENA) region, for setting forth recommendations and establishing standards for health delivery in prison. The first conference on health in prisons took place on November 8-10, 2008. Another regional conference is currently under preparation to take place in the second quarter of 2011. I suggest the establishment of a committee that oversees the implementation of the recommendations. This committee should include governmental administrative bodies directly attached to prisons and medical bodies that operate within the prison premises.

6. Policy Strategy for Centralization of Health Services

Transfer the responsibility of the prisons back to the Ministry of Justice (MOJ). This responsibility was delegated to the Ministry of Interior (MOI) temporarily in February 11, 1949 (Decree Number 14310) and it has remained as such since. This is despite a decree (Number 17315) that was issued on August 28, 1964 to establish an "Administration of Prisons" unit that is directly linked to the MOJ. Moreover, there is a five year project financed by the UNODC to transfer the responsibility of prisons back to the MOJ. See Appendix 4 for the policy advocacy.

Limitations of the Change Plan

1. Resistance to change: Resistance by those who want to protect their self interest or afraid to lose status and power is expected. The culture and system dynamics at the ISF (in governmental institutions in general) discourage any attempt for change. Acknowledgement of the reasons behind the resistance to change and establishing the sense of urgency to enforce and implement the change is required.

2. Length of time for change to take effect: Administrative reforms take a long time to be initiated or be in effect. Most policies require laws to be in effect and be passed by the Council of Ministers; even hiring civilian resources to work for the polyclinic requires the Council of Ministers' approval due to public budget allocation. Therefore any sort of change requires time for it to be in effect.

3. Lebanese government budget deficit: The Lebanese government is in deficit. Financial and budget allocation is very thoroughly thought out, and often the budget allocation itself undergoes all sort of political pressures and budget cuts.

4. ISF and MOJ not finding common ground: No agreement is reached to handover or transition the responsibility of prison administration. ISF is requesting a full transfer of responsibility; on the other hand, MOJ is not ready to handle the prison health responsibility due to lack of the appropriate internal capabilities.

Limitations of this Study

The present work represents the first account of a study of external health care delivery to patient prisoners in a Lebanese Correctional Facility. A literature review shows to date a record of only two publications performed in Lebanese Prisons[1, 2]. Thus, there is a lack of information about the background of the specific environment where we are conducting our research work.

The idea of a reform that aims to decrease the delay in external health care delivery to prisoners was initially met with resistance by several parties. This resistance was manifested first by a strong reluctance to listen to the idea or attempt to understand the purpose of the reform for almost a 10-month-period of time by the Administrative Affairs Section at the Internal Security Forces (ISF). A discussion about the aims of the reform was conducted in writing with the staff at the Administrative Affairs Section for this period of time.

Furthermore, the author has conducted at least 6 visits to the offices of the staff at the Administrative Affairs Section during which we have also discussed the reform. Their rationale was the need for every detail about the reform to ensure whether this reform is in accordance with or contradicts the Rules and Regulations that govern the health care delivery to prisoners not only at Roumieh but also at all correctional facilities in Lebanon.
The reform was met by resistance from the staff at the polyclinic who felt that the reform implementation will impose upon them a workload and additional responsibilities. The prison policemen felt that the reform implementation will take away from their power in the structure of duties at Roumieh.

Human resources at Roumieh are also one of the limitations of this study. Before the implementation of the reform, there were three policemen at Roumieh that were responsible for writing and following up the requests for fund allocation for prisoners in all the units (A, B, C, and D) at Roumieh. After the implementation of the reform, one policeman in the polyclinic remained in charge of requesting fund allocation (approval) for an external health care service. The observed increase in the number of external health care requests has become accompanied with an increased work load upon the single policeman (down from three) assigned to the polyclinic.

Policemen assigned as convoy staff to transport the patients' prisoners outside the Roumieh Correctional Facility to the external health care provider contributed to the limitation of the administrative reform. Any delay in the transportation convoy of the patient prisoner may translate into a delay in the realization of the purpose of the reform.

The lack of availability of hospital beds allocated to patient prisoners constitutes a limitation as well. The limited number of available hospital beds has led in some instances to a waiting list for non-urgent surgical cases. This situation has delayed the realization of the requested external surgical procedure and may consequently have contributed to the possible deterioration of the patient's health status.

The environment in which the study is conducted is the Roumieh Correctional Facility, the largest prison in Lebanon. Several factors related to security issues have an impact on the implementation of the reform such as provision for convoys to transport patient prisoners and hospital reluctance to accept patient prisoners unless security measures are taken inside and outside the hospital premises.

Recommendations for Policy Changes

Upon the study of the external health care delivery to prisoners in a Lebanese Correctional Facility prior to implementation of a new reform that aims to decrease the delays in external health care delivery, the author suggests the following future policy changes:

1. Develop a policy for requesting the visits of medical specialists to the Roumieh facility. These visits would better serve prisoners if not performed on a voluntary basis. In fact, previous volunteering experiences by physicians have proven to be not useful, because of a lack of a regularly scheduled visit time, a short consultation time with prisoners, and a very long waiting list by prisoners. This policy should consider paying medical specialists premiums per service to serve as an incentive for them to come regularly and on time and consult as much as possible with a good number of

sick prisoners. These factors would lead to a decrease in waiting time for health care delivery to prisoners. Furthermore, this policy would allow a better delivery of health care because it eliminates the burdens of patient prisoners postponing or missing medical consultations for lack of security convoys to transport them to external health care providers.

Once and if this policy would be applied, there will not be an extra expenditure imposed on the ISF administration, because the administrative paper work would be the same. The only difference is that the external health care provider would be coming to the Prison to service patient prisoners instead of prisoners being transported out of the facility to seek external medical care.

Develop a policy to send all patient prisoners to external health care providers as urgent cases and to request fund allocation for rendered medical services at a later time.

2. Explore and work upon the possibility to install a radiology machine inside the Polyclinic. If this action is realized, there will be no necessity to transport patient prisoners outside the prison facility to undergo radiology investigation, thereby, avoiding any time delay in health care delivery. Moreover, this possibility could be extended to the establishment of a phlebotomy team within the correctional facility to draw blood for laboratory investigations. Therefore, patients will be transported to health care providers only for further radiological investigations and/or hospitalization.

3. Develop an urgent plan to increase the current number of beds allocated for patient prisoners in hospitals. Hospitals are reluctant to admit patient prisoners because of security implications. A series of security measures have to be set once prisoners are in hospitals to prevent them from escaping, causing resistance from hospitals to admit such patients.

Develop a policy to significantly increase the number of convoys committed to transport patient prisoners outside the facility to decrease the waiting time once an external health care service is requested. This policy would also prevent the act of postponing or missing the external medical appointment, and most importantly the act of delaying the transportation of urgent cases outside the facility.

Currently mental health services are provided in a consultation form. Mental health professionals provide their counseling services on a voluntary basis, hence the need to establish a mental health unit that would provide counseling for inmates and treatment for mental health disabilities.

CHAPTER VI: Conclusion

The purpose of this study was to evaluate and assess an intervention that aims to decrease delays in external health care delivery to prisoners in Roumieh, a correctional facility in Lebanon. This reform that intended in its overall objective to improve health care delivery to prisoners has encountered obstacles and limitations, of which some were overcome while others are under work, and the remaining ones are probably not to be solved.

The multiplicity of layers that was present at the ISF to approve the reform, the reluctance of several parties within the ISF and the staff at the Polyclinic to listen to the idea of the reform or understand its purpose, and the scarcity of human resources at Roumieh have represented the major obstacle/limitation factors in the launching of the reform. Furthermore, the lack of availability of hospital beds and the reluctance of hospitals to admit patient prisoners, and the security measures related to the transport of patient prisoners constituted limitation factors as well.

The reform has overcome the reluctance of the ISF to its approval, and by the time the reform was implemented, the ISF was supportive of the efforts taken to implement it. Moreover, the lack of enthusiasm shown by the staff of the Polyclinic at the start of the reform has dissipated by the implementation phase, because it became a part of their daily work.

Currently, the security issues related to the transport of prisoners to external health facilities are under work, and the allocation of a larger number of beds for patient prisoners as well as the willingness of hospitals to admit them remain factors that need to be resolved.

Leadership skills were needed to overcome the obstacles that faced the approval of the reform. The objective of the reform was clearly defined, and its successful implementation required a cooperative effort between the Polyclinic administration and the Prison Administration. The polyclinic's director mediator style between the two parties was essential to the successful execution of this cooperative joint venture. The reform has reached its goal in delivering better health care delivery to prisoners, and the staff at the Polyclinic has now acquired a behavior in line with the values needed to deliver quality care to prisoners.

The reform has yielded a number of good indicators shown by the decrease in the waiting time required for external health care delivery and the increased number of served prison population in its implementation phase. The number of patient prisoners who benefited from radiology and laboratory tests has increased, and consequently the number of hospitalized patient prisoners was decreased. Therefore, the success of this reform could be applied to all prisons in Lebanon and extended to other sectors at the ISF specifically as well as other public administrations through the principle of decreasing the administratively unnecessary paper work.

The reform has had good long-term outcomes from financial, health, and human rights and national reputation perspectives. After the implementation of the reform, there was an 11% decrease in health care spending per case, an improvement in health care delivery manifested by the decrease in the number of hospitalization cases due to the appropriate follow up of patient prisoners. Moreover, the human right of prisoners for a timely health care delivery was achieved leading to a good national reputation for the prison system in Lebanon, once the reform is extended to all prisons.

Tables

Table 1. Characteristics of prisoners requesting external health care in Roumieh correctional facility
(November 2007- May 2009) (N= 943 prisoners)*

Variable	n	%
Units of Incarceration		
A (Sentenced)	403	31
B (Arrested)	418	32
C (Mixed)	288	22
D (Arrested)	197	15
Educational Attainment		
Illiterate	236	18
Elementery	260	20
Intermediate	521	40
Secondary	165	13
Above Secondary	124	10
Nationality		
Lebanese	1018	78
Palestinian	105	8
Other Arab Countries	160	12
Mean age in years (SD)	39.4 (12.2)	
Duration of Incarceration in months (SD)	44.8 (34.4)	

*Reform implementation started August 2008

Table 2. Distribution of external non urgent health care requests by type of investigation before and after the reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Distribution of external non urgent health care requests by investigation type (n, %)				
	Before (Nov 2007-Jul 2008)	After (Sep 2008-May 2009)	Total	p-value
Hospitalization	99 (21.4)	83 (9.8)	182 (14.0)	<0.01
Laboratory	247 (53.4)	506 (59.9)	753 (58.0)	0.02
Radiology	116 (25.1)	255 (30.2)	371 (28.0)	0.05
Total	462 (100.0)	844 (100.0)	1306 (100.0)	-

*Reform implementation started August 2008

Table 3. Waiting Time between problem report and results for Radiology Investigations before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Radiology			
Intervals in days	Before n=116	After n=255	
	Mean (SD)	Mean (SD)	p-value
Problem Report to Administrative Request	3.2 (1.6)	4.5 (4.9)	<0.01
Administrative Request to Approval	6.9 (2.8)	4.7 (1.7)	<0.01
Total from Initiation of requests to Approval	10.1 (3.1)	9.1 (5.4)	0.039
Realization to Result**	4.8 (6.7)	2.1 (3.3)	<0.01

* Reform implementation started August 2008

** Interval between the radiology realization and the result reporting

Table 4. Waiting Time between problem report and results for Laboratory Investigations before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Laboratory			
Intervals in days	Before n=247	After n=506	
	Mean (SD)	Mean (SD)	p-value
Problem Report to Administrative Request	3.2 (1.8)	4.4 (5.6)	<0.01
Administrative Request to Approval	7.1 (2.8)	4.5 (2.1)	<0.01
Total from Initiation of Requests to Approval	10.4 (2.9)	8.9 (6.2)	<0.01
Realization to Result**	1.4 (2.1)	1.8 (2.7)	0.008

* Reform implementation started August 2008

** Interval between the laboratory realization and the result reporting

Table 5. Waiting Time between problem report and approval for Hospitalization before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Hospitalization			
Intervals in days	Before n=99	After n=83	
	Mean (SD)	Mean (SD)	p-value
Problem Report to Administrative Request	3.1 (1.8)	3.8 (3.5)	0.081
Administrative Request to Approval	6.8 (2.3)	4.5 (1.8)	<0.01
Total from Initiation of requests to Approval	9.9 (2.5)	8.2 (4.3)	0.004
Approval to Admission**	37.1 (36.4)	29.4 (25.8)	0.199

* Reform implementation started August 2008

** Delay time for cases which remained not urgent (58 before, 54 after) between approval and actual opening of a bed space on the hospitals waiting list.

Table 6. Waiting Time between a problem report and admission/result by Age before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Age (Years)					
	Duration in Days				
Variable	Before		After		
	n	Mean(SD)	n	Mean(SD)	p-value
Hospitalization					
[20- 40]	42	24.8 (22.7)	41	28.4 (28.6)	0.52
[> 40]	57	32.0 (41.9)	42	23.2 (28.2)	0.24
Laboratory					
[20- 40]	138	4.2 (5.8)	285	8.3 (6.3)	<0.01
[> 40]	108	3.2 (2.8)	218	8.2 (6.1)	<0.01
Radiology					
[20- 40]	71	30.5 (48.0)	168	20.5 (20.4)	0.02
[> 40]	45	24.1 (18.1)	65	21.8 (18.7)	0.51

*Reform implementation started August 2008

Table 7. Waiting Time between a problem report and admission/result by Duration of Incarceration before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Duration of incarceration					
	Duration in Days				
	Before		After		
Variable	n	Mean(SD)	n	Mean(SD)	p-value
Hospitalization					
[< 4 years]	47	29.8 (37.7)	60	27.6 (31.2)	0.74
[≥ 4 years]	52	28.2 (33.0)	23	21.2 (19.1)	0.35
Laboratory					
[< 4 years]	161	3.8 (5.3)	366	8.4 (6.8)	<0.01
[≥ 4 years]	85	3.7 (3.4)	138	7.8 (4.3)	<0.01
Radiology					
[< 4 years]	80	29.0 (45.5)	184	19.8 (19.8)	0.02
[≥ 4 years]	36	26.0 (19.3)	49	24.9 (20.2)	0.80

*Reform implementation started August 2008

Table 8. Waiting Time between a problem report and admission/result by Education Level before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Educational Attainment					
Duration In Days					
Variable	Before		After		
	n	Mean(SD)	n	Mean(SD)	p-value
Hospitalization					
Elementary or Less	44	24.7 (38.4)	31	25.4 (23.7)	0.93
Intermediate	34	30.5 (31.9)	34	31.2 (35.6)	0.93
Secondary or above	21	35.2 (33.2)	18	16.2 (16.7)	0.03
Laboratory					
Elementary or Less	83	3.4 (2.9)	176	16.2 (16.7)	<0.01
Intermediate	102	3.7 (6.0)	206	7.6 (5.0)	<0.01
Secondary or above	61	4.3 (4.3)	122	9.0 (6.0)	<0.01
Radiology					
Elementary or Less	40	23.7 (22.0)	108	21.1 (22.1)	0.52
Intermediate	52	31.0 (53.7)	88	19.5 (18.7)	0.07
Secondary or above	24	28.9 (20.8)	37	23.6 (16.1)	0.28

*Reform implementation started August 2008

Table 9 Waiting Time between a problem report and admission/result by Nationality before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Nationality					
Duration in Days					
	Before		After		
Variable	n	Mean(SD)	n	Mean(SD)	p-value
Hospitalization					
Lebanese	75	29.12 (31.43)	73	27.42 (29.09)	< 0.01
Non Lebanese	24	28.12 (45.52)	10	13.8 (19.62)	< 0.01
Laboratory					
Lebanese	184	3.4 (297)	395	8.27 (6.44)	< 0.01
Non Lebanese	63	4.79 (7.86)	111	7.68 (5.60)	< 0.01
Radiology					
Lebanese	84	22.10 (16.67)	193	15.34 (41.17)	< 0.01
Non Lebanese	32	32 (23.16)	62	18.45 (42.36)	< 0.01

*Reform implementation started August 2008

Table 10. Waiting Time Between a Medical Visit Leading to an External Health Care Request (Laboratory, Radiology, or Hospitalization) and Realization of the request by ICD 10 Class before and after reform implementation in Roumieh correctional facility (November 2007- May 2009)*

Duration in Days					
ICD10	Before		After		
	n	Mean (SD)	n	Mean (SD)	p-value
Signs & Symptoms & Abnormal clinical & laboratory findings, not elsewhere classified	89	3.3 (6.1)	231	7.1 (7.9)	0.000
Injury, poisoning & other consequences of external causes	51	19.7 (19)	134	18.2 (20.4)	0.666
Diseases of the genitourinary system	48	4.6 (7.6)	107	7.3 (7.6)	0.040
Diseases of the musculoskeletal system and connective tissues	41	12.7 (15.7)	61	19.1 (23.8)	0.133
Diseases of the circulatory system	39	5.1 (12.1)	34	9.5 (18.1)	0.207
Diseases of the respiratory system	24	29.9 (78.8)	67	14.8 (15.1)	0.135
Endocrine, nutritional and metabolic Diseases	21	2.4 (2.2)	52	4.9 (3.7)	0.005
Other Systems	42	5.5 (8.8)	57	11.2 (17.9)	0.065
Total	355		743		

*Reform implementation started August 2008

Table 11. Requests for external care by facility before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Units of Incarceration			
Variable	Before	After	p-value
A (Sentenced) (%)			
Hospitalization	49 (36.0)	28 (10.5)	<0.01
Laboratory	51 (37.5)	148 (55.4)	<0.01
Radiology	36 (26.5)	91 (34.1)	0.11
Total	136 (100.0)	267 (100.0)	-
B (Arrested) (%)			
Hospitalization	26 (17.0)	28 (10.6)	0.05
Laboratory	89 (58.2)	170 (64.1)	0.22
Radiology	38 (24.8)	67 (25.3)	0.91
Total	153 (100.0)	265 (100.0)	-
C (Juvenile and Arrested) (%)			
Hospitalization	15 (15.5)	18 (9.5)	0.12
Laboratory	61 (62.9)	116 (60.7)	0.72
Radiology	21 (21.6)	57 (29.8)	0.13
Total	97 (100.0)	191 (100.0)	-
D (Arrested) (%)			
Hospitalization	9 (11.9)	9 (7.4)	0.44
Laboratory	46 (60.5)	72 (59.5)	0.38
Radiology	21 (27.6)	40 (33.1)	0.17
Total	76 (100.0)	121 (100.0)	-
Hospitalization	99 (21.4)	83 (9.8)	<0.01
Laboratory	247 (53.4)	506 (59.9)	0.02
Radiology	116 (25.1)	255 (30.2)	0.05
Total	462 (100.0)	844 (100.0)	-

*Reform implementation started August 2008

Table 12. Requests for external care by educational attainment before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Educational Attainment			
Variable	Before	After	p-value
Illiterate (%)			
Hospitalization	20 (26.3)	13 (8.1)	<0.01
Laboratory	39 (51.3)	86 (53.8)	0.72
Radiology	17 (22.4)	61(38.1)	0.01
Total	76 (100.0)	160 (100.0)	-
Elementary (%)			
Hospitalization	24 (26.4)	18 (10.7)	<0.01
Laboratory	44 (48.3)	91 (53.8)	0.39
Radiology	23 (25.3)	60 (35.5)	0.09
Total	91 (100.0)	169 (100.0)	-
Intermediate (%)			
Hospitalization	34 (18.0)	34 (10.3)	0.01
Laboratory	103 (54.5)	206 (62.0)	0.09
Radiology	52 (27.5)	92 (27.7)	0.96
Total	189 (100.0)	332 (100.0)	-
Secondary (%)			
Hospitalization	16 (26.7)	11 (10.5)	<0.01
Laboratory	35 (58.3)	71 (67.6)	0.23
Radiology	9 (15.0)	23 (21.9)	0.28
Total	60 (100.0)	105 (100.0)	-
Above Secondary (%)			
Hospitalization	5 (10.9)	7 (9.0)	0.73
Laboratory	26 (56.5)	52 (66.7)	0.25
Radiology	15 (32.6)	19 (24.3)	0.31
Total	46 (100.0)	78 (100.0)	-
Hospitalization	99 (21.4)	83 (9.8)	<0.01
Laboratory	247 (53.4)	506 (59.9)	0.02
Radiology	116 (25.1)	255 (30.2)	0.05
Total	462 (100.0)	844 (100.0)	-

*Reform implementation started August 2008

Table 13. Requests by nationality before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Nationality			
Variable	Before	After	p-value
Lebanese (%)			
Hospitalization	77 (21.9)	74 (11.1)	<0.01
Laboratory	188 (53.4)	398 (59.8)	0.05
Radiology	87 (24.7)	194 (29.1)	0.13
Total	352 (100.0)	666 (100.0)	-
Palestinian (%)			
Hospitalization	5 (15.6)	4 (5.5)	0.87
Laboratory	18 (56.3)	46 (63.0)	0.51
Radiology	9 (28.1)	23 (31.5)	0.72
Total	32 (100.0)	73 (100.0)	-
Other Arab Nationalities (%)			
Hospitalization	16 (24.2)	5 (5.3)	<0.01
Laboratory	31 (47.0)	55 (58.5)	0.14
Radiology	19 (28.8)	34 (36.2)	0.32
Total	66 (100.0)	94 (100.0)	-
Hospitalization	99 (21.4)	83 (9.8)	<0.01
Laboratory	247 (53.4)	506 (59.9)	0.02
Radiology	116 (25.1)	255 (30.2)	0.05
Total	462 (100.0)	844 (100.0)	-

*Reform implementation started August 2008

Table 14. Requests by investigation type by Age before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Age			
Variable	Before Mean (SD)	After Mean (SD)	p-value
Hospitalization	43.9 (12.7)	44.2 (14.6)	0.86
Laboratory	39.9 (12.2)	39.6 (12.1)	0.82
Radiology	37.6 (10.6)	36.2 (11.1)	0.26

*Reform implementation started August 2008

Table 15. Requests by investigation type by duration of Incarceration before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Duration of Incarceration (Months)			
Variable	Before Mean (SD)	After Mean (SD)	p-value
Hospitalization	62.6 (43.5)	40.2 (32.2)	<0.01
Laboratory	49.6 (30.9)	43.2 (36.4)	0.02
Radiology	47.0 (31.9)	36.7 (27.9)	<0.01

*Reform implementation started August 2008

Table 16. Total Spending Costs on HealthCare Requests (Urgent and Non Urgent) before and after reform implementation in Roumieh correctional facility
(November 2007- May 2009)*

Spending Costs on HealthCare Bills			
	Before	After	Total
Urgent	680	481	1161
Non Urgent	462	844	1306
Total	1142	1325	2467
Total Cost (LBP)	723,353,927	748,409,110	1,471,763,037
Total Cost (USD)	482,236	498,939	981,175

*Reform implementation started August 2008; Month of August is excluded.

Figures

Figure 1. Pre-Implementation Workflow

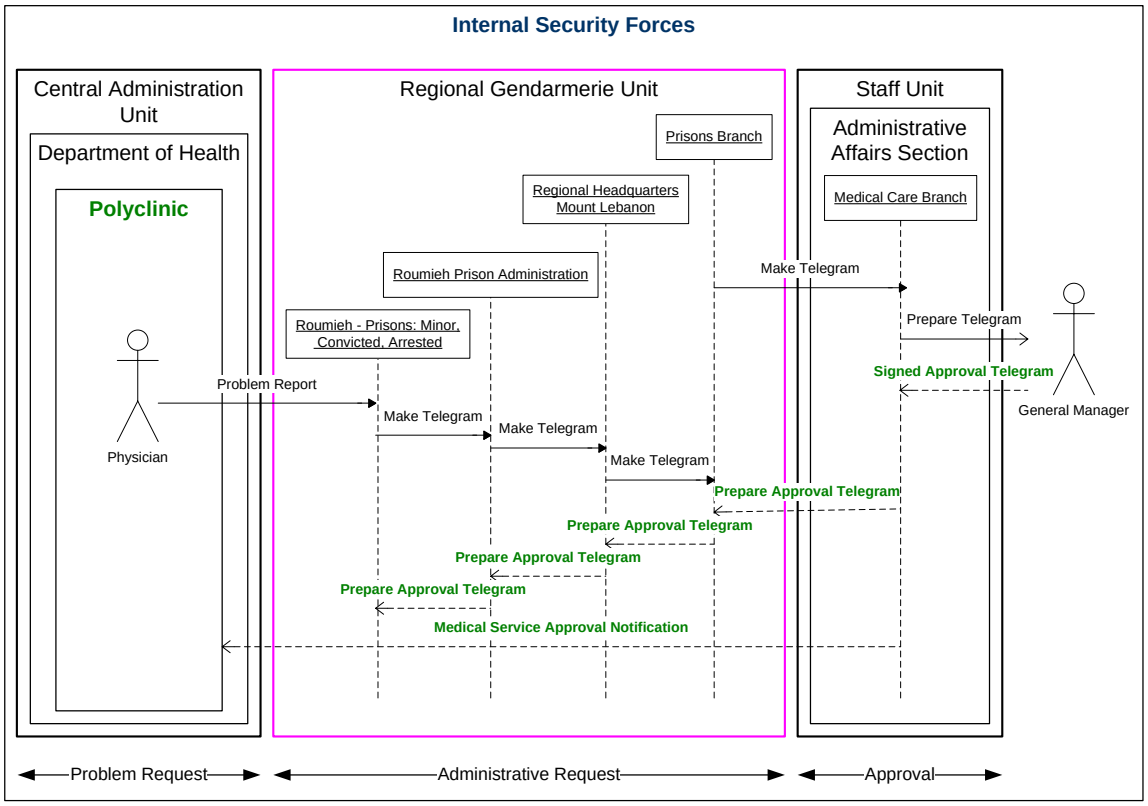


Figure 2. Concerned Units and Departments in the Intervention

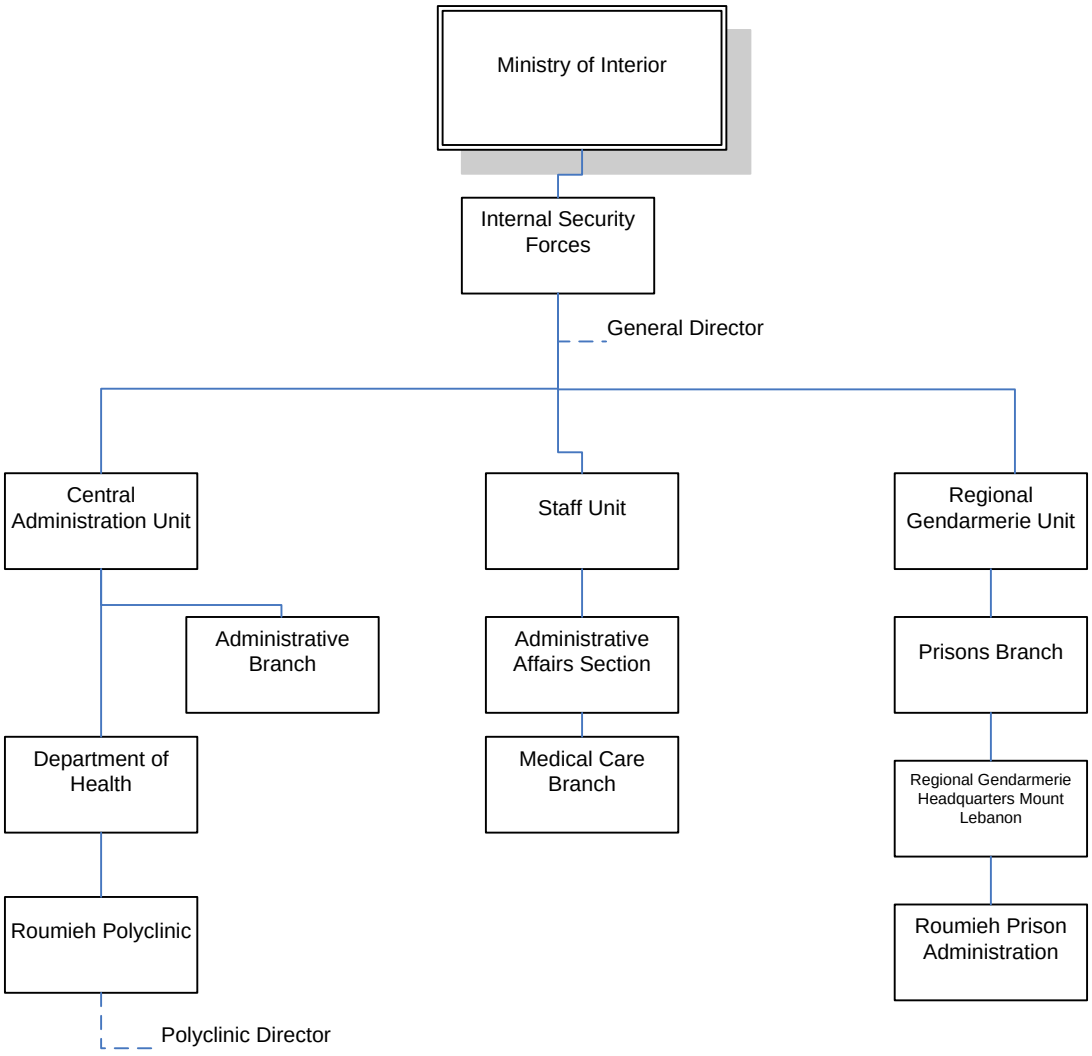
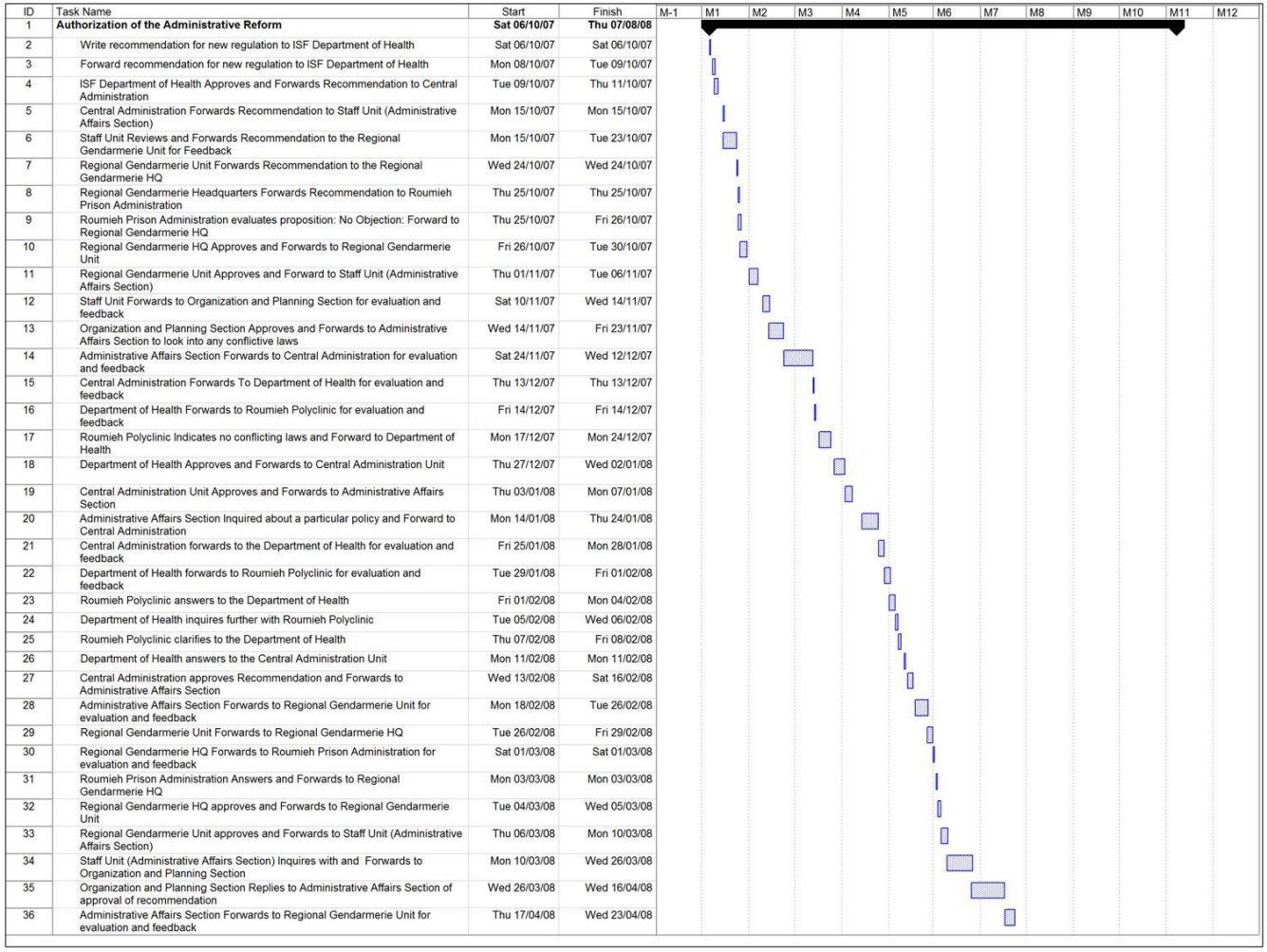


Figure 3. Gantt Chart for Authorization of the Administrative Reform



ID	Task Name	Start	Finish
1	**Authorization of the Administrative Reform**	**Sat 06/10/07**	**Thu 07/08/08**
2	Write recommendation for new regulation to ISF Department of Health	Sat 06/10/07	Sat 06/10/07
3	Forward recommendation for new regulation to ISF Department of Health	Mon 08/10/07	Tue 09/10/07
4	ISF Department of Health Approves and Forwards Recommendation to Central Administration	Tue 09/10/07	Thu 11/10/07
5	Central Administration Forwards Recommendation to Staff Unit (Administrative Affairs Section)	Mon 15/10/07	Mon 15/10/07
6	Staff Unit Reviews and Forwards Recommendation to the Regional Gendarmerie Unit for Feedback	Mon 15/10/07	Tue 23/10/07
7	Regional Gendarmerie Unit Forwards Recommendation to the Regional Gendarmerie HQ	Wed 24/10/07	Wed 24/10/07
8	Regional Gendarmerie Headquarters Forwards Recommendation to Roumieh Prison Administration	Thu 25/10/07	Thu 25/10/07
9	Roumieh Prison Administration evaluates proposition: No Objection: Forward to Regional Gendarmerie HQ	Thu 25/10/07	Fri 26/10/07
10	Regional Gendarmerie HQ Approves and Forwards to Regional Gendarmerie Unit	Fri 26/10/07	Tue 30/10/07
11	Regional Gendarmerie Unit Approves and Forward to Staff Unit (Administrative Affairs Section)	Thu 01/11/07	Tue 06/11/07
12	Staff Unit Forwards to Organization and Planning Section for evaluation and feedback	Sat 10/11/07	Wed 14/11/07
13	Organization and Planning Section Approves and Forwards to Administrative Affairs Section to look into any conflictive laws	Wed 14/11/07	Fri 23/11/07
14	Administrative Affairs Section Forwards to Central Administration for evaluation and feedback	Sat 24/11/07	Wed 12/12/07
15	Central Administration Forwards To Department of Health for evaluation and feedback	Thu 13/12/07	Thu 13/12/07
16	Department of Health Forwards to Roumieh Polyclinic for evaluation and feedback	Fri 14/12/07	Fri 14/12/07
17	Roumieh Polyclinic Indicates no conflicting laws and Forward to Department of Health	Mon 17/12/07	Mon 24/12/07
18	Department of Health Approves and Forwards to Central Administration Unit	Thu 27/12/07	Wed 02/01/08
19	Central Administration Unit Approves and Forwards to Administrative Affairs Section	Thu 03/01/08	Mon 07/01/08
20	Administrative Affairs Section Inquired about a particular policy and Forward to Central Administration	Mon 14/01/08	Thu 24/01/08
21	Central Administration forwards to the Department of Health for evaluation and feedback	Fri 25/01/08	Mon 28/01/08
22	Department of Health forwards to Roumieh Polyclinic for evaluation and feedback	Tue 29/01/08	Fri 01/02/08
23	Roumieh Polyclinic answers to the Department of Health	Fri 01/02/08	Mon 04/02/08
24	Department of Health inquires further with Roumieh Polyclinic	Tue 05/02/08	Wed 06/02/08
25	Roumieh Polyclinic clarifies to the Department of Health	Thu 07/02/08	Fri 08/02/08
26	Department of Health answers to the Central Administration Unit	Mon 11/02/08	Mon 11/02/08
27	Central Administration approves Recommendation and Forwards to Administrative Affairs Section	Wed 13/02/08	Sat 16/02/08
28	Administrative Affairs Section Forwards to Regional Gendarmerie Unit for evaluation and feedback	Mon 18/02/08	Tue 26/02/08
29	Regional Gendarmerie Unit Forwards to Regional Gendarmerie HQ	Tue 26/02/08	Fri 29/02/08
30	Regional Gendarmerie HQ Forwards to Roumieh Prison Administration for evaluation and feedback	Sat 01/03/08	Sat 01/03/08
31	Roumieh Prison Administration Answers and Forwards to Regional Gendarmerie HQ	Mon 03/03/08	Mon 03/03/08
32	Regional Gendarmerie HQ approves and Forwards to Regional Gendarmerie Unit	Tue 04/03/08	Wed 05/03/08
33	Regional Gendarmerie Unit approves and Forwards to Staff Unit (Administrative Affairs Section)	Thu 06/03/08	Mon 10/03/08
34	Staff Unit (Administrative Affairs Section) Inquires with and Forwards to Organization and Planning Section	Mon 10/03/08	Wed 26/03/08
35	Organization and Planning Section Replies to Administrative Affairs Section of approval of recommendation	Wed 26/03/08	Wed 16/04/08
36	Administrative Affairs Section Forwards to Regional Gendarmerie Unit for evaluation and feedback	Thu 17/04/08	Wed 23/04/08

ID	Task Name	Start	Finish
37	Regional Gendarmerie Unit approves and Forwards to Staff Unit (Administrative Affairs Section)	Wed 23/04/08	Wed 30/04/08
38	Administrative Affairs Section forwards to Judiciary Police for evaluation and feedback	Fri 02/05/08	Wed 14/05/08
39	Judiciary Police approves and forwards to Staff Unit (Administrative Affairs Section)	Sat 17/05/08	Fri 23/05/08
40	Administrative Affairs Section Forwards to Beirut Police for evaluation and feedback	Wed 28/05/08	Sun 01/06/08
41	Beirut Police Forwards to Beirut Regional Administration I for evaluation and feedback	Wed 04/06/08	Fri 13/06/08
42	Beirut Regional Administration I Forwards to Women's Beirut Prison for evaluation and feedback	Sat 14/06/08	Mon 16/06/08
43	Women's Beirut Prison Approves and Forwards to Beirut Regional Administration I	Tue 17/06/08	Wed 18/06/08
44	Beirut Regional Administration I Approves and Forwards to Beirut Police	Wed 18/06/08	Thu 19/06/08
45	Beirut Police Approves and Forwards to Staff Unit (Administrative Affairs Section)	Thu 19/06/08	Thu 26/06/08
46	Administrative Affairs Section receives and processes recommendation	Fri 04/07/08	Wed 06/08/08
47	General Director Approves Recommendation for New Regulation	Thu 07/08/08	Thu 07/08/08
48	**Administrative Reform Approved**	**Thu 07/08/08**	**Thu 07/08/08**

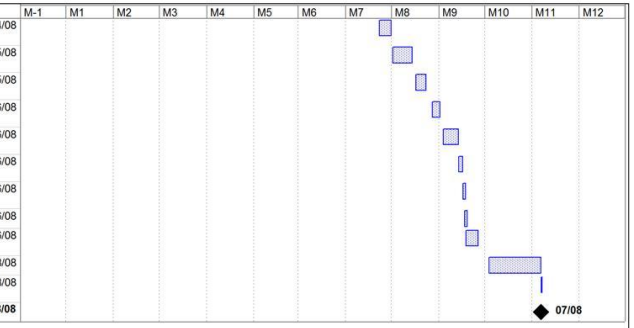


Figure 4. Post Implementation Workflow

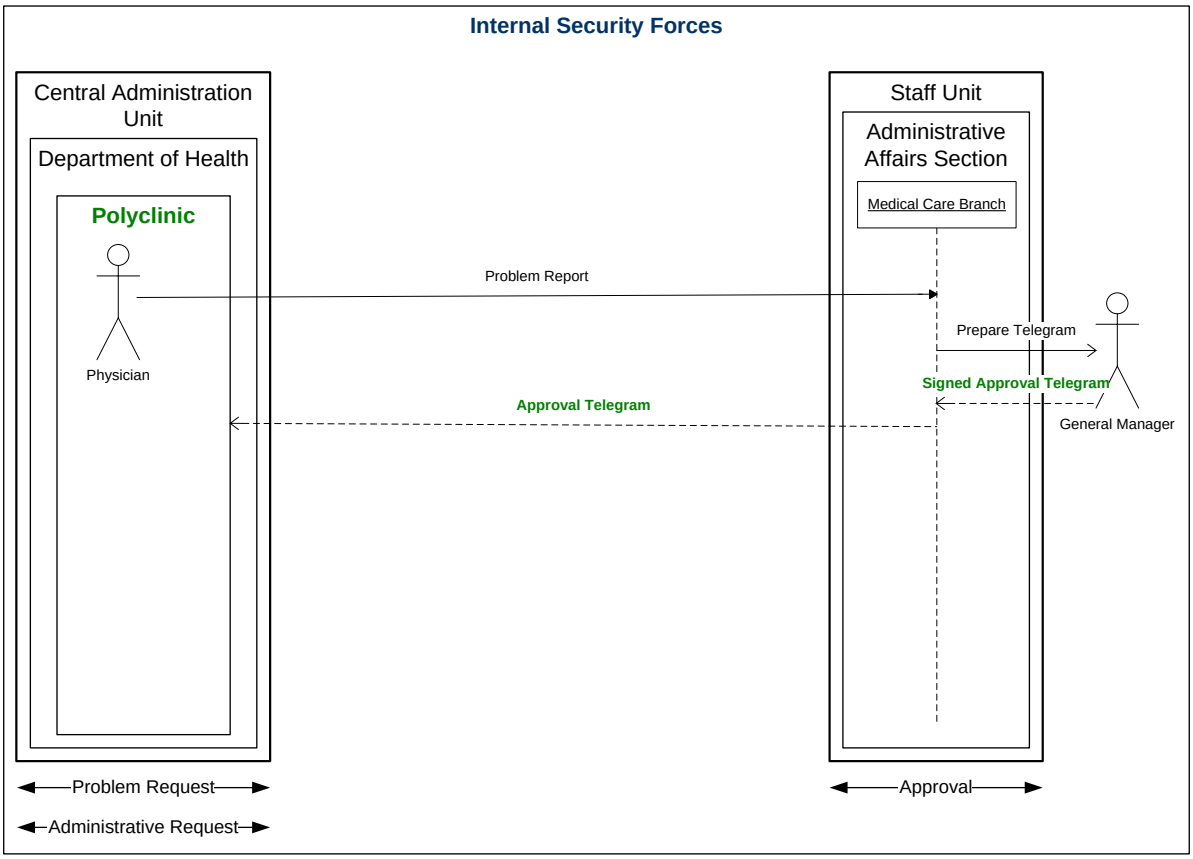


Figure 5. Data Timeline

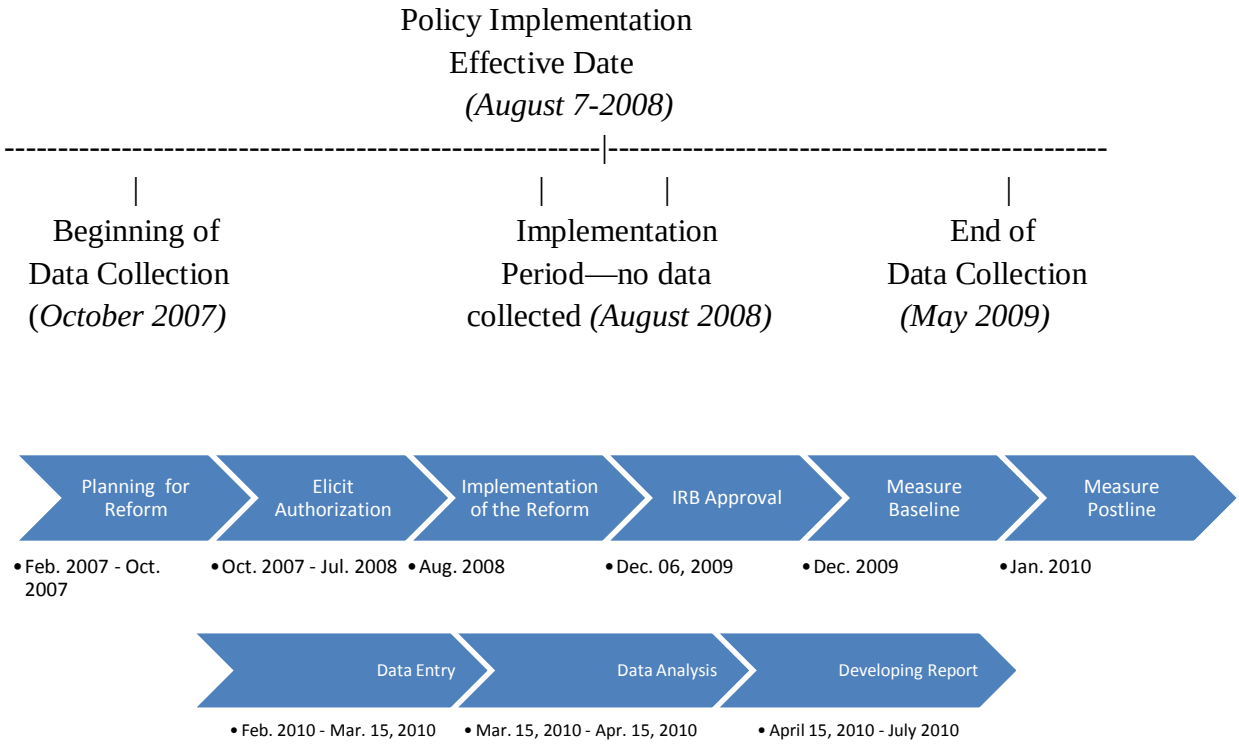


Figure 6. External Health Care Requests Distribution Before and After the Reform Implementation

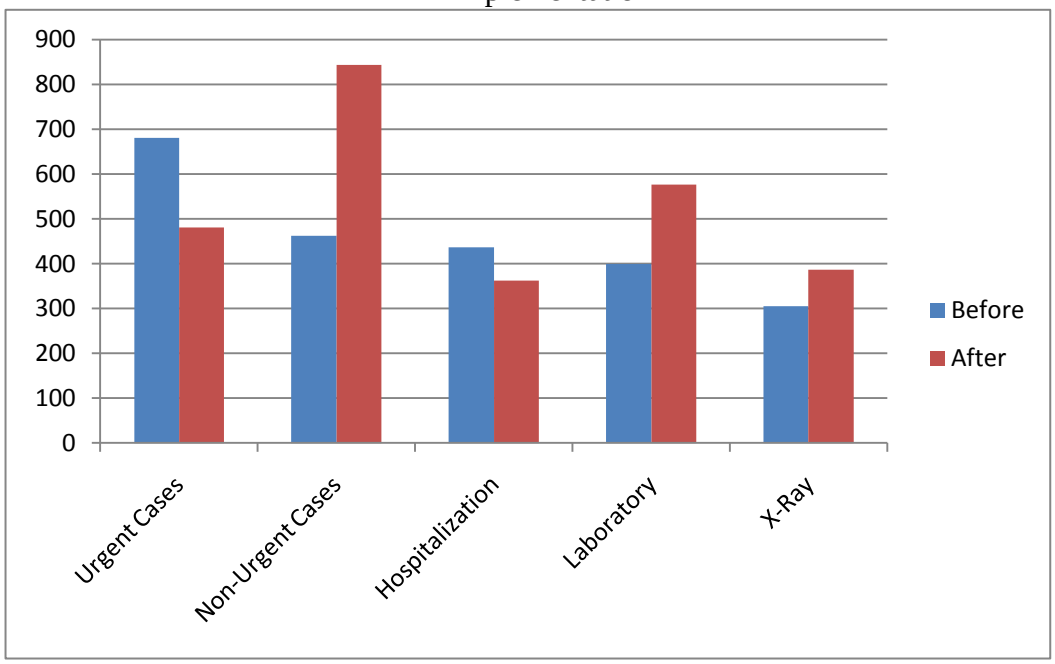


Figure 7. Mean Waiting Time Between Medical Request and Result for Radiology Investigations Before and After the Reform Implementation

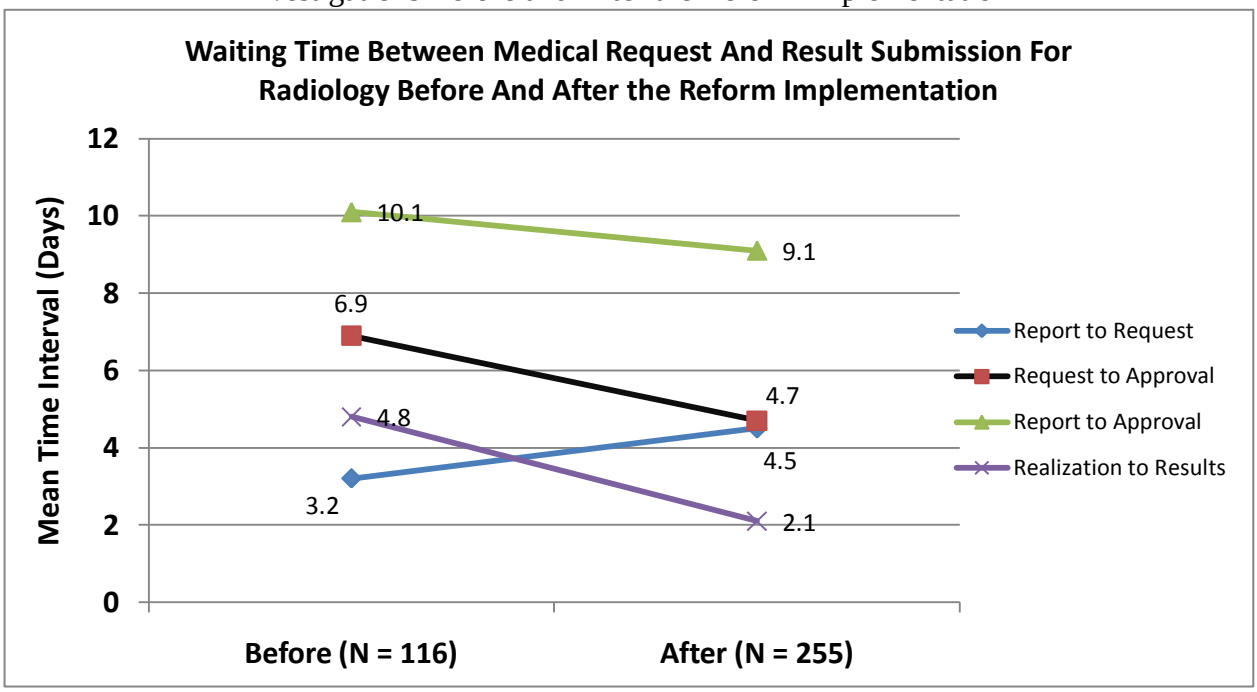


Figure 8. Mean Waiting Time Between Medical Request and Result for Laboratory Investigations Before and After the Reform Implementation

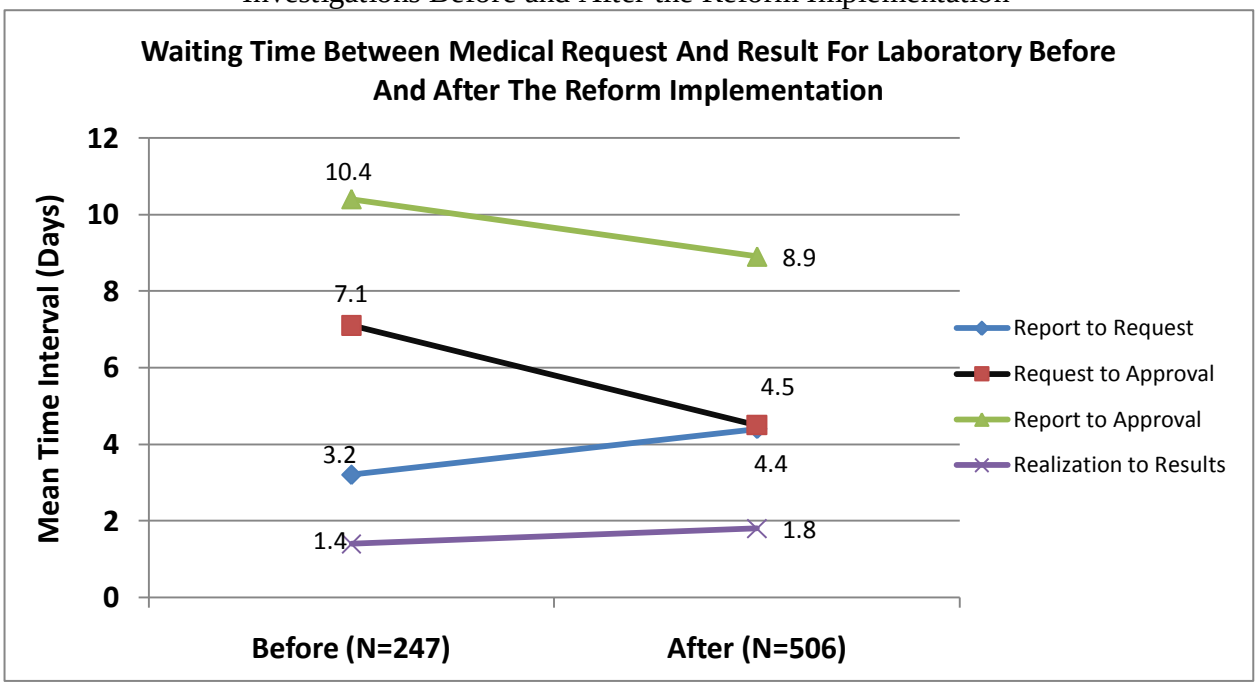


Figure 9. Mean Waiting Time between Certain Hospitalization Time Points Before and After the Reform Implementation

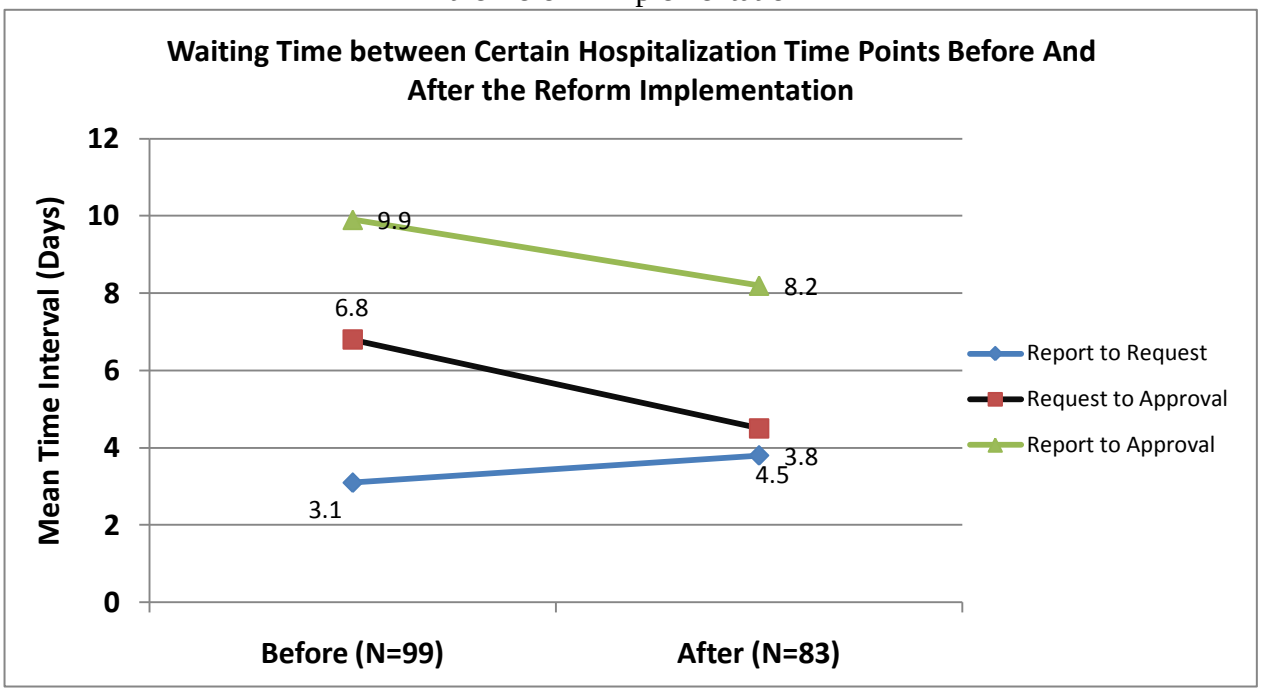


Figure 10. Mean Waiting Time Between a Medical Visit leading to a Request for Hospitalization and Admission for Patient Age Before and After the Reform Implementation

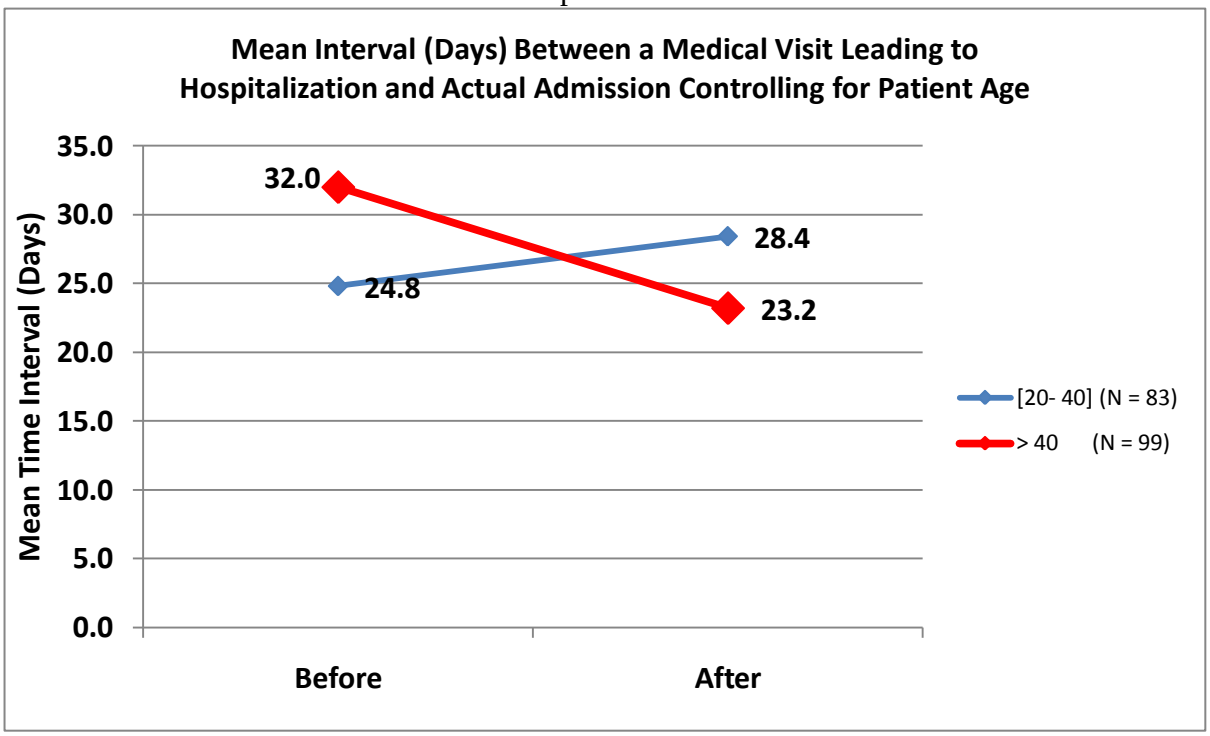


Figure 11. Waiting Time Between a Medical Visit leading to a Request for Radiology Investigation and Results Reporting for Patient Age Before and After the Reform Implementation

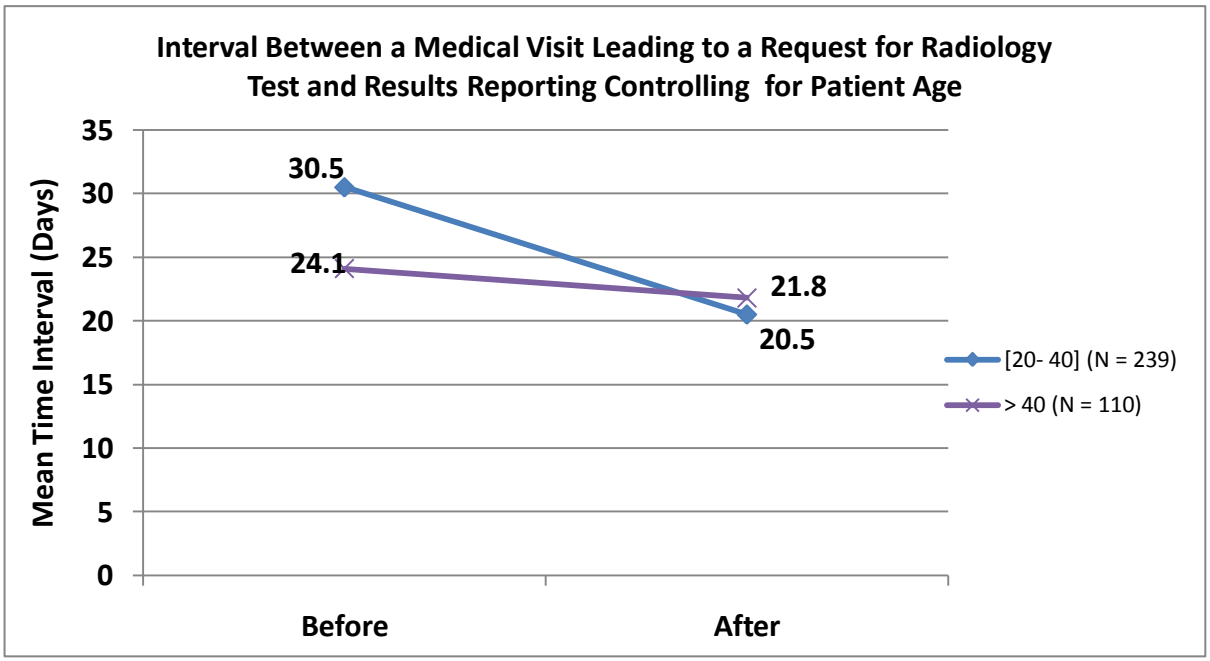


Figure 12. Mean Waiting Time Between a Medical Visit leading to a Request for Laboratory Investigation and Results Reporting for Patient Age Before and After the Reform Implementation

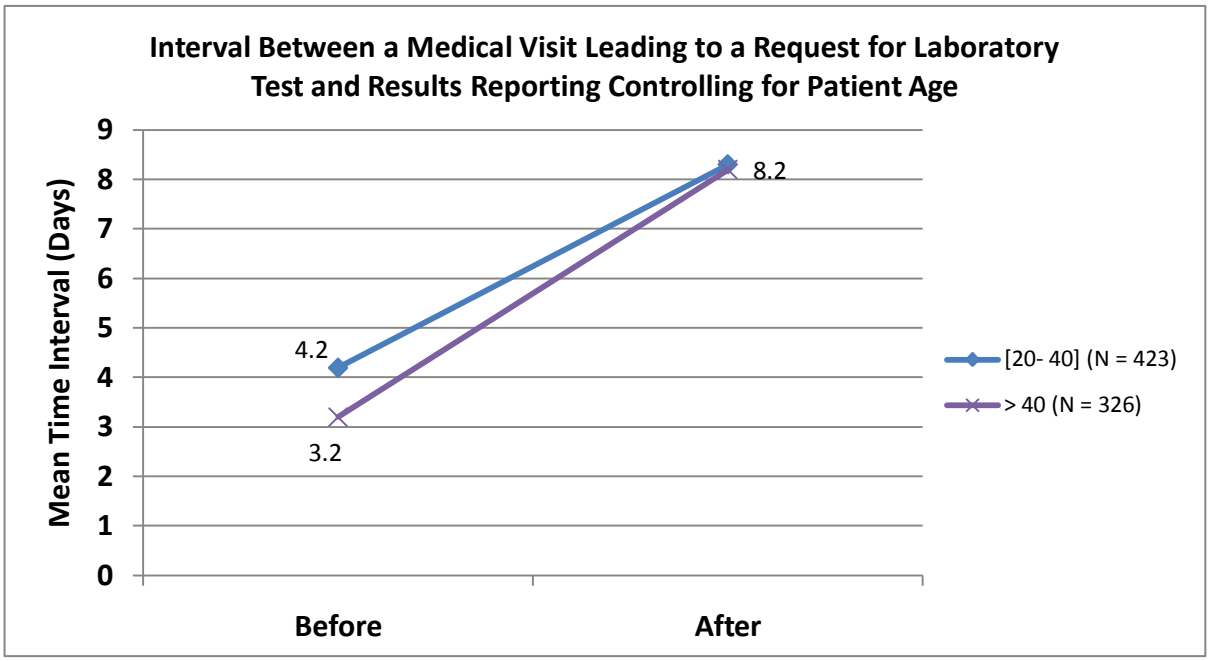


Figure 13. Mean Waiting Time Between a Medical Visit leading to a Request for Hospitalization and Admission for Duration of Incarceration Before and After the Reform Implementation

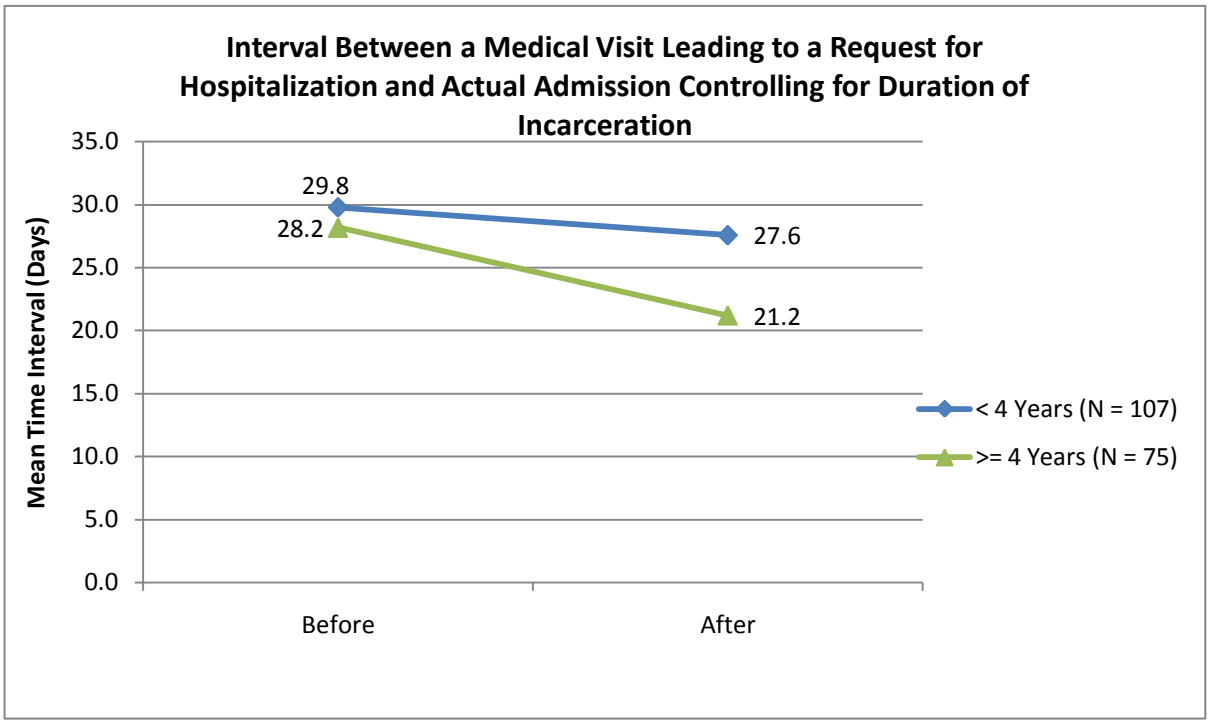


Figure 14. Mean Waiting Time between a Medical Visit Leading to a Request for Radiology Investigation and Results Reporting for Duration of Incarceration Before and After the Reform Implementation

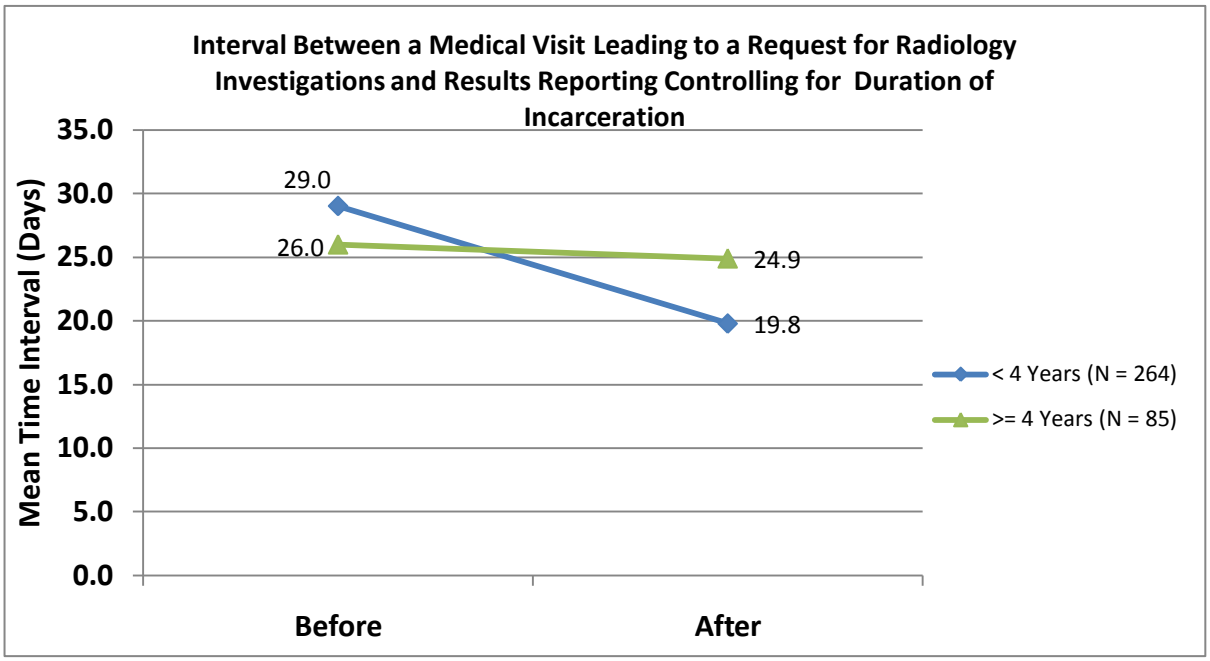


Figure 15. Mean Waiting Time between a Medical Visit Leading to a Request for Laboratory Investigation and Results Reporting for Duration of Incarceration Before and After the Reform Implementation

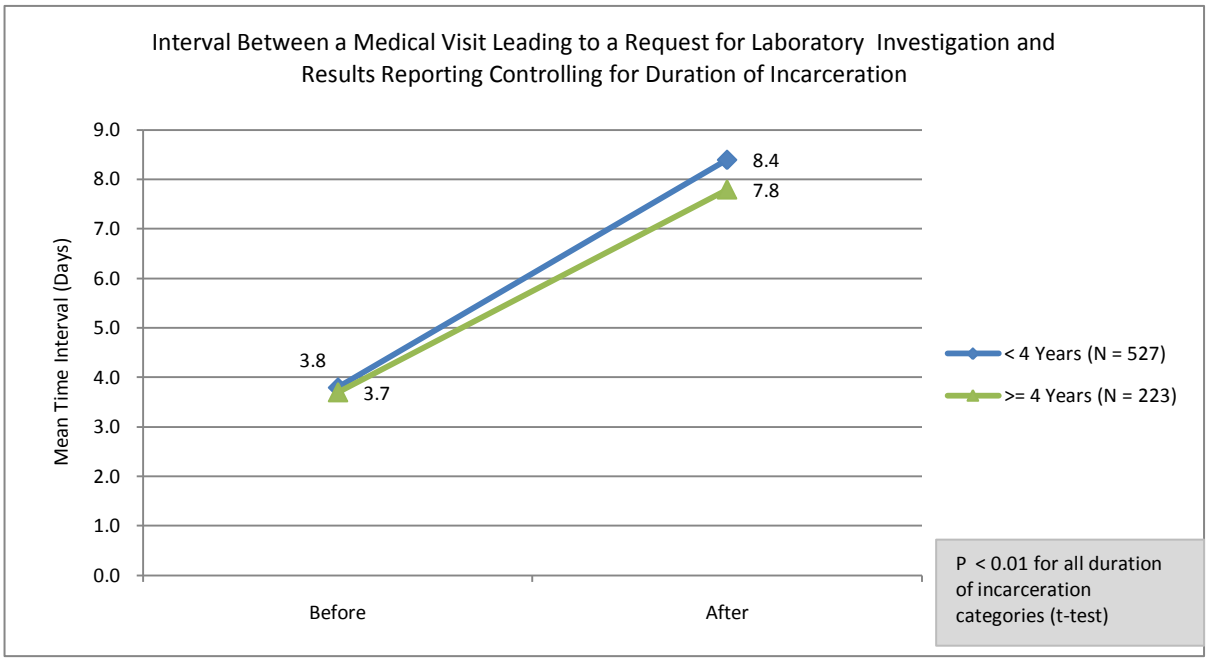


Figure 16. Mean Waiting Time between a Medical Visit Leading to a Request for Hospitalization and Actual Admission for Educational Attainment Before and After the Reform Implementation

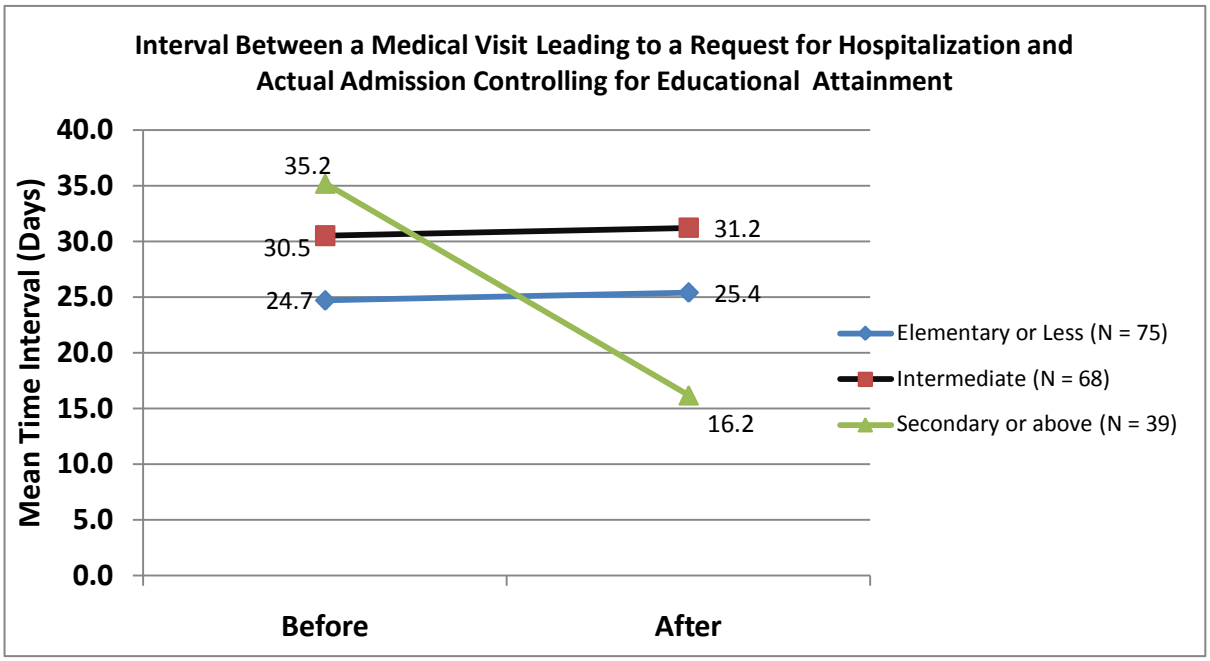


Figure 17. Mean Waiting Time Between a Medical Visit Leading to a Request for Radiology Investigation and Result Reporting for Education Attainment Before and After the Reform Implementation

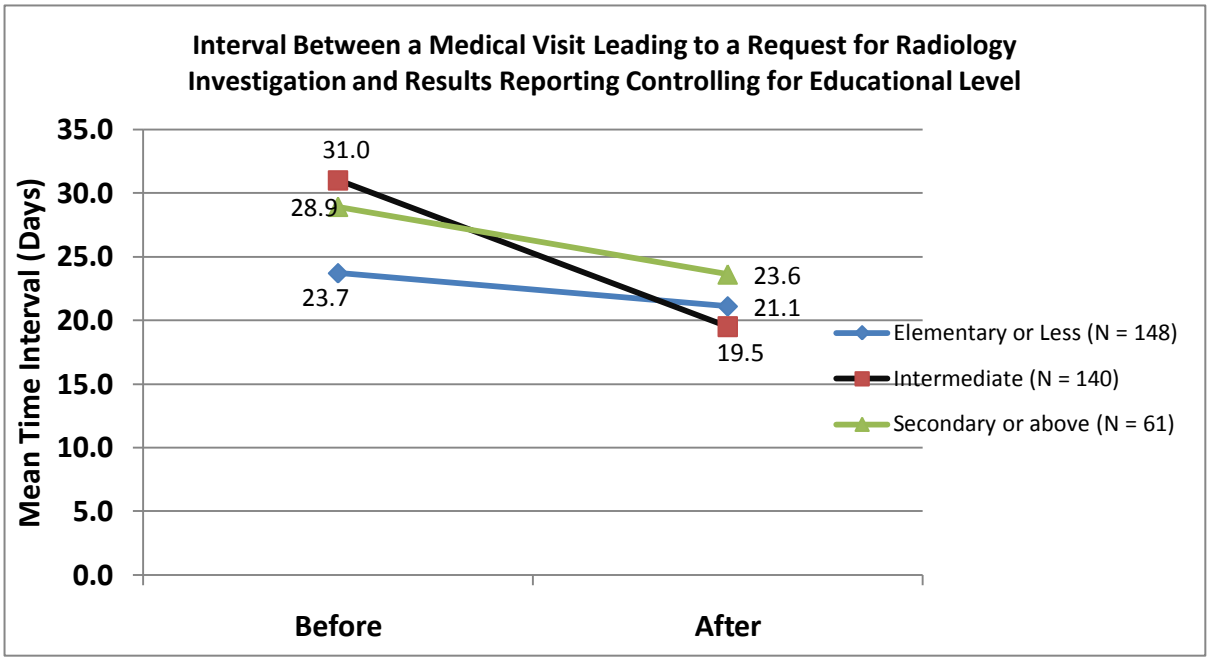


Figure 18. Mean Waiting Time between a Medical Visit leading to a Request for Laboratory Investigation and Result Reporting for Educational Attainment Before and After the Reform Implementation

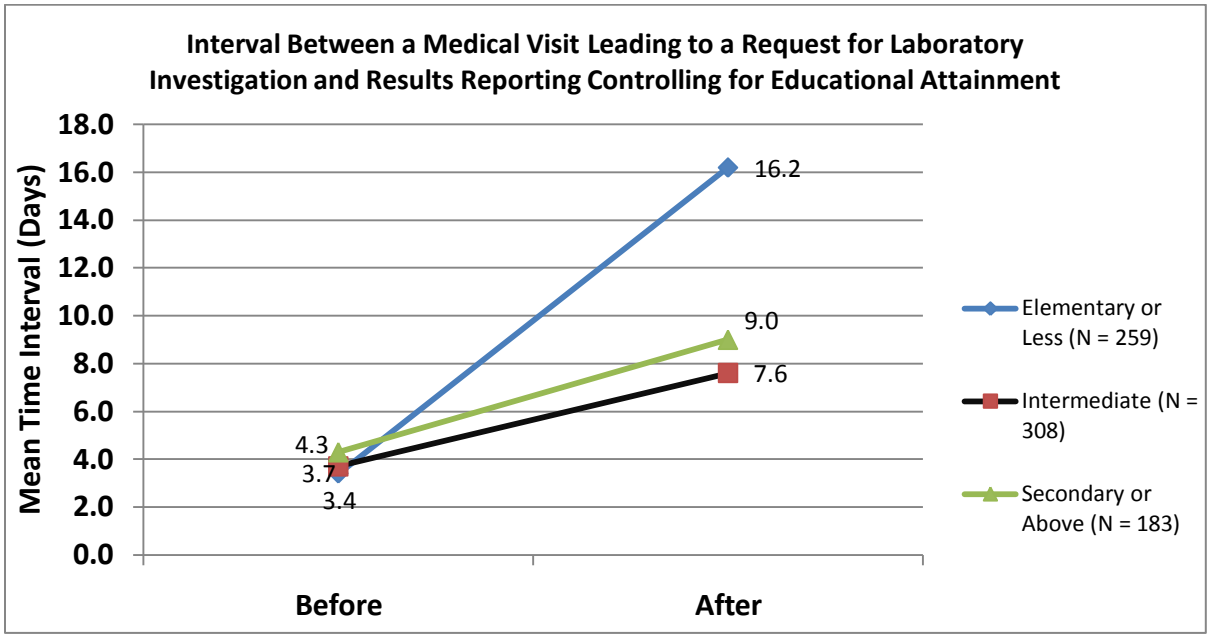


Figure 19 Mean Waiting Time between a Medical Visit Leading to a Request for Hospitalization and Actual Admission for Nationality Before and After the Reform Implementation

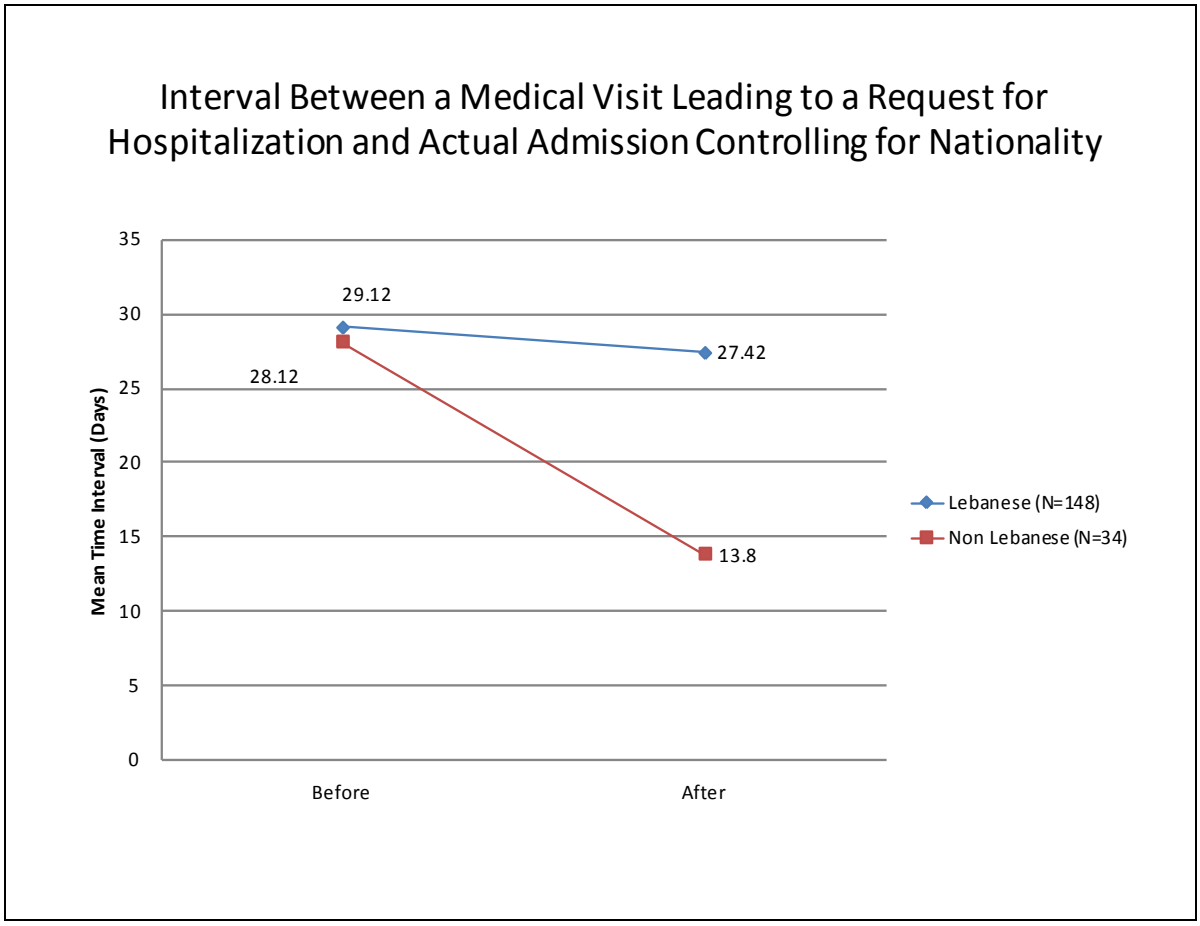


Figure 20 Mean Waiting Time between a Medical Visit Leading to a Request for Radiology Investigation and Result Reporting for Nationality Before and After the Reform Implementation

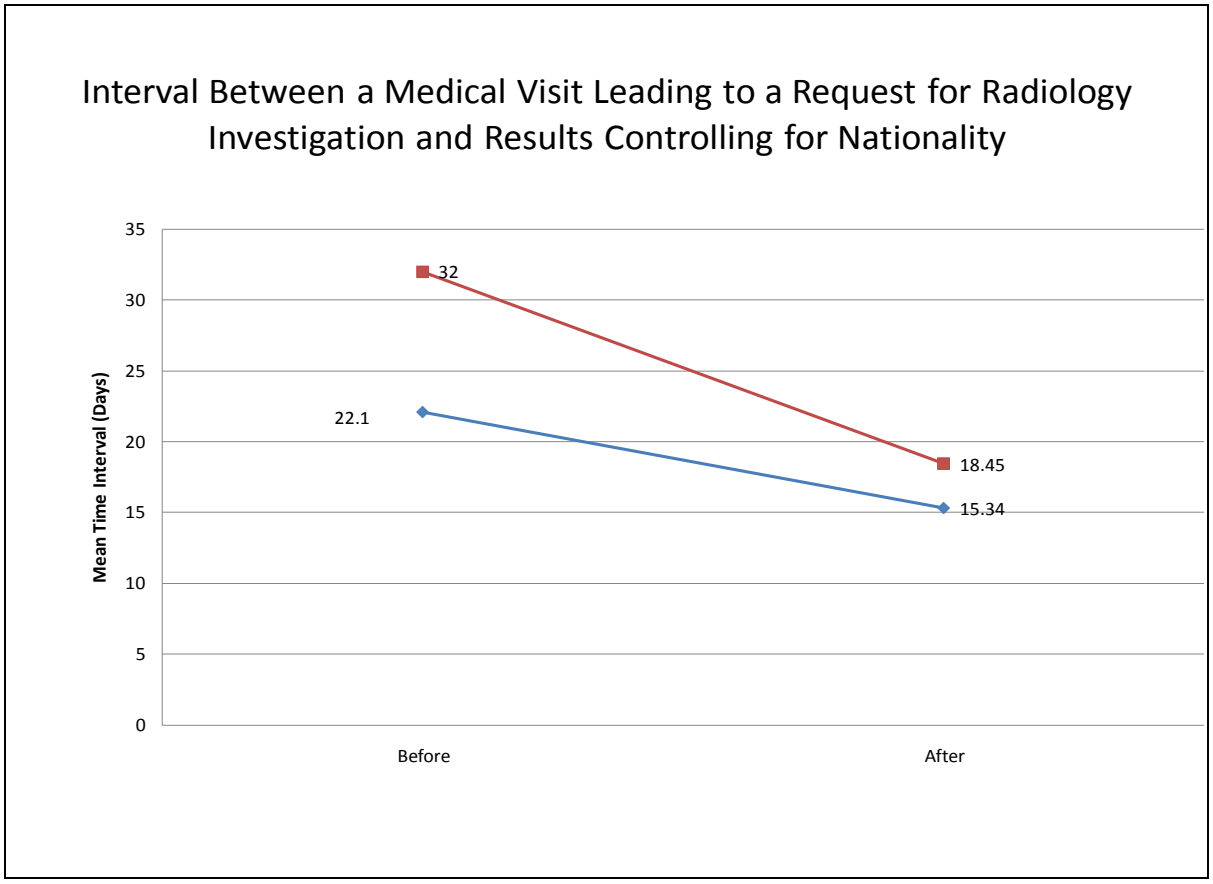


Figure 21 Mean Waiting Time between a Medical Visit Leading to a Request for Laboratory Investigation and Result Reporting for Nationality Before and After the Reform Implementation

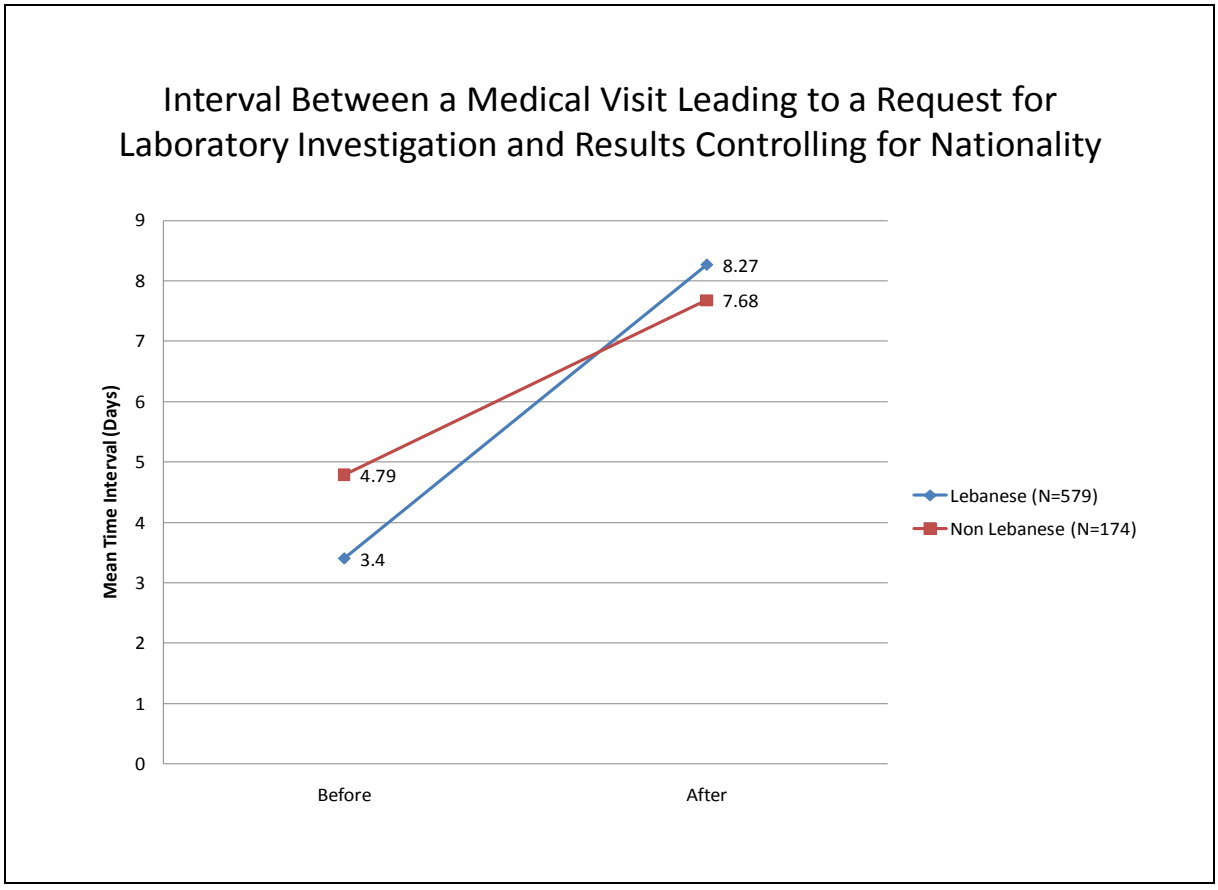


Figure 22. External Health Care Requests Distribution by Unit of Incarceration After the Reform Implementation

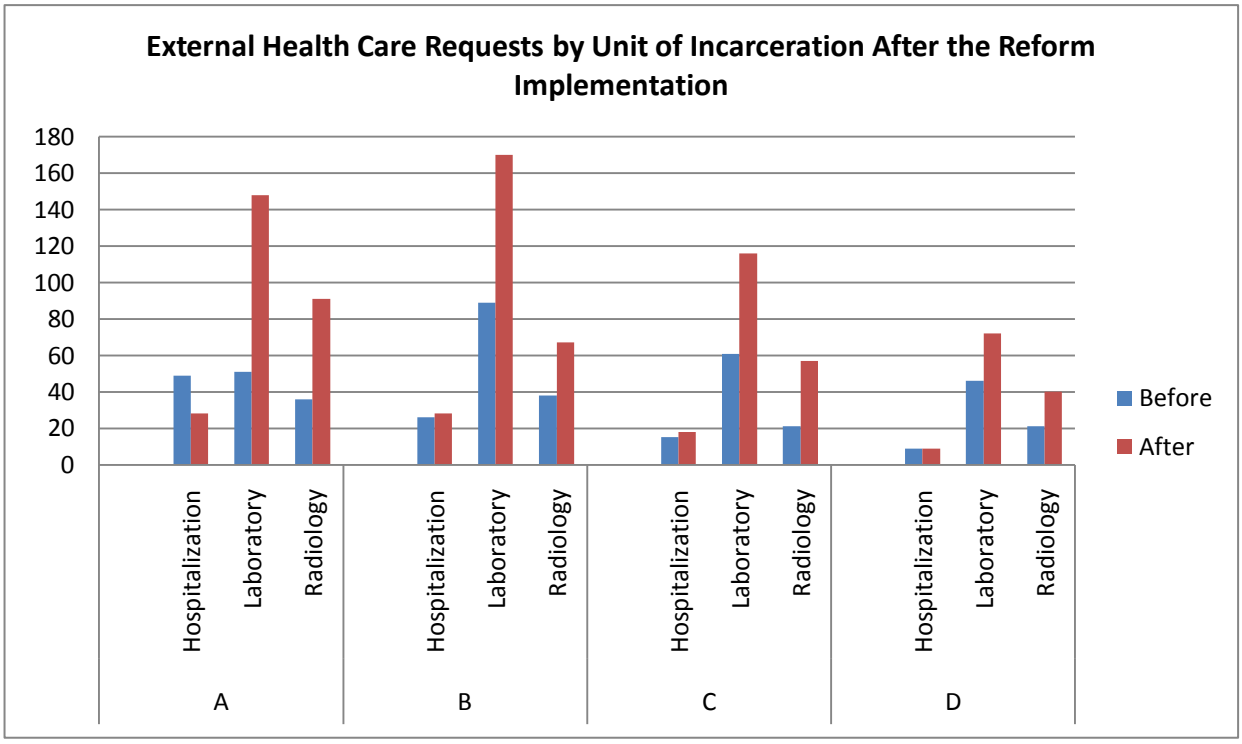


Figure 23. External Health Care Requests Distribution by Educational Attainment after the Reform Implementation

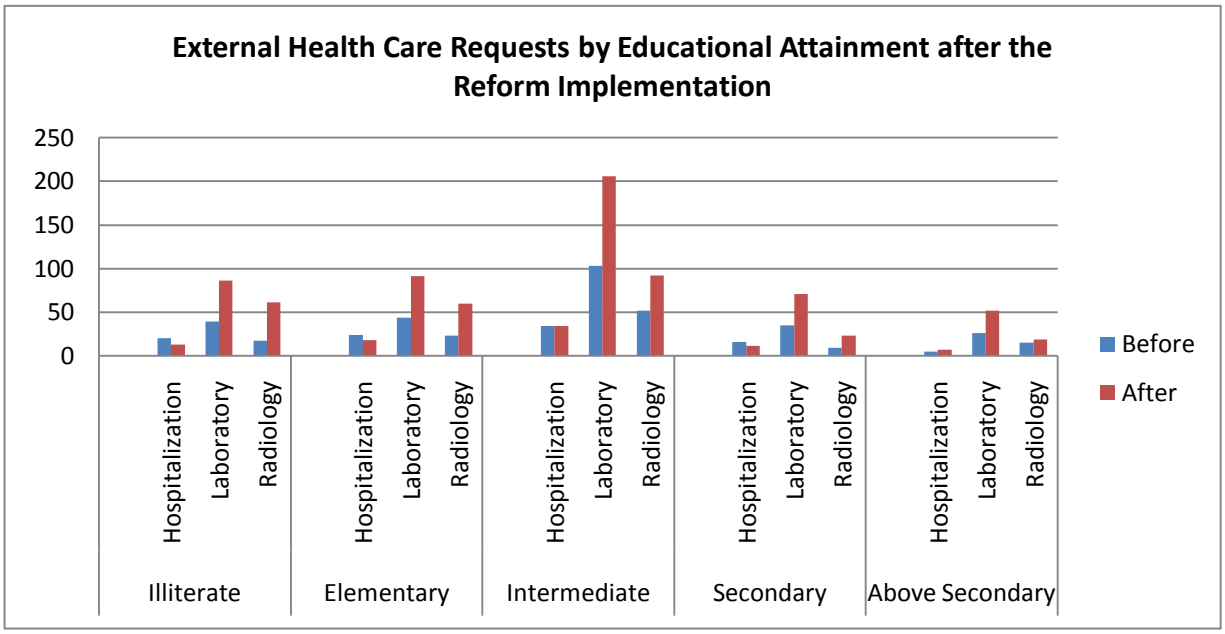


Figure 24. External Health Care Requests Distribution by Nationality After the Reform Implementation

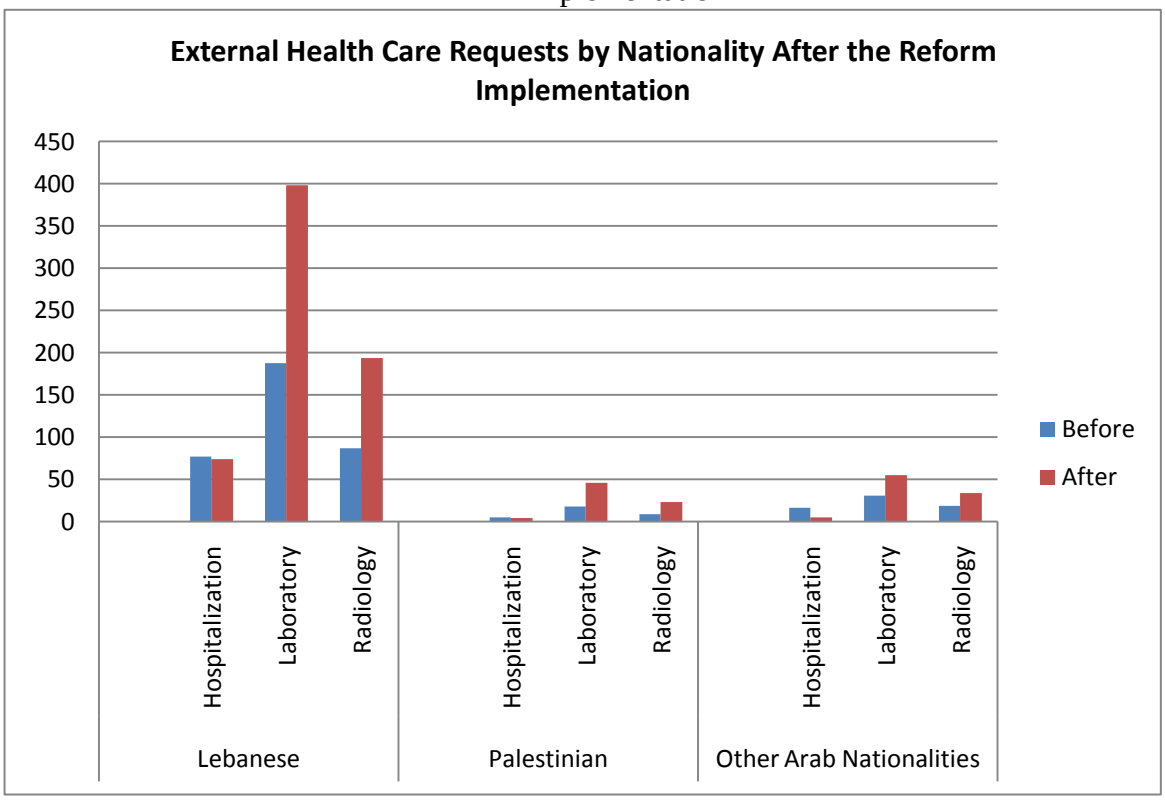


Figure 25. Mean Age of Prisoners Requesting External Health Care after the reform implementation

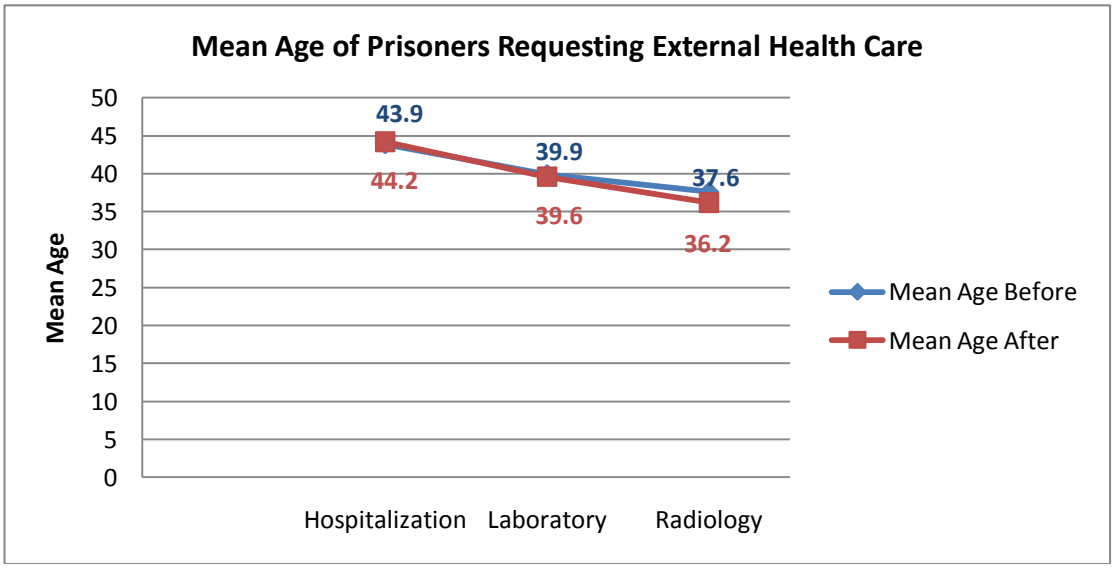
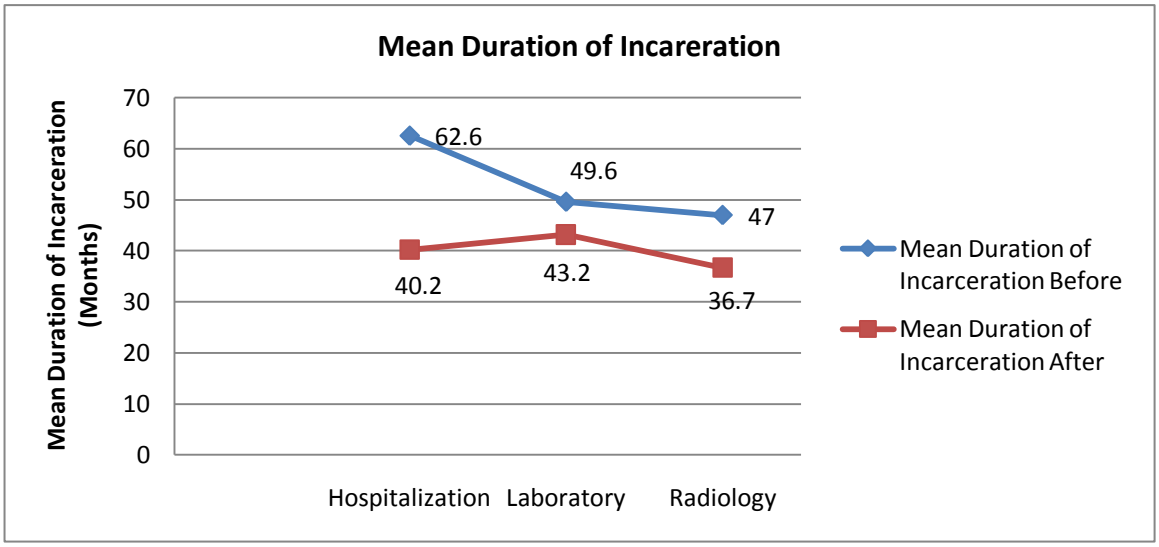


Figure 26. Mean Duration of Incarceration (Months) of Prisoners Requesting External Health Care After the Reform Implementation



Appendix 1: IRB Approval

Authorized signature on behalf of IRB

Approval Date: 12/07/2009

Expiration Date of Approval: 12/06/2010

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

Submission Type: Initial

Expedited Category: 5.Existing or non-research data

Study #: 09-2227

Study Title: Evaluation of an Intervention to decrease Delays in External Health Care Delivery to Prisoners in a Correctional Facility in Lebanon

This submission has been approved by the above IRB for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Study Description:

Purpose: To evaluate changes in administrative regulations aiming at decreasing time delays in external health care delivery to prisoners in the main correctional facility in Lebanon.

Participants: This is a study based only upon administrative data consisting of health care utilization records for prison inmates in Lebanon. There will no recruitment, enrollment, or direct contact with any prisoners for the study. Data will be assembled only from the administrative records that track the medical services provided to prisoners at the polyclinic of the correctional facility. Procedures: Data will be collected from the administrative records only. There are two indicators for the study: (1) timeliness of care (measured in days); and (2) number of requests for outside referral care. These indicators will be assessed before and after the implementation of a procedural reform for requests to transfer patient prisoners to outside care. The collected data will be analyzed for a time period ranging from the nine months proceeding to the nine months following the reform.

Regulatory and other findings:

This research meets criteria for a waiver of informed consent according to 45 CFR 46.116(d).

Based on the information provided, the IRB has determined that HIPAA does not apply to this study.

Investigator's Responsibilities:

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration

date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

When applicable, enclosed are stamped copies of approved consent documents and other recruitment materials. You must copy the stamped consent forms for use with subjects unless you have approval to do otherwise.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented (use the modification form at ohre.unc.edu/forms). Any unanticipated problem involving risks to subjects or others (including adverse events reportable under UNC-Chapel Hill policy) should be reported to the IRB using the web portal at https://irbis.unc.edu/irb.

Researchers are reminded that additional approvals may be needed from relevant "gatekeepers" to access subjects (e.g., principals, facility directors, healthcare system).

This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule), 45 CFR 164 (HIPAA), 21 CFR 50 & 56 (FDA), and 40 CFR 26 (EPA), where applicable.

Appendix 2: Cooperation with Academia: Plan to Call Organizations to Action

Health care management of prison populations has been a concern found in literature in recent years. A study on the management of health care providers to serve the needs of a city jail population noted that The Medical Commission, Conference for the Abolition of Torture, sponsored by Amnesty International in 1973, "recommended that medical personnel be employed by, and responsible to, an authority independent of the confining institution" [14]. The recommended arrangement of such services included the following features:

1. The correctional facility contracts with local health departments or other groups of health professionals, both for administration and for direct care provision.
2. Services provided to prisoners include a comprehensive program of medical, dental, and pharmacy services, among others, delivered inside the correctional facility.
3. Inpatient services are contracted with teaching or community hospitals.
4. Salaries are commensurate with academic and private sector payments to physicians and other healthcare workers.

Freeman's study documents the change in administration and delivery of health services in a Baltimore city jail, switching from employment by the correctional facility to contractual services through a local physicians professional association. This program was managed

jointly and, following later accreditation by the AMA, included training for medical students at Johns Hopkins School of Medicine. As a result of this program, utilization of services decreased overall as did complaints about the service. The proportion of prisoners with symptoms related to bad nerves, headaches, and substance abuse also fell. At the same time, interventions based on medications decreased from 80% to 51%. Costs per patient increased from $588/prisoner-year to $670/prisoner-year; this was attributed to the higher salary scale rather than utilization of services.

A study published in 2004 echoed the need for an alternative model to employed health care providers within a correctional facility [15]. In 1994, the State of Texas faced a rapidly growing prison population and escalating health care costs within a fragmented and "largely inadequate" correctional medical care system. The Texas legislature responded by developing a health delivery plan using a managed care network integrated with the state's public medical schools and affiliated hospitals, providing medical, dental, and psychiatric care to the prison population based on a capitated rate. The results, which included higher compliance with standards of care, improvements in health status for the population, and substantial cost savings, were achieved through the following system features:

1. Standardized disease management guidelines and a common formulary.
2. Ambulatory clinics and infirmary beds located in every correctional facility.
3. Chronic care clinics, which respond to the prisoner's special needs including hepatitis C, hypertension, psychiatric disorders, asthma, diabetes, latent TB, and HIV infection.
4. Application of technology, such as telemedicine and electronic medical records.

5. Review of clinical practices and feedback to clinicians.

A follow up editorial opinion published in the same journal highlighted the need to create a partnership between institutions of academic medicine and correctional systems, noting several obstacles but citing advantages to both parties [16].

Academic Institutions	**Correctional Facilities**
Obstacles	
- Security concerns - Logistical complexity - Perceived federal restrictions on research involving prisoners - Hidden strategic importance of correctional medicine to public health	- View of academic institutions as intrusive and naïve regarding security - Undervalued benefits of academic expertise - Unaware of opportunity to maximize fiscal resources
Mutual Advantages	
- Education of health care professionals for future careers in correctional health care - Subspecialty consultations for difficult cases - Development of clinical practice guidelines - Evaluation of treatment interventions and outcomes among inmate-patient populations - Revenue source/cost containment	

According to Kendig, achievement of long term public health and public safety goals will be significantly affected by the willingness of correctional systems and academic institutions "to develop joint strategies, disavow prejudices, and explore new relationships" in the future [16]. The literature reviewed above suggests that a system-based solution may be found through collaboration with local or regional academic centers and schools of public health.

The opportunity exists for the ISF to partner with one or more academic institutions in order to create a plan and coordinate the logistical requirements to provide the following resources and services:

- Medical residents to take assignment within Roumieh to assess and treat prisoner patients for medical and psychiatric conditions.
- Public health graduate students to take assignment to assess the Roumieh administrative systems for providing care and make proposals to improve the process of health care service delivery.

Such an opportunity would require the approval along the chain of command within the Ministry of Interior, Ministry of Justice and the executive leadership of the academic medical center(s). This appendix describes the strategy and steps for such a plan, which represents the first such example of cooperation between the Internal Security Forces and academia in the history of Lebanon.

Applying the recommended eight tools (Integral Vision, Systems Thinking, Presence, Inquiry, Conscious Conversation, Bridging, and Innovation) for a Leader as Mediator by Mark Gerzon in his book "Leading through Conflict", we can transform conflict into

opportunity. Cooperation with academia is a result of an existing working dilemma at Roumieh Correctional Facility that would be transformed into an opportunity for the ISF, the academic institutions, and the prisoners [17].

Cooperation with academia integrates two approaches of work (Analytical vs. Task Development and Completion), bridges the gaps one step at a time, promotes collaboration and teamwork, and leverages the value of working together to achieve a common goal. Taking advantage of this opportunity will promote an environment where each person takes responsibility for the issue (dilemma) at hand, negotiates for issue resolution, becomes more deeply involved, and displays maturity by facing obstacles with openness.
As a leader, defining clear goals, providing clear direction in an easily and understood language, fully understanding the system, responding to new developments, and expressing sincerity, transparency, support, maturity, reliability, attentiveness, and innovation are essentials to realizing his/her vision.

Plan to Call Involved Organizations to Action

1. Assess the situation and validate the urgency for the need to change through innovation: The Director of the Polyclinic has conducted an initial assessment of the health care system, identifying a tremendous shortage in medical and paramedical resources. For a total prisoner population of 4000, only three medical practitioners (contractual doctors) are available around the clock. Other specialists (seven: two cardiologists, one orthopedist, one ENT, one general surgeon, one ophthalmologist, one psychiatrist) provide consultation to prisoners on a voluntary basis; however, they

are not committed to a particular schedule. This critical situation leads to excessive delay in care and treatment. The urgency of this situation calls for additional resources (paramedical and medical staff); however, the hiring of permanent or temporary workforce can only be authorized by the government (Council of Ministers) which has frozen physician positions since 1997. To create a new solution to this impasse, the idea came about to build a cooperative joint venture with academia in order to access free resources to make up for the existing shortage, address critical health care needs of the prisoners, and build a relationship that is mutually beneficial and challenging to both parties while honoring the ideals of medicine to provide wellness to all.

2. Find supporters for the plan, create a guiding coalition: Initial contact has been made by the Polyclinic's Director with representatives at the School of Medicine and School of Public Health, who have established that this opportunity is considered consistent with of the University's mission around activities in the Community. ISF executives, including the Chief of Department of Health at ISF who presides over the Roumieh polyclinic, the Director of the Central Administration Unit who governs the Department of Health, and the General Director of the ISF within the Ministry of Interior and the Director of the Polyclinic have met and approved the general concept behind this opportunity.
3. Create your vision: The guiding coalition identified above has the ability to create a common vision for all the participating staff, residents, and medical students that has, as its focus, the goal that no prisoner is left uncared for. Prisoners have the right to decent medical service and good health care, as secured by law. It is the responsibility

of the government to provide timely healthcare to prisoners similar to that in the community by whatever means possible; cooperation with academia is an alternative solution where there is no financial means to recruit and address prisoners' needs for specialized consultation.

4. Prepare the team through discussion and feedback; support the team's development of the implementation plan, with team member's providing the example for the larger system: Prepare the team gradually, over the course of three months prior to the cooperative effort, with ongoing evaluation and monitoring throughout implementation, allowing the team to embrace the vision by elaborating on the benefits and purpose for cooperation. The team will discuss how this will affect their working environment and what procedures should be followed, sharing the outcome of their work with affected staff transparently and answering staff questions and concerns. The implementation plan should be clear, concise, realistic, and adaptive to the dynamics of the environment and people. The challenge lies in the different methods the two parties bring to the discussion. One is academic with an analytical perspective; the other is military and oriented to task development and completion. Both are important perspectives but stylistically opposite.
5. Give orders and follow up their realization:

   The academic institutions acceptance to the ISF offer of cooperation is considered the binding agreement of cooperation. ISF General Directorate will inform the Ministry of Justice (MOJ) about the new agreement, resulting in MOJ consent to the admission of residents and graduate students into the facility. Thereafter, the ISF General

Director will issue a service memo to all ISF staff, in particular to prison administration, informing them of the cooperative effort.

As a result of the agreement, the polyclinic's director in cooperation with representatives (both schools) will draft a new policy that describes the mechanism by which services are to be delivered (consents, approvals, workflow, etc.) and by which the polyclinic staff and schools resources will abide.

In addition, the polyclinic's director will, in cooperation with the prison's director and schools representatives, draft a statement of understanding, accepting the terms of the cooperative agreement and citing the regulation that the schools resources will abide by, which must be signed and dated for acceptance prior to start of service.

The ISF General Director must approve the corresponding policy.

The polyclinic's director is responsible for the planning and execution of the corresponding initiative. The polyclinic's director will define the needed resources and, upon agreement of the resources provided from the schools, establish a schedule that is accepted by both parties. The director of the polyclinic will coordinate security clearance and logistics for residents and graduate students to access the facilities. In addition, the Polyclinic Director will coordinate with health auxiliaries and prison administration to ensure that prisoner patients are appropriately scheduled and accompanied on time to the polyclinic. This level of coordination will require internal planning and change to the standard process, as too often prisoners are not brought in on time to their consultation due to a shortage of policemen to accompany prisoners physically to their destinations.

Effective planning and close follow up are required to capitalize on usage of the services of the resources provided. Effective collaboration is essential between the polyclinic resources and the schools. Site visit and orientation are provided to the schools resources and are informed accordingly of applicable laws, internal regulations (do's and don'ts) and policies.

Most importantly, the director of the polyclinic must ensure the continuity of the services provided by the school's cooperation by creating and maintaining a productive and responsive environment so staff resources are stimulated, challenged and do not lose sight of their purpose. In the same way, the director must ensure full cooperation and collaboration from the polyclinic staff and the prison administration staff. This is critical to the success and continuity of the effort because the prisons working dynamics (setting, people, and procedures) vary from that of the community: living conditions, health status, accessibility, security, slow due process, etc. The Polyclinic Director's availability in time to resolve issues related to the cooperation or to a patient case is mandatory to the success of the cooperative effort.

6. Create culture at the entity level reflecting leadership priorities and style:

The norms of behaviors and shared values that are passed on throughout the years in Lebanese governmental institutions or specifically in Roumieh's prison have persistently led to the failure and weakness of the system in place. Staff is not motivated, poorly educated, not qualified to the requirements of their job description, do not care about their work, have no ownership of their tasks, are more concerned with a short work schedule and are used to shortcuts and workarounds under the pretext that they are neglected, understaffed, undervalued, and fear the consequences

of taking initiatives. This type of culture is implanted and rooted in high level positions and passed on to lower level employees. In addition, the system of equal employment in governmental institutions is based on religious equality; therefore non-qualified people are hired just because they applied, while qualified people who apply are not hired because the quota has been surpassed.

Cooperating with new people from outside their environment (and who do not fit in their system) and who furthermore are probably younger, more educated, eager to work, and more idealistic, sets the bar higher for the prison staff in terms of standards of work, motivation, and values. The new resources coming in with the anticipated policy will act as a trigger and a catalyst to change some elements within the polyclinic and prison administration culture, which will also affect the momentum and dynamics of service delivery.

As Kotter, in his book "Leading Change", states: "Culture changes only after you have successfully altered people's actions, after the new behavior produces some group benefit for a period of time and after people see the connection between the new action and the performance improvement", so the top priority is to successfully implement the cooperative effort so its objectives are realized and consequently deliver better health care services to prisoners, lend a hand to an overwhelmed staff with responsibilities that exceed their physical and intellectual capacities, and provide field training to Medical Schools residents [18]. As a result, for the foreseeable future, the staff will pick up new behavior aligned with the values of delivering better quality

care to prisoners. The polyclinic's director mediator style is essential to the successful execution of this cooperative joint venture.

Problems/Barriers Diagnosed through Kotter's Model for Transformational Change

Establish a Sense of Urgency:

Academic institutions lack of commitment of the purpose and urgency of the agreement. They may not provide enough resources in time due to lack of interest of their residents or due to fear of the prison environment in terms of safety, communicable diseases, distance, and unknown working conditions.

Create a Guiding Coalition:

A conflict of schedule and purpose of all stakeholders: A persevering owner of the proposal (Director of the Polyclinic) is needed to plan accordingly (communication, coordination, and follow-up) for the successful creation of the Guiding Coalition; otherwise each is relying on the other one's effort with the resulting cross-purpose assumptions leading to failure. Conflict of Interest: ISF key stakeholders who favor privatization of health services in prison may oppose the cooperation and not fully support its success in the short or long term.

Develop a Vision and Strategy & Communicate the Change Vision:

The vision and strategy is not supported fully at the higher end of decision making responsibility; they are only agreeing in principle to the proposal as stated to date because it addresses the shortage of resources at low cost and at low risk through its partnership with academia. There is less risk of abusing the health system financial resources and greater

likelihood of making appropriate patient referrals without personal financial gain. Skepticism is expected from various stakeholders and is likely to persist until tangible benefits are realized and the strategy is proven successful.

In addition, there is the risk that the developer of this vision and strategy may be reassigned or transferred due to a political shift, or other unforeseen cause. The loss of a champion that believes in the value of this cooperation may be fatal to the success of the project.

Empower Employees:

ISF staff are continually relocated or reassigned to fill in other posts or fill in vacancies due to shortage of resources, leading to loss of adequately trained employees. The transformation anticipated by this proposal may result in staff who have successfully altered their actions and values, only to be reassigned.

Employees who perform well are given no incentives; there is no motivation for employees to alter their behavior other than a letter of recommendation that can be put in an employee file. The "command and control" management model of the prison system does not readily allow employees to take risks and experiment with non-traditional ideas and actions.

Budget Shortage: No budget for training accompanies this proposal. Empowering employees by providing them necessary specialized training is very difficult. Only high level positions are sent to training, seminars, or workshops. All training is given on the field by the same people who practice it.

Generate Short Term Wins:

Short Term Wins may not be tangible due to lack of commitment or due to the chaos resulting from poor planning or unforeseen issues arising from the new ground being explored by both parties.

Negative feedback from residents to their faculty of their experience may lead to reduction of resources or cancellation of the cooperative effort altogether as the formal agreement is not binding.

Consolidate Gains & Reproduce:

If the project is not allowed enough time (long term) to produce positive results, short term wins are discarded and reproducing the experience with other polyclinics or reproducing the experience for other forms of partnership will be lost.

Anchor Approach in Culture:

If proper leadership is lacking at any point in the command chain from high end to low, the experience turns into a lose-lose or win-lose relationship and the culture will not be changed. This approach must be allowed to sink in for the benefits to be realized in the long term.

Implementation Plan

1. Approval of Concept: During the project initiation, the champion of the vision must research the feasibility of the project through literature review (results of such cooperation in correctional facilities) and assess the acceptance of the idea by ISF and academic institutions through preliminary discussions and feedback.

2. Meeting of Guiding Coalition: Organize an official visit by an ISF delegation headed by the General Director of the ISF to the Schools' of Medicine and Public Health to see the new Out Patient Department (OPD) and how it is administered. A meeting with both Deans' of the Schools' of Medicine and Public Health will be scheduled to discuss the possibilities of cooperation between the two organizations. The initial cooperative effort is based on Residents of different specialties and Master students in health management and policy who will be assigned to Roumieh to assess the situation and propose a solution concerning Health Administration and prisoner patients' consultation to avoid their transportation outside the facility. The specific objective will be to reduce delay in Health Care Delivery and thereby improve prisoner health status. Action steps:
    a. Nomination of the committee to visit the academic institutions.
    b. Agenda development, including cooperative agreement, resident service expectations, management student expectations, touring of facilities, etc.
    c. Scheduling of date, time, and location.
    d. Completion of site visit with follow up report.
3. Mobilize NGOs throughout the process toward adopting a policy of cooperation, developing an advocacy campaign timed to coincide with significant decision making points as determined by the guiding coalition or the project champion.
4. Finalize cooperative agreement (scope, objectives, mobilize resources, activities, tentative schedule, etc.) and acceptance by ISF and cooperating schools.
5. The Coalition members will present the cooperative agreement to ISF and participating institution leaders.

6. Draft a new policy that describes the mechanism by which services are to be delivered (consents, approvals, workflow, etc.). The policy will be written by the polyclinic's director in collaboration with the cooperating schools representatives. The policy will be abided by the polyclinic staff and incoming resources.
7. Secure the approval of the ISF General Director to the corresponding policy.
8. Secure the Ministry of Justice (MOJ) consent to the admission of residents and graduate students into the facility. The due process takes place between ISF General Directorate, Ministry of Interior, and MOJ.
9. The Coalition members will prepare for a joint conference to "go public" with the proposal for exposure of the plan.
10. Draft a statement of understanding that defines the terms of the cooperative agreement and cites the regulation that incoming resources will abide by. The statement will be written by polyclinic's director in cooperation with the prison's director and cooperating schools representatives. The statement will be accepted, signed and dated by incoming resources prior to start of service.
11. Present the proposal and plans publicly at a conference involving the joint participation of ISF and the academic institution.
12. Setup schedule of services that define resources and recurring time of service defined and approved by polyclinic's director and cooperating schools representatives.
13. Prepare security clearance of incoming resources to the facility.
14. Setup first schedule patient consultations.
15. Kickoff implementation: briefing, mobilization of resources, and preparation of facilities, equipments, and materials: First Milestone.

16. Ongoing issue management and close follow-up of the process.
17. Ongoing evaluation and refinement of the policy (strategy, process, schedule, etc.).
18. Periodical reporting on the activities and results in order to report on short term wins.
19. Ongoing communication with and among all resources across ISF and cooperating institution boundaries.
20. Maintain contact (throughout the process) with other institutions for future interest or expansion of cooperation; or as a contingency plan in case a Partnership with a particular school fails to progress.

Appendix 3: ICRC Recommendations

1. Health system structure	**Mid/Long-term**
▪ The ISF Health Service, under the ISF Central Administration, provides for the medical needs of the complete ISF staff and their families. In addition, the ISF Health Service is in charge of the health system and provision of medical services in Lebanese prisons.	▪ Establish a countrywide "health in prison"-master plan to provide adequate medical services to detainees, according to defined standards and in a cost efficient way. ▪ Responsible authorities consider the establishment of an independent entity in charge of health in prisons: - With its own budget, - With its own human resources. ▪ This independent entity would first need to be established within the existing ISF structure and could then be handed over in the framework of the inter-ministerial transfer.
2. Human resources	**Short-term**
▪ Insufficient numbers of sufficiently skilled health staff (medical doctors, nurses, and paramedical staff). ▪ Nurses involved in administrative activities rather than in health care provision. ▪ Implication of detainees and non-medical staff in health care delivery system (e.g. organization of the clinic, distribution of medicines, organization of access of detainees to health care services). ▪ Insufficient training in some areas reported by health staff (e.g. infectious and mental diseases, management of	▪ Increase the human resources according to the health needs and number of detainees. ▪ Revise the tasks of registered nurses so that they are more directly involved in medical care. ▪ Restrict the role of detainees to duties not involving provision of medical care. ▪ Ensure that non-medical staff is not involved in the provision of medical care. ▪ Provide specific training for all medical staff. ▪ Improve working conditions for health care staff: - adjust the salaries and contracts to MoH

hunger strikes, coping with stress…) ▪ Working conditions of health care staff in prison are not motivating: - salary - promotion - training - challenging prison environment	staff conditions.
3. Detainees' access to health care inside prison	**Short-term**
▪ No medical entry screening by qualified doctor or nurse. Only laboratory tests for HIV, Hepatitis B, Syphilis and TB control (intra dermal) in Roumieh and Tripoli Prisons. ▪ No active screening by medical staff. ▪ Detainees did not have direct access to the prison's medical staff and thus did not have the opportunity to report their health complaints to the doctor or nurse directly	▪ Revise the medical screening policy. ▪ Ensure that all newly arrived detainees undergo a medical screening performed by health professionals. The medical screening should focus on: - Detection detainees suffering from contagious diseases (TB, scabies, diarrhea…) as they need to be separated until they have overcome the contagious stage of the disease; - Identification of detainees who need medical follow-up and ongoing treatment or specific treatment in case of emergency (diabetes, epilepsy, TB under treatment, persons living with HIV under treatment) as well as specific health issues such as drug and alcohol use and psychiatric disorders; - Detection of detainees with physical marks of violence and/or psychological disturbances related to a history of ill-treatment. ▪ Ensure that health staff transmits test results to detainees in a timely and confidential manner. ▪ Ensure that treatment is possible in case of positive test results. ▪ Ensure that the medical staff establishes an individual medical file for each incoming detainee. ▪ Organize the health care service in order to enable detainees to approach the medical

nor on a confidential basis. ▪ Difficulties and delays in access to medical services. ▪ Short opening hours of dispensaries and medical centre in Roumieh Prison. ▪ Detainees do not have sufficient and timely access to specialized services (especially dental, mental, orthopedic…) ▪ Emergency medical care is hampered by security regulations and limited in terms of accessible equipment and qualified human resources. ▪ Lack of screening mechanisms to determine psychiatric health of detainees. ▪ Insufficient number of beds in specialized psychiatric institutions.	staff directly and on a confidential basis OR Develop an active screening (daily tour through the cells) by qualified nurses in order to register sick detainees. ▪ Increase opening hours for consultations for detainees (currently, in Roumieh Prison, only from 10:00 until 13:00). **Specific recommendations for Roumieh Prison:** ▪ Re-organize the health services, for example: - Put in place in each block a dispensary with a consultation room, basic emergency equipment and a pharmacy with essential drugs; - Place 1 MD ▪ Establish Roumieh as a high quality medical centre for detainees with serious health problems. In Roumieh Medical Centre: - Ensure suitable arrangements to provide specialist consultations; - Deliver more specialized services; - Ensure that appropriate medical equipment is available. ▪ Improve emergency equipment, procedures and provide sufficient first aid trained medical staff in the blocks as well as in the medical centre. ▪ Ensure that security procedures do not obstruct immediate access to emergency services. ▪ Improve screening mechanisms for detection of mentally ill detainees. ▪ Provide sufficient qualified psychologists and psychiatrists. ▪ Increase number of beds available for psychotic or seriously mentally ill

	detainees.
4. Detainees' access to external services	**Short-term**
▪ Long and complicated administrative procedures, passing through several medical, administrative and security steps, often resulting in delays, and sometimes refusals. ▪ Difficulties in the organization of the transport and/or the escort. ▪ Access to external facilities more difficult for detainees waiting for trial than for sentenced detainees. ▪ Constraints related to outside facilities (waiting lists, limited number beds, outstanding payments, security arrangements)	▪ Improve the access for all detainees to referral service. To ensure relevant safe and timely referrals: - Evaluate and revise the procedures of access to the external health services (emergency services, external consultation by specialists) **In Roumieh Medical Centre:** ▪ Establish diagnostic laboratory capacity and ensure an appropriate number of qualified laboratory technicians; ▪ Install an X-Ray machine and qualified staff; ▪ Increase availability of specialized services, e.g. dental services.
5. Quality of services provided	**Short-term**
▪ System with individual medical files for each detainee not well established. ▪ Medical files predominantly limited to prescriptions alone. Medical history, notes on physical examination, diagnostic results, and diagnosis and follow-up procedures/steps rarely recorded. ▪ Adequate medical registers exist, but not used properly (no diagnosis or treatment recorded). ▪ The centralized data information system not yet used in an appropriate and efficient manner for health care planning. ▪ Standard clinical guidelines for diagnostics, diagnosis and treatment not	▪ Put in place systematic medical entry screening procedures, performed by health professionals. ▪ Improve the medical file system for each patient: - All detainees in all prisons should have an individual medical file where every contact with medical services is recorded. - Every medical consultation has to be properly documented with history, clinical examination, diagnostic, diagnosis, treatment. - Ensure respect for the patients' confidentiality ▪ Systematic entry of diagnosis and treatment into existing medical registers. ▪ Reinforce the centralized data information system. *The centralized data information system has to respect the rules of confidentiality regarding to the medical files.*

existing, except for TB and HIV management. ▪ Lack of physical examination during consultation. ▪ No active screening and follow-up of the sick detainees by medical staff. ▪ System for Quality Assurance and Control to monitor and/or supervise the provision of health care not in place. Audits limited to checks of medical stocks.	▪ Establish national clinical guidelines for diagnostics, diagnosis and treatment, cf. guidelines for the management of TB and HIV. ▪ Train all medical doctors working in the prisons (including those working for NGOs & Academia) and ensure that Standard clinical guidelines are applied. **Mid/Long-term** ▪ Establish, at central level, a well functioning Quality Assurance and Control team tasked with development and implementation of monitoring and supervision tools/mechanisms. ▪ Establish technical health advisory boards supporting all prisons with regular information exchange.
6. Ethical considerations in health care for detainees	**Short-term**
▪ Medical confidentiality not respected. Co-detainees as well as non-medical ▪ ISF staff implicated in the organization of the access to, and provision of health care. Compulsory blood testing in the framework of systematic laboratory screening in Roumieh and Tripoli Prisons. Tests not explained to the detainees. ▪ No feedback on test results given, except for detainees with positive tests results. ▪ Mandatory HIV testing for detainees is unethical and ineffective. HIV testing carried out without the expressed consent of the patient and without pre- and post-test counseling. ▪ HIV positive detainees strictly segregated from their co-detainees, causing undue	▪ Ensure that non-medical staff is not involved in the access and provision of medical care. ▪ All tests performed should be explained and performed by health professionals. ▪ Provide feedback to all detainees tested. ▪ Prohibit mandatory HIV testing. Ensure that HIV testing is voluntary and explained: accompanied by adequate pre-test and post-test counseling and only carried out with the informed consent of the detainee.

stigma against them. ▪ A number of detainees were identified who, due to their health condition, were at risk of imminent death or were unable to take care of their basic needs of themselves. ▪ In Tripoli women Prison, survey carried out by civil society organization without informing tested detainees about test results and without ensuring treatment in case of positive results.	▪ End segregation of HIV positive detainees and provide awareness raising activities. ▪ Assess cases of detainees who, due to their health condition, should not continue to be detained and implement existing procedures and laws aiming for those detainees' release. ▪ Ensure that any survey/research carried out in the prisons follows ethical procedures required in any type of health studies and is approved by the Institutional Review Board. **Mid/Long-term** ▪ Put in place a Medical Advisory Board which will ensure that medical practices in all prisons are consistent with medical ethical standards. This is particularly important in the following areas: - Medical confidentiality; - HIV testing procedures; - Research projects in prisons.
7. Medical supply and pharmacy	**Short-term**
▪ The ICRC did not receive sufficient information to fully understand the financing of the current medical supply system. ▪ No stand-alone budget for the medical supply to prisons. ▪ Long waiting times between prescription and receiving medication. ▪ Improve timely access to medicines according to detainees' needs. ▪ Medication delivered to prisons do not always correspond to medication ordered. ▪ External support from families and/or NGOs for supply of medication.	▪ *See above, preliminary remarks.* ▪ Establish a stand-alone budget for the medical supply to prisons. ▪ Improve timely access to medicines according to detainees' needs ▪ Improve the medicines supply system in all the prisons through: - Establishment of an essential drug list specific to prisons; - Ensuring that medical doctors, including specialists, are prescribing according to the a/m drug standard list;

	- Establishment of a funding system to purchase medicines that are not part of the standard list.
8. Health services financing	**Mid/long-term**
▪ The ICRC did not receive sufficient information to fully understand the current health care service financing. ▪ Lack of stand-alone budget for the health care delivery system in prisons.	▪ *See above, preliminary remarks*. ▪ Establish a stand-alone budget for the health care delivery system in prisons.
9. Privileged access to health care	**Short-term**
▪ Reports of detainees having to pay for access to treatment.	▪ Ensure that all detainees have an equitable and free access to health care, according to their needs without any discrimination.
10. Coordination with external organizations involved in health care provision	**Short-term**
▪ Lack of coordination and monitoring of the health activities of external actors by prison authorities.	▪ ISF and Ministry of Interior take up a coordination role and organize regular meetings with external actors (NGOs/Universities) involved in health care provision in prisons. ▪ Roumieh Prison authorities take up a coordination role.
11. Structural transfer of prisons and the Inter-Ministerial Commission	**Mid/long-term**
▪ The issue of health not yet clearly defined in the plan of transition of prisons from the Ministry of Interior to the Ministry of Justice. □ ▪ The role of the Ministry of Health not yet defined in the framework of the transition process	▪ A strategic plan for the health service delivery structure in prisons should be developed in the framework of the existing five years plan for the transition of the prisons from the Ministry of Interior to the Ministry of Justice. ▪ The role and responsibility of the Ministry of Health should be defined.

Appendix 4: Policy Advocacy for the Centralization of Health Services

In 1949, a presidential decree was issued on February 11, 1949, number 14310, regarding the organization of correctional facilities, article number 1. The decree was later amended on February, 21, 1967, decree number 6687, to delegate the prison responsibility to the Minister of Interior. However, it is in 1964 that a presidential decree was issued to propose that an independent Central Correctional Administration is solely responsible for prison administration (including Health Services Delivery) and reports to the Ministry of Justice. This decree never went into effect.

Later in 1984, a ministerial decision number 313, dated December 10, 1984, article number 2, was taken to delegate the health care of prisons to ISF medical centers.

The following policy would implement the presidential decree, proposed in 1964, and develop procedures and policies to support its implementation. The policy proposes that the primary responsibility of prison administration is delegated to an independent Central Correctional Administration, who reports directly to the Ministry of Justice (MOJ).

The main responsibilities of the independent Central Correctional Administration would be to administer the prison system, ensure security and most importantly oversee the provision of primary health services delivery through a Medical Services Division. The number of stakeholders involved in the workflow and approval process would be reduced, so that most procedures would be automatically approved if the providers follow certain prescribed care pathways. Isolated cases may still be subject to prior approval (such as high profile prisoners, or those who pose a high security risk). Most importantly, the supporting policies must ensure timely provision of health care services to prisoners based on their medical needs. These policies would be created and aligned with the Ministry of Justice and the Central Correctional Administration needs and/or constraints. Such systems are in place in many correctional facilities in Europe, namely Austria.

Legislative Feasibility

This policy option is highly feasible since the 1964 presidential decree was not cancelled (as described in the background section of this paper). In order to implement the 1964 presidential decree, the Minister of Justice presents the decree to the Conseil des Ministres for revival (activation) and for implementation. The Conseil des Ministres will then request from the Minister of Justice and the Minister of Interior to redraft a new decree project that takes into consideration legislations changes that took place during the period of 1964 to present and human rights. Thereafter, the same procedures take place for decree issuance and publication (as stated in the Background section of this paper).

In fact, as of today a Task Force has been formed under funding from the United Nations to implement an independent centralized correctional facility administration during the next 5 years.

Relative Cost

The costs to implement a new Central Correctional Administration would be high since it is a new agency. This new administration funds are allocated from within the Ministry of Justice expenditures. However funds provisions for the specific correctional health services are the same (from ISF to MOJ) from an ongoing cost perspective. Though ongoing costs would be the same but once the administrative barriers are reduced, cost may potentially increase as more people would end up being transported outside the prison system for care.

Policy Advocacy Strategy

The Policy Advocacy Strategy addresses the short term goal of creating a legislative study commission to study this problem and the long term goal of reintroducing the policy as a decree and exert pressure on policy and decision makers for putting forth a plan of action for implementation.

The policy advocacy strategy is based on mobilizing:

a) Stakeholders: Involve stakeholders who support such policy and legislation in order to influence policy decision makers.

b) Legislators: Lobby legislators to appoint a task force to analyze and report on the situation in correctional facilities, namely *health services* delivery and prisoner's right to proper care. The task force should include representatives from primary

stakeholder groups - public health advocacy groups, policymakers, and legal experts.

c) Media: Mobilize policy makers' constituents in supporting the legislation and capturing the attention of policy makers by setting the light on health delivery issues in prison through the use of Media Campaigns and specialized TV programs. The media can demonstrate to the general public the need for prison reform, namely health care delivery improvement, and its impact on the community.

d) Grassroots: Mobilize policy makers' constituents, politically affiliated groups, or prisoners' families and lawyers to organize various events, campaigns, and petitions to lobby with governmental officials.

a) Stakeholder Analysis

Likely Allies of the Policy

1) NGOs, Non Governmental Organizations, are primary stakeholders because they care about the well being of the prisoners for humanitarian, ethical, and social grounds. Prisoners with contagious diseases released to society would spread diseases back to the community; Drug addicts are likely to repeat offenses if not rehabilitated, etc. These are some of the reasons that would justify NGOs mobilization toward adopting such policy.

Some of the NGOs are:

- *AJEM* (Association Justice & Mesirecord): Their purpose is to claim prisoners' rights to legal and fair representation and humanitarian treatment.

- *Homonerie Generale des Prisons*: Organization of religious representatives in Lebanon who take care of the spiritual and humanitarian needs of prisoners. They have good networking, actively lobby with decision makers (legislators), impact the media, and maintain contact with prisoners' families.
- *Medecins du Monde* (A French NGO financed by the EU for a prison based program grant). They currently provide paramedical services, logistic support and legal follow-up for prisoners (especially illegal immigrants). They also create programs for hygiene promotion, first aid services training, etc. They cooperate with AJEM.
- *ICRC* (International Committee of Red Cross): They visit the prisoners and listen to their health problems and other humanitarian issues.
- *UN-HCR* (United Nations Haute Commissariat des Refugiés; High Committee for Refugees): They check on the condition of political prisoners who are seeking political asylum.
- *Lawyer Syndicate*: Lawyers are very aware of the overall situation in prison and occurring injustices. Through the Lawyer Syndicate, lawyers can work closely with the MOJ and propose to reactivate the 1964 law that proposes similar policy. The Lawyer Syndicate can advocate for improvement of the conditions and overpopulation of the prison.
- Other organizations dealing with Human Rights and Prisoners Rights.

2) Internal Security Forces General Directorate; ISF would support transferring prison health to a Central Correctional Administration because the prison administration was supposed to have been housed temporarily in the ISF, but this temporary structure had

become more permanent and has made it more difficult for the ISF to focus on its core functions of ensuring the internal security of the country.

As part of the advocacy campaign, NGOs will be mobilized to contact decision makers like the Minister of Justice, Minister of Interior, Prime Minister, and/or the President to make legislation changes. Currently, NGOs support prisoners on a case by case basis.
Even more, NGOs can organize for the first time a specialized *Conference* whose purpose is to improve the health and overall conditions at the correctional facilities. The Prime Minister (or Prime Minister Representative) and Ministers of the Interior, Justice, and Public Health are invited to attend. The Conference can be funded by international organizations (like the UN) and local donors (other NGOs and interest groups). The proposed policy is distributed for discussion and study among small groups of experts, in the form of Task Force Committees. During the closure session, the small groups raise issues and make recommendations. During the Conference, a follow-up committee is formed to create the roadmap on how to advocate for this policy: How to influence decision makers (Political Parties, President, Prime Minister, Ministers, Deputies, etc.).

Likely Opponents of the Policy

1) Ministry of Interior (MOI) may not want to lose the power and status quo attached to Administration of Prison through the ISF. They may argue that they are responsible for internal security and have the expertise to instill order. Prisoners violate the civil and public laws. It is the MOJ who sentence them and it is the MOI who enforces the sentence.

- We counter argue: Enforcing law and order within correctional facilities requires specialized skills on administrative and psychological levels. Administering a correctional facility requires more than security and order. It requires servicing a population (prison community) who has special needs and suffers from specific disorders.
- ISF has not demonstrated the capability, as of today, to establish standards of conduct and procedures required for maintaining a decent correctional facility: There are problems related to sanitation, nutrition, health conditions, security, order and corruption, etc.

2) Ministry of Justice (MOJ) may oppose operating the Prison Administration due to lack of resources and expertise, etc. We counter argue that a new central prison administration under the control and supervision of the MOJ has more leverage than ISF to administer the correctional facilities in Lebanon because bureaucratic procedures are simplified and Prisoners' follow through the law system is respected. New specialized procedures, services, and resources are created or fulfilled to align with the needs of the prison population.

b) Legislative Strategy

There are three options for introducing the Legislation related to the proposed Policy.

Option 1: Bureaucratic Procedure

Being the Director of the Polyclinic at the Central Correctional Facility in Lebanon – Roumieh, gives me the opportunity to observe closely the health situation in prison and identify the health care needs of prisoners and make recommendations on how to improve on

the process of Health Care delivery as well as advocate for the Centralization of Health Services Delivery Policy.

My bureaucratic procedure strategy is to formally deliver the message to the policy decision makers by writing a report in which I describe the current situation and recommend the Policy as a solution to the problem.

1. The report will be sent to the Director of the Department of Health at the ISF who in turn will submit to the Director of the Central Administration Unit at the ISF – Administration Division. The Central Administration reports to the General Director of the ISF. The Central Administration is responsible for all logistics.
2. The Central Administration reviews the proposal and sends it to the General Director of the ISF – Planning and Organizing Section who studies the report and will send a summary to the General Director for review.
3. If the General Director approves the proposal, he will send it to the Ministry of Interior - Common Administration.
4. The Common Administration studies the Project and sends a summary to the Minister of Interior.
5. The Minister of Interior will then send it to the Minister of Justice in case of approval.
6. The Minister of Justice will delegate the study and evaluation of the project to the Attorney General.

- A meeting will take place at the Attorney General Office attended by the Attorney General, the Director of the Polyclinic, and the Director of the Department of Health at the ISF, the Director of the Correctional Facilities (Gendarmerie) at the ISF, and the

Attorney General Staff to discuss the project. Based on the meeting discussions, some changes or recommendations can take place.

- If the project is approved, the project is raised by all parties to the Minister of Justice. The Minister of Justice and Minister of Interior propose it to the Conseil des Ministres for discussion in the form of a "law project".
- If the Conseil des Ministres accepts the project, it transfers it to the Parliament (since expenditures provisioning is required) for approval.
- The Parliament in turn transfers the "decree project" to the Administration and Justice Committee at the Parliament for evaluation and recommendation. The Administration and Justice Committee studies the project and contacts the MOJ and MOI Ministers for any needed clarifications.
- Once the committee approves the project or has introduced modifications, it reintroduces it for discussion at the General Assembly at the Parliament, where the Conseil des Ministres is present for possible discussion. The Parliament votes in the presence of the Conseil des Ministres. Once the Parliament approves the decree project, it is law; however the law is still unpublished. The parliament then sends the law to the Conseil des Ministres for issuance and publication. The signatures of the Minister of Justice, Minister of Interior, Minister of Finance, and Prime Minister are needed to send the law to the President for signature. Once the President signs the law, the decree is published in the Official Journal.

Please note that the difference between a decree and a law is that a decree is issued by the Conseil des Ministres and a law is made by the Parliament.

NGOs can take a major role in advocating with policy makers because they interact closely with prisoners. They can testify in a legislative forum and lobby with individual legislators. Throughout the process, direct contact and communication with each decision maker takes place to ensure the report gets evaluated timely, and moved next in the workflow process. The process is iterative and is subject to conflictive politically influenced views. It is possible at each intervention that clarifications are needed and the report gets forwarded back for further discussion.

Option 2: Mobilize deputies of the Parliament

The various stakeholders would lobby and contact various deputies directly or through political and interest groups to adopt the project. Ten (10) deputies out of 120 deputies in the Lebanese Parliament, who adopt the policy, can raise the project proposal to the Conseil des Ministres (Lebanese Constitution article 77 dated 9/21/1990) for discussion. The Conseil des Ministres will discuss it and upon approval will send it back to the Parliament as a Law Project.

Option 3: MOJ Initiative

As part of an overall judiciary system reform, the Ministry of Justice, on its own initiative, can propose the policy change to the Conseil des Ministres and ask to revive the law of 1964 and to directly implement the law.

The Minister of Justice presents the decree to the Conseil des Ministres for revival (activation) and implementation. The Conseil des Ministres will then request from the Minister of Justice and the Minister of Interior to redraft a new decree project that takes into consideration the humanitarian rights of the prisoners and respects the legislation changes that took place during the period of 1964 to present.

Parliament voting is required for approval since allocation of additional funds and redirection of funds from one Ministry to another is needed. The same procedures are invoked thereafter for decree issuance and publication (as stated in the Background section of the Policy Analysis Paper and as discussed above under Option 1: Bureaucratic Procedure).

c) Media Strategy

In Lebanon, the population is sympathetic to the plight of prisoners. Most prisoners are there due to economic and social reasons.

In order to shed the light on health care delivery issues in correctional facilities, the public masses must be informed about the current situation in order to influence the public opinion towards a pro-policy opinion. Some of the media based policy advocacy strategy outlets are:

- Press conferences for official statements by health specialists, public health advocates, law specialists or judges, ex-officers, ex-prisoners, prisoners' families and lawyers.
- Documentaries using supporting evidence, pro-policy arguments, comparative health care delivery in correctional facilities in developed countries, etc.
- Specialized TV programs that host real life cases or discusses stakeholders' views of the current issues.
- TV ads and Campaigns, funded by NGOs, interest groups, small groups, raising funds from grassroots, etc.
- Journal and Web ads and campaigns.

▪ NGOs have a major role to play in publicizing the timeliness of health care delivery issue by contacting the Media and proposing interviews with prisoners in order to pressurize

policy makers. The Media does however need consent from the MOI. Previous interviews have taken place inside the prison, where journalists have interviewed prisoners about their environment condition and the quality of care and treatment they receive within the premises.

Please note that the ISF has no right to contact or influence the media or publicize any issues since they are a governmental and military entity (unless an official statement is issued to the media by the General Directorate or the MOI). NGOs will mainly contact the media.

d) Grassroots Strategy

Grassroots (Constituents, politically affiliated groups, etc.) can lobby with their deputies and with the Committee of Human Rights in the Lebanese Parliament, especially the President of the Committee, to actively propose a solution to the health care problem in prison specifically and to the overall prison condition by adopting the proposed policy.

Grassroots would organize and lobby for the policy through:

- Organizing demonstrations.
- Gathering signatures for petitions.
- Raising money from many small donors for advertising or campaigning.
- Asking individuals (ex-prisoners, prisoners' families, prisoners' lawyers, human activists, etc.) to submit opinions to media outlets and government officials.
- Putting up posters.
- Organize meetings.

By adopting the above strategy and mobilizing resources and organizations toward adopting the Policy, we could achieve our short term goals and on the long term, during the following five years, have a correctional facility system in place that reinforces timely and quality health care to inmates and in turn would have a positive impact on the rehabilitation of inmates back into the community and society.

Appendix 5: Additional Figures

Figure 27. External Health Care Requests Distribution by Investigation Type

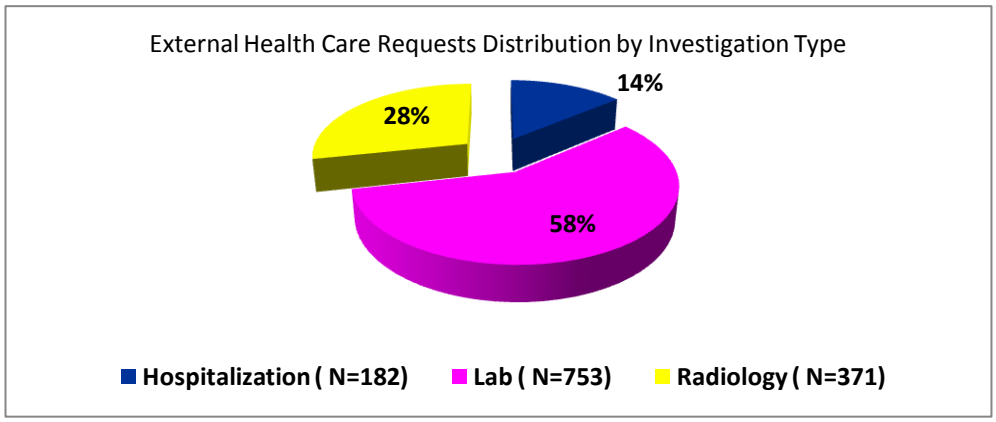


Figure 28. External Health Care Requests Distribution by Facility

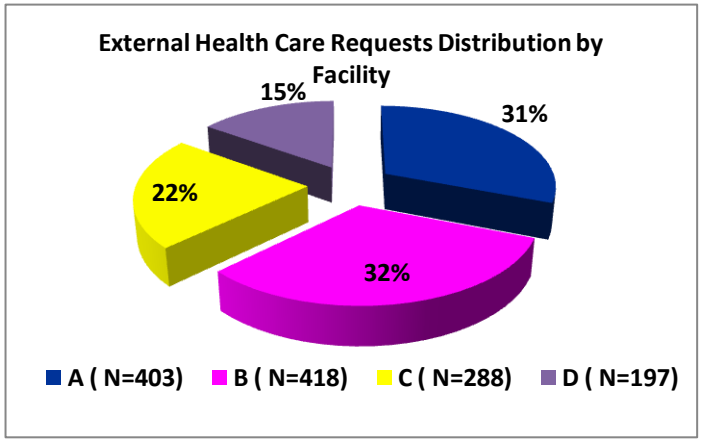


Figure 29. Mean Incarceration Duration by Investigation Type

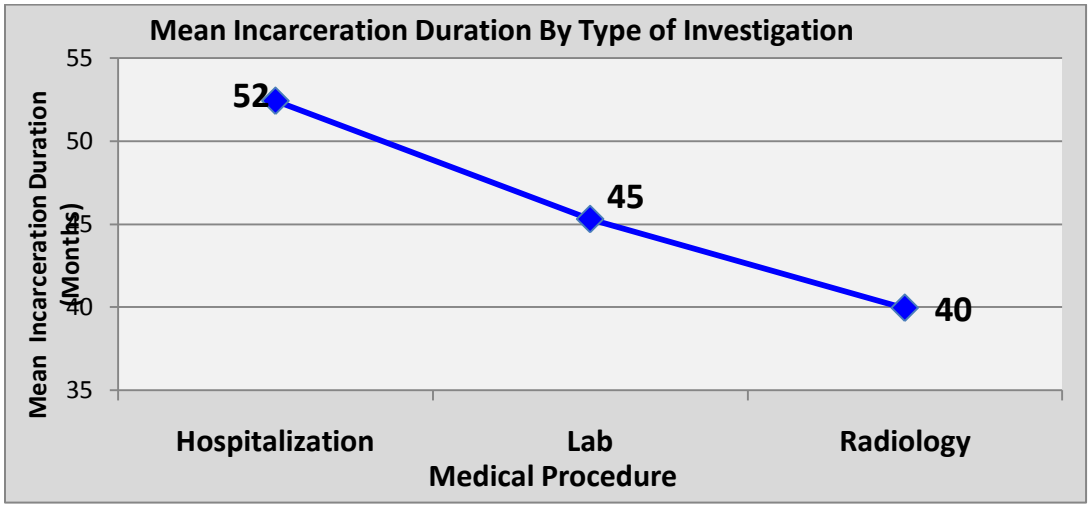


Figure 30. External Health Care Requests Distribution by Educational Attainment

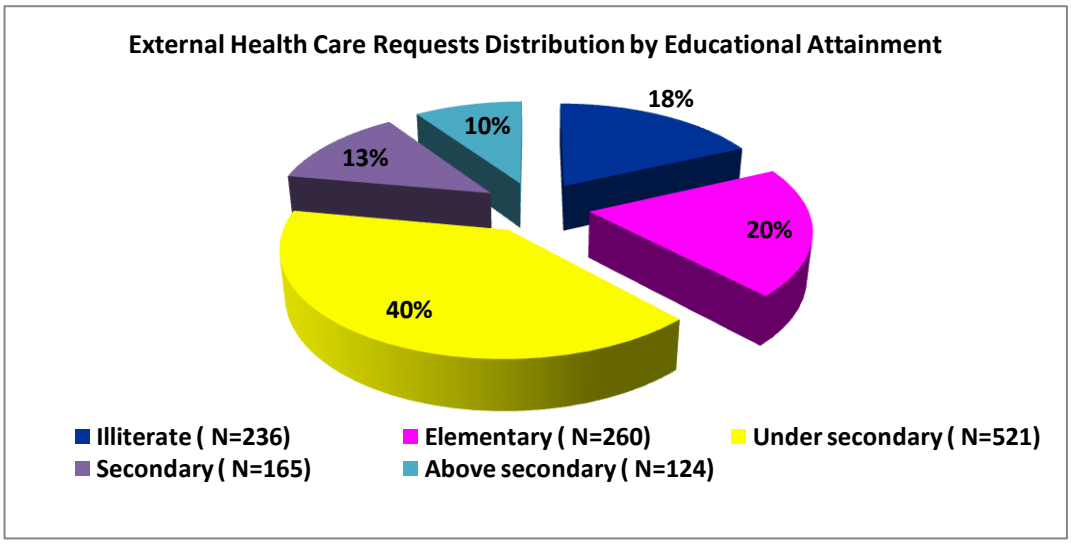


Figure 31. External Health Care Requests Distribution by Nationality

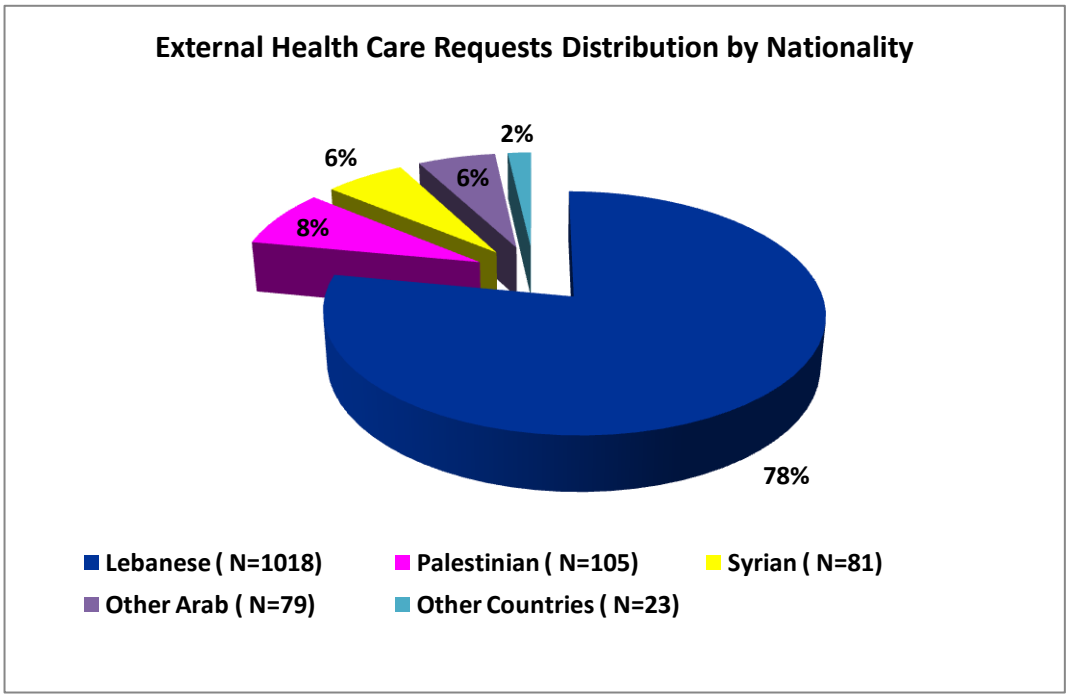


Figure 32. Mean Patient Age by Investigation Type

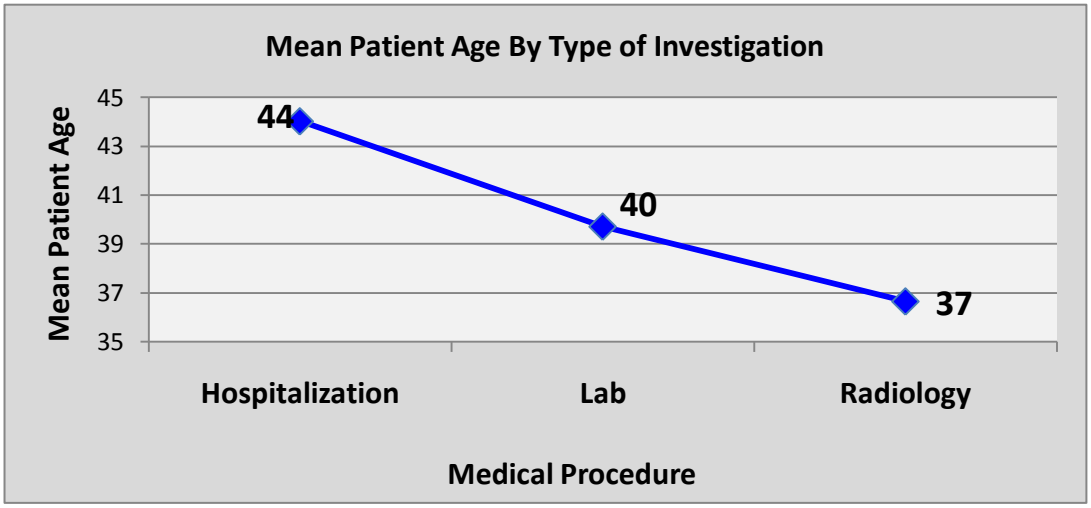


Figure 33. External Health Care Requests Distribution by Facility and Investigation Type

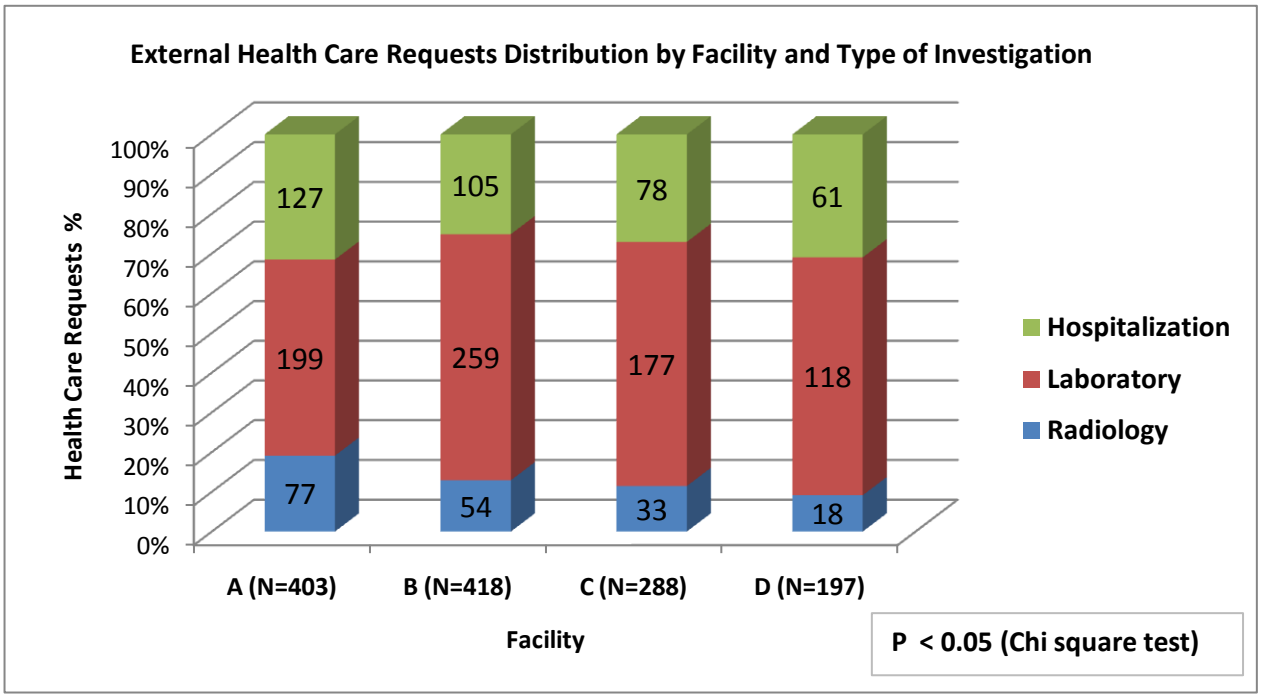


Figure 34. External Health Care Requests Distribution by Investigation Type and Educational Attainment

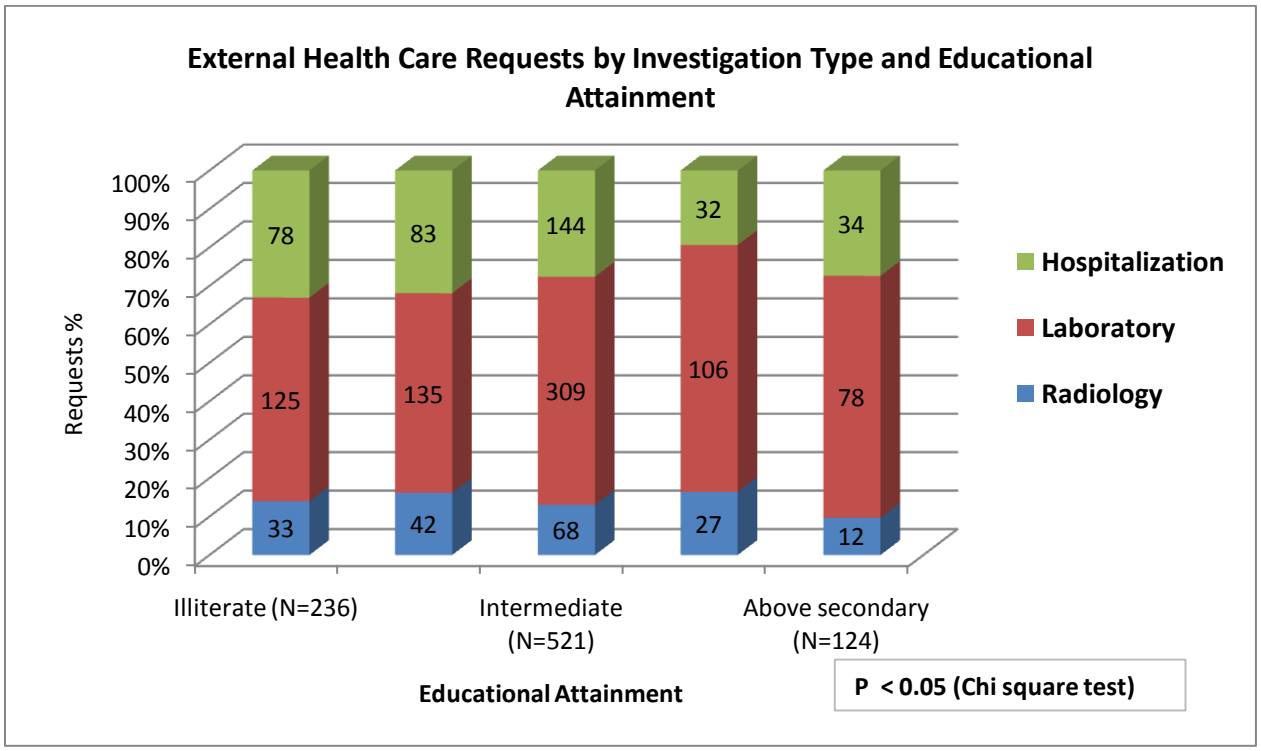


Figure 35. External Health Care Requests Distribution by Nationality and Investigation Type

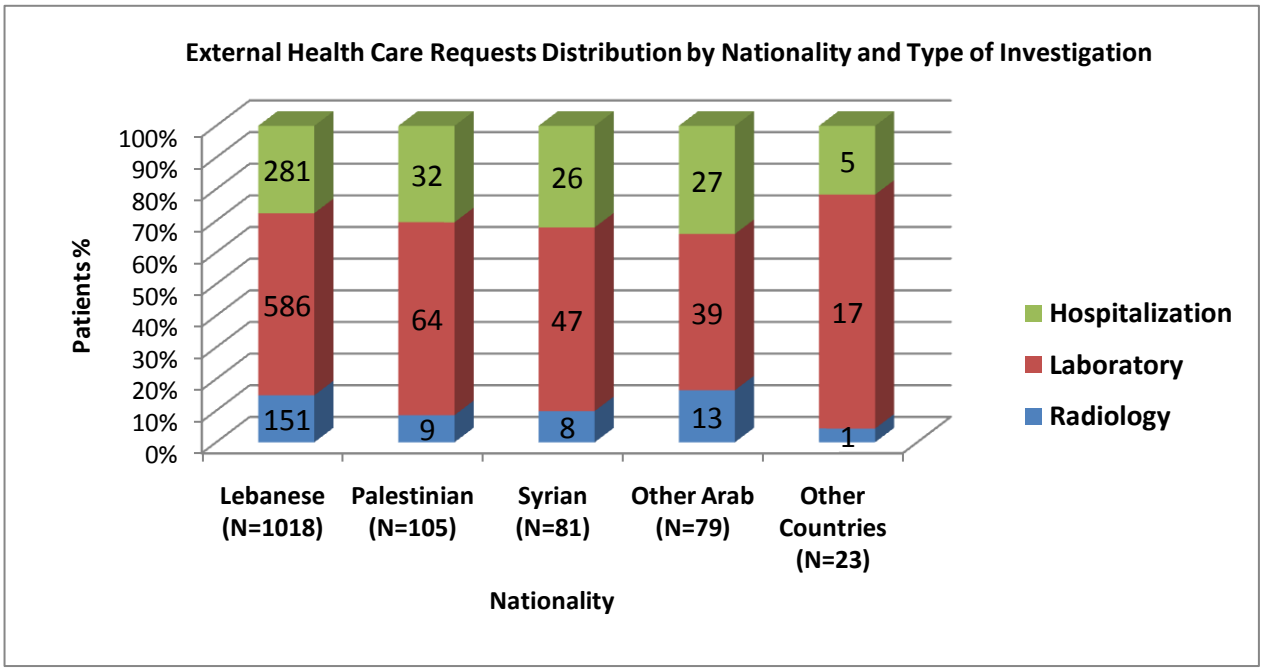
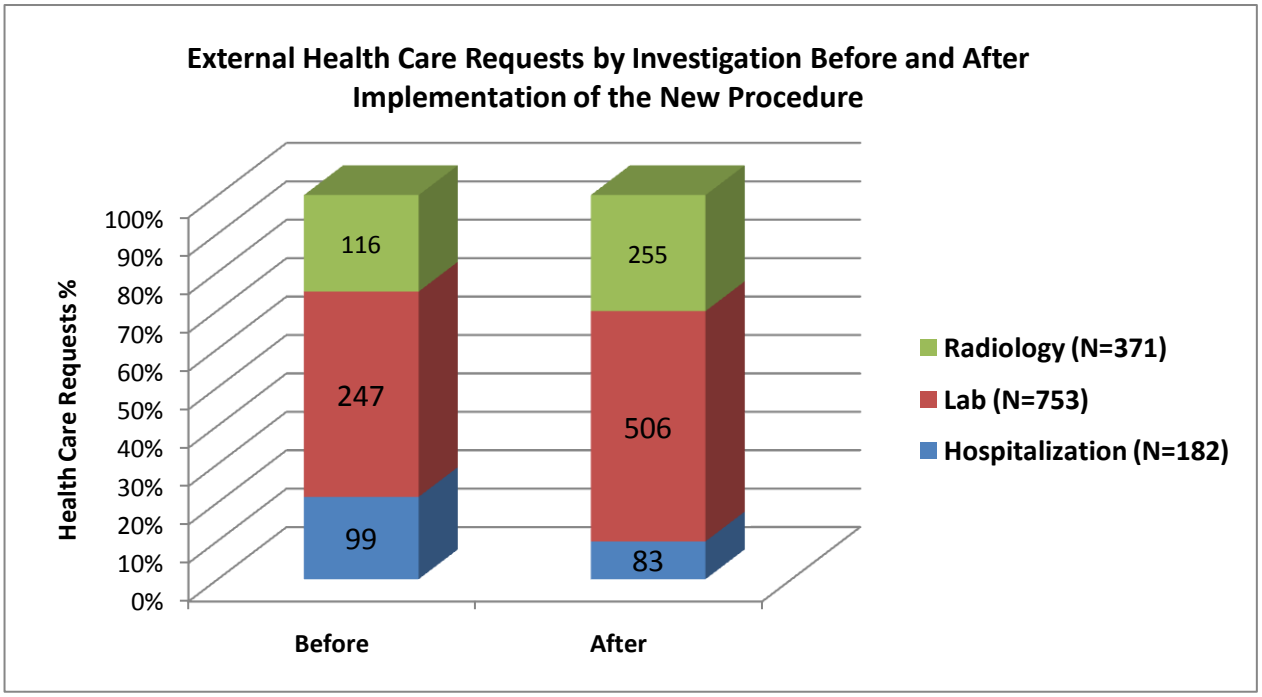


Figure 36. External Health Care Requests Distribution by Investigation Type Before and After the Reform Implementation



REFERENCES

1 Adib SM, El Takach H, El Hajj C. Tuberculosis in Lebanese prisons: prevalence and risk factors. *European Journal of Epidemiology* 1999; 15(3):253-260.

2 Haidar A, Adib SM. Health structures and hygiene in Lebanese prisons. *J Med Liban* 2001; 49(4):197-202.

3 Birmingham L, Wilson S, Adshead G. Prison medicine: ethics and equivalence. *The British Journal of Psychiatry* 2006; 188: 4-6.

4 Newport J. Review of health services in correctional facilities in the United States. *Public Health Rep.* 1977; 92(6):564-569.

5 Freudenberg N. Prisons, prisoners and the health of urban populations: a review of the impact of the correctional system on community health. *J Urban Health* 2001; 78(2):214-235.

6 Condon L, Hek G, Harris GF, Powell J, Kemple T & Price S. Users' views of prison health services: a qualitative study. *Journal of Advanced Nursing* 2007: 58:216–226.

7 Freeman RW, Gollub RE, Wolski M, Gschwend JA, Al-Ibrahim MS, Hawthorne PR, Fox LJ, Golden AS, Kamka G, and Kelly GB. Planning Health Services for a city jail: Impact of Contractual services on Men's Sick Call. *Medical Care*, April 1981:19, No.4.

8 Kending NE, Correctional health care systems and collaboration with academic medicine. *JAMA* 2004; 292(4):501-503.

9 Watson R, Stimpson A, Hostick T. Prison health care: a review of the literature. *International Journal of Nursing Studies* 2004; 41:119-128.

10 Glaser JB, Greifinger RB. Correctional health care: a public health opportunity. *Ann Intern Med*. 1993; 118(2):139-145.

11 Mellow J, Greifinger RB. Successful reentry: the perspective of private correctional health care providers. *J Urban Health*. 2007; 84(1):85-98.

12 Reed J, Lyne M. The quality of health care in prison: results of a year's programme of semistructured inspections. *BMJ* 1997; 315:1420.

13 Gatherer A, MD, Moller L, and Hayton P. The World Health Organization European Health in Prisons Project after 10 Years: Persistent Barriers and Achievements, *American Journal of Public Health*, October 2005: 95, No. 10.

14 Freeman, R. W., Gollub, R. E., Wolski, M., Gschwend, J. A., Al-Ibrahim, M. S., Hawthorne, P. R., et al. (1981). Planning health services for a city jail: Impact of contractual services on men's sick call. *Medical Care, 19*(4), 410-418.

15 Raimer, B. G., & Stobo, J. D. (2004). Health care delivery in the texas prison system: The role of academic medicine. *JAMA : The Journal of the American Medical Association, 292*(4), 485-489.

16 Kendig, N. E. (2004). Correctional health care systems and collaboration with academic medicine. *JAMA : The Journal of the American Medical Association, 292*(4), 501-503.

17 Gerzon, M. (2006). Leading Through Conflict. Boston: Harvard Business School Press.

18 Kotter, J. P. (1996). *Leading change*. Boston: Harvard Business School Press.

OTHER SOURCES NOT CITED IN THE TEXT

19 Froom J, Howe B, Mangone D, Swearingen C, Warren PS. A health data system for New York State correctional facilities. *Am J Public Health* 1977; 67(3):250-251.

20 Thorburn KM. Health care in correctional facilities. *West J Med*. 1995; 163(6):560-554.

21 Raimer BG, Stobo JD. Health care delivery in the Texas prison system: the role of academic medicine. *JAMA* 2004; 292(4):485-489.

22 Fox KC, Somes GW, Waters TM. Timeliness and access to healthcare services via telemedicine for adolescents in state correctional facilities. *J Adolesc Health*. 2007;41(2):161-167.

23 Harris F, Hek G and Condon L. Health needs of prisoners in England and Wales: the implications for prison healthcare of gender, age and ethnicity. *Health and Social Care in the Community* 15 (1), 56–66.

24 Anaraki S, Plugge E, Hill A. Delivering primary care in prison: the need to improve health information. Study *Informatics in Primary Care* 2003: 11: 191–194.

25 Rogers WB, Seigenthaler CP. Correctional Health Care as a Vital Part of Community Health, *Journal of ambulatory care management*, July 2001: 16.