

## History of Medicine

# The Westminster Medical College and Hospital in Urmia, Iran, 1879–1915

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**Background:** The American Presbyterian Missionary in Iran accomplished medical activities in Urmia. Doctor Joseph Plumb Cochran established the first modern medical college (the Westminster College) in 1879 and built a modern hospital of that time (the Westminster Hospital). The medical college and hospital trained 34 native physicians that practiced in the northwest of Iran and its neighboring regions. Although the main aim of American Presbyterian Missionary was theological and evangelistic, their devoted activities improved health and welfare in the northwestern part of Iran and its neighboring countries.

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**Introduction**

The American Presbyterian Missionary to the Nestorians in the Urmia and northwest of Iran settled in the region in 1835.<sup>1,2</sup> They established different cultural and medical activities. In 1835, the first Missionary school started to work in Urmia. In 1844, the Missionary Press started its work in Urmia and many books, commentaries, periodicals and pamphlets were published. Although the main aim of American Presbyterian Missionary was theological and evangelistic, they improved the sanitary and health conditions in the region. This brief review presents the most prominent medical activities of the American Presbyterian Missionary and the endeavors of Doctor Joseph Plumb Cochran in Urmia that influenced the Northwest of Iran and its neighboring countries.<sup>1,2</sup>

**Doctor Joseph Plumb Cochran (1855–1905)**

Joseph Plumb Cochran was born in 1855 in Urmia, West Azarbaijan, Iran (Figure 1). In 1870, the young Joseph Plumb Cochran went to the United States to study in the Buffalo Central High School for 4 years.<sup>1,4</sup> In the fall of 1874, Joseph Cochran went to Yale University. In the second year, he took medical courses in the Buffalo Medical College. In the last year, he went to Bellevue Medical College in New York City. In the spring of 1877, he received his medical degree and went back to Buffalo to work with Dr. Miner in the hospitals. He also studied pharmacy and dentistry to be able to help the Missionary in as many ways as he could. He did special works on the eye and spent one year in the Kings County Hospital (Figure

2). On June 10, 1878, he was appointed as missionary to the Nestorians in Iran by the Board of Foreign Missions of the Presbyterian Church in the United States of America. The aim of the missionaries' instructions was to reform the ancient Nestorians' church.<sup>1</sup>

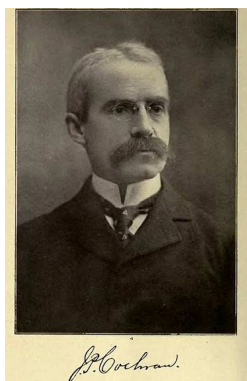
On December 2, 1879, Dr. Cochran at the age of 25 years arrived in Urmia and started to work at once (Figure 3). He established a small dispensary with 2 rooms and 2 beds (Figures 4 to 6). In the first 4 months of his work, he visited 1600 patients. From the outset of his work, Dr. Cochran tutored 2 students to assist him.<sup>1</sup>

There were no drug shops or trained druggists in that time in Urmia; therefore, Dr. Cochran had to make and prepare all his needed medicines himself. With the contribution of his assistants, Dr. Cochran introduced



**Figure 1.** Joseph Plumb Cochran (the right boy) at the age of 12 with his mother, sister and brother, Urmia 1867.

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**Figure 2.** Doctor Joseph P. Cochran (1855–1905).



**Figure 6.** Dr. Cochran is stirring a cup of medicine for a patient at her home.



**Figure 3.** Doctor Cochran's Residence in Urmia Circa 1880s.



**Figure 4.** Work in the Dispensary Day (Indoor).



**Figure 5.** The Dispensary Day (Outdoor).

vaccination on babies for the first time in Urmia.<sup>1</sup>

On June 18, 1880, he successfully performed a below knee amputation for a little girl whose foot was mortified because of previous fracture. In that time, one third of patients with amputation operations expired. There were no trained nurses and surgical assistants. Dr. Cochran had to induce anesthesia himself and also manage the process with chloroform. He continuously had to drop the knife and evaluate the patient's vital signs. From his arrival till the summer of 1880, he visited more than 3000 patients. Table 1 demonstrates a summary of medical works in Urmia in the first year of Dr. Cochran's work.<sup>1</sup> In the spring and summer of 1892, an outbreak of cholera approached the Northwest of Persia. Dr. Cochran prepared a pamphlet and the Missionary Press published it in 2 languages of Farsi and Syriac. This work was effective in treatment, recovery of the patients and reducing death rates. In that pamphlet, the nature of cholera, its mode of dissemination, the means of prevention and its treatment were described. Dr. Cochran also prepared medicines to put in bottles with directions printed in Farsi and Syriac. The people begun to use boiled water and refrained to use fruits and vegetables except from their own gardens. Although 1500 death occurred in Urmia, due to the endeavors of Dr. Cochran the sanitary conditions of the region improved and 95% of the patients were treated and recovered.<sup>1</sup>

Dr. Cochran was not only a capable physician but also an accomplished surgeon. On January 20, 1903, Dr. Cochran wrote in his accounts that he had operations on 2 merchant brothers because of gunshot wounds. One of them who had abdominal wound died because of the

**Table 1.** Medical Works in Urmia in the First Year of Work

Attendance at the Dispensary	7727
Outside office patients	3235
Visits in the city and villages	1218
Hospital patients	574
Total	12754

complications of perforated intestine; however, the other with a wounded shoulder joint survived with a functional upper limb. In another account on March 30, 1903, he wrote that he had a successful operation on a kidney to remove stones and much accumulated pus.<sup>1</sup>

### **The Westminster College (1880–1915): The First Modern Medical College in Persia**

Twenty-four native doctors were trained under supervision of Dr. Cochran from 1879 until 1905 when he died. Except the first course where only 2 students were trained, six 4-year courses with 4 to 6 students were held. Dr. Oshana Badal that became the first assistant physician of Dr. Cochran was the first graduate of the medical school. The Missionary provided tuition, furnished books and furnished rooms with light and heat for the students.<sup>1,4,5</sup>

During the first and second years, the curriculum consisted of anatomy, physiology, materia medica, chemistry and pharmacy. During the third and fourth years, the curriculum consisted of basic principles of medicine, laboratory science, diagnosis of the disease, surgical skills, orthopedics and midwifery. Medical diploma was awarded to the students after their success in examinations.<sup>1,4,5</sup>

In 1901, in addition to the regular alumni meetings, Dr. Cochran arranged a medical society among physicians. Most of the doctors were trained by Dr. Cochran; however, there were doctors who came from Europe and Armenia. They met once a fortnight and the progresses of medicine during the past years such as diphtheria antitoxin and Roentgen Rays were discussed.<sup>1</sup>

### **The Westminster Hospital**

The need for a hospital became apparent very soon. In the summer of 1879, Dr. Cochran sent an appeal to the Missionary Board for \$1500–\$2000 to establish a hospital in Urmia, Persia. Mr. Samuel Clement of Buffalo devoted \$1000 to establish the hospital. The hospital was named “The Westminster Hospital” after the church in Buffalo. Construction of the hospital started in 1880 and finished in the fall of 1882.<sup>1</sup>

About 1 to 2 miles outside the city of Urmia, on the river bank of the same name, the Mission had already bought a 15-acre of land for the missionary college and seminary. The Missionary decided to build the hospital building on the ground of the college. Four acres of this land enclosed by a tall wall about 15 feet high were divided into 4 squares (Figure 7).

In one of his reports, Dr. Cochran wrote about the hospital, “On one of these squares the hospital is built, on another the college, and on the remaining 2 the residences of the superintendent of the college and of the

physicians. The building is 75 feet by 35, faced with red brick and 2 stories and aside from accommodations for the patients; it has drug rooms, operating and assistants’ rooms, and storerooms. It has 2 large wards, and 6 smaller wards. The large wards have 60 beds, the smaller from 3 to 6. The beds are of straw on high wooden bedsteads, and are furnished with sheets and quilts made in the native style, i.e., of wool, with a covering of bright calico. The windows are curtained with gray calico; pictures furnished by our friends adorn the walls, and in nearly every window are plants. The floors are either carpeted or of brick. The kitchen is at a short distance from the main building, where the cooking is done in a native oven (a large earthen jar, 3 feet wide by 6 feet deep).<sup>1</sup> The hospital staff, at its fullest, were Dr. Cochran himself, Dr. Emma T. Miller (Figure 8) for female patients, Dr. Wright, Dr. Homlz who was Dr. Cochran’s brother-in-law, Dr. Van Nourdon, Dr. Oshana Badal who was the first graduate student and the first assistant physician of Dr. Cochran, the necessary native nurses, and also a class of medical students. Dr. Cochran’s mother, “Madam Cochran”, was the matron of the hospital for the last ten years of her life until she died in 1893.<sup>1–4</sup>

In 1988, during Dr. Cochran’s visits to the United States, Mrs. George Howard of Buffalo gifted \$2000 to extend the hospital building. The Howard Annex was built as a special ward for female patients. The hospital became the



**Figure 7.** The Westminster Hospital Under Construction (1880–1882) in the Missionary Land Outside Urmia.



**Figure 8.** Dr. Emma T. Miller.



heart of the medical works and training of native doctors (Figures 9 and 10). More than 70 different diseases were treated in the hospital. This is the report of the first year works of the hospital: “Typhoid fever, 4; entropium, 2; frostbite, 2; locomotor ataxia, 1; torticollis, 1; fistulas, 2 (1 in ano, and 1 urethrorectal); otitis, 1; abscesses, 2 (1 in foot, 1 in axilla); abortion, 1; gonorrhoea, 5; atresia, nares, 1; melancholia, 2 poisoned by arsenic, 1; contusion of ribs, 1; enlarged prostate, 2; anal warts, 1; incontinence of urine, 2; periostitis, 2; hemorrhoids, 9; tonsillitis, 10; valvular lesions, 5; stone in urethra, 1; stone in bladder, 23 (18 lithotomies, perineal, 1 suprapubic, 4 lithotrities); syphilis, 2; ulcers, 5 (legs, hand, cheek, and chin); cirrhosis of liver, 5; cystitis, 4; sciatica, 5; trichiasis, 8; conjunctivitis, 9; keratitis, 15; cataract, 24 (operations, 23); trachoma, 1; diphtheria, 5; tumors, 6 (lipoma 3, cystic 3); hemiplegia, 4; nephritis, 5; sterility, 2; tetanus, 1; vomiting of pregnancy, 1; glaucoma, 1; pneumonia, 4; pleuritis, 10; chronic bronchitis, 16; tuberculosis, 16; erysipelas, 5; malaria, 30; mastitis, 7; adenitis, 10; orchitis, 4; neuralgia, 6; tenia, 10; lupus, 1; acute rheumatism, 9; chronic rheumatism, 2; dysentery, 11; indigestion, 18; chronic diarrhea, 8; cancer, 5 (stomach 2, breast 2, lip 1); uterine diseases, 13 (metritis 3, prolapse 4, lac. Cervix 3, menorrhagia 1, amenorrhea 2); gunshot wounds, 3 (femur, tibia, and jaw); dislocation of humerus, 1; fractures, 4 (fibula 1, ulna and radius 1, comp. tibia and fibular 2); amputations, 5 (toes 1, thigh

1, leg 1, arm at shoulder, 1, breast 1); caries of bones, 48 (maxilla 3, tibia 9, frontal 1, humerus 6, ulna 1, radius 2, ribs 1, femur 6, vertebrae 10, Pott’s disease, calcis 3, palate 1, tarsal 3, jaw 2)”<sup>1</sup>

Two crown princes of the Qajar dynasty (1789–1925) visited the Westminster Hospital. In the winter of 1890, the Crown Prince Mozafar-ad-Din (1853–1907), the successor to Naser-ad-Din Shah (1831–1896) along with the Governor General of the province visited the Westminster Hospital. The Crown Prince spent 2 hours visiting the hospital. He was interested in the character of the instructions given to the medical students in the hospital. He visited the patients that were unable to stand up and enquired about their problems. He examined surgical instruments in the operating room and observed a skeleton with curiosity. He donated 30 tomans to the college and 10 gold pieces to the medical students and the hospital.<sup>1</sup>

In November 1901, the Crown Prince Mohamad Ali (1872–1925), the successor to Mozafar-e-Din Shah, visited the Westminster Hospital. He spent a half hour in the operating room and examined the instruments closely. He donated fifty dollars to the college and gave 3 shawls to the doctors. The Crown Prince was also invited to attend the College Commencement and graduation ceremony of 4 students in 1904. The Crown Prince as well as his chief native doctor, Loghman-ul-Mamalik indorsed the graduated students’ diplomas.<sup>1</sup>

Table 2 demonstrates a total of medical works in Urmia including the hospital works in 1904.

Until 1891, the hospital’s appropriation and the other medical works was \$1000 per year. In the later years, the appropriation increased to \$1500. The appropriations were largely provided by the Missionary. The local receipts for the medical works were negligible.<sup>1</sup>

#### The First Medical Diploma Granted by Westminster Medical College Urmia, Iran, 1883

Oshana Badal (1853–1911) who was a pupil of seminary college before he became the first medical student of Doctor Cochran and graduated from Westminster Medical College in 1883.<sup>5</sup> Figure 11 demonstrates Oshana Badal’s medical Diploma in which is written:

“To all to whom those presents may come greeting



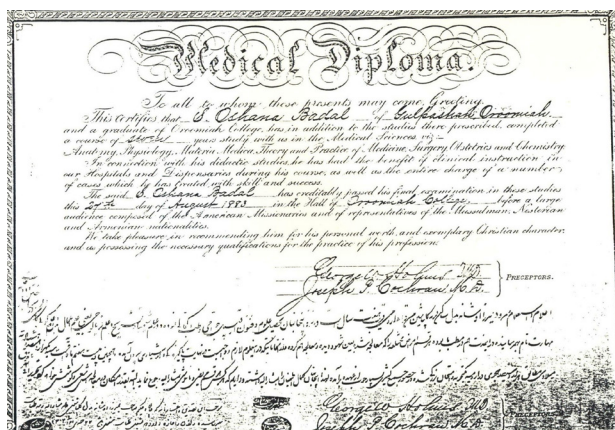
Figure 9. Dr. Cochran Visiting the Ward in 1897.



Figure 10. Dr. Cochran Attending to his Patients Toward End of his Life Just Before 1905.

Table 2. Medical Works in Urmia in 1904

Hospital cases	455
Dispensary cases	3251
Visits outside of hospital and dispensary	5031
Visits to the homes of sick	1131
Total seen by Dr. Cochran	9868
By native assistants, about	4000
Total	13 868



**Figure 11.** The Medical Diploma given to Oshana Badal is signed by Hakim Saheb (Dr. Cochran) and George W. Holms MD is written in Farsi and English languages.

This certifies that S. Oshana Badal of Gulpashin Oroomieh and a graduate of Oroomieh College has in addition to the studies there prescribed completed a course of 7 years study with us in the Medical Sciences viz.- Anatomy, Physiology, Materia Medica, Theory and Practice of Medicine, Surgery, Obstetrics and Chemistry. In connection with his didactic studies he has had the benefit of clinical instruction in our Hospitals and Dispensaries during his course, as well as the entire charge of a number of the cases which he has treated with skill and successes.

The said S. Oshana Badal has creditably passed his final examination in those studies this 27th day of August 1883 in the Hall of Oroomieh College before a large audience composed of the American Missionary and of representatives of Mussulman, Nestorian and Armenian nationalities.

We take pleasure in recommending him for his personal worth and exemplary Christian character and processing the necessary qualifications for the practice of his profession.

Preceptors: George W. Holms MD and Joseph P. Cochran MD."

Doctor Badal's medical diploma was the first of its kind in Iran. According to the medical diploma, Doctor Oshana Badal was licensed to practice medicine. Advised by Doctor Cochran, Doctor Oshana Badal went to Edinburgh, Scotland to extend and complete his knowledge of medicine.<sup>5</sup> After returning to Urmia, he became the chief assistant of Doctor Cochran and continued to contribute to the education of the medical students in Westminster Medical College and running the Westminster Hospital. Doctor Badal assisted Doctor Cochran in every surgery he performed. In 1890, the Crown Prince Mozafar-ad-Din (1853 – 1907) visited the Westminster Hospital and bestowed upon Doctor Badal and the other physicians working in the hospital the title

"KHAN". In 1905, Doctor Cochran died because of typhoid fever. In that time, the mortality rate of typhoid fever was 18% in Persia.<sup>1</sup> Doctor Oshana Badal continued his works in the medical college and hospital until 1911 when he died because of typhoid fever.<sup>5</sup>

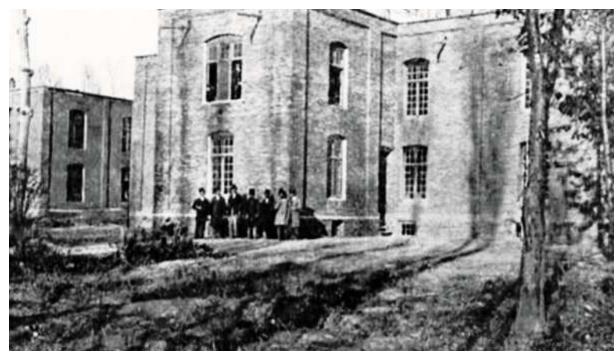
### American Medical Missionary after the Death of Dr. Cochran

Dr. Cochran died in Urmia at the age of 50, on August 18, 1905. He was buried in Assyrian Missionary Cemetery located in the side of Seer Mountain in Urmia close to resting place of his wife Catherin and his parents.<sup>4</sup>

After Dr. Cochran, the Westminster Hospital was named "Cochran Memorial Hospital". Dr. Harry P. Packard (1874–1954) (Figure 12) took the responsibility of the medical college and the training of the medical students until 1915. In 1907, Mr. Samuel Clement built a New Westminster Hospital which was the first of its kind in Iran in the city of Urmia (Figure 13). In 1909, Dr. Emma T. Miller left the college and Urmia. In 1910, Dr. Laura McComb (Figure 14), in 1915 Dr. Wilder Ellis (Figure



**Figure 12.** Dr. Harry P. Packard (1874-1954) Examines a Patient.



**Figure 13.** The New Westminster Hospital inside Urmia.



15) and in 1916 Dr. Edward Dodd came to Urmia and helped Dr. Packard. Between 1879 and 1915, a total of 34 native doctors graduated from the medical college. A majority of the graduated doctors were Assyrians; however, there were 5 Moslem doctors among them. In 1915-1916, Cochran Memorial Hospital started to train academic nurses; however, because of the Great War (1914–1918) all the Missionary activities including the hospital activities stopped and all the Missionary members including the doctors went to Tabriz.<sup>6</sup>

Dr. Cochran's son Joseph P. Cochran Jr. returned to Persia in 1920 to follow in his father's footsteps through his service in the American Mission Hospital. His daughter, Dorothy Cochran Romson served for a short time in Mission Nurse in Tabriz, Persia.

In the early 1930s, "Cochran Memorial Hospital" became active in academic training of nurses (Figures 16 and 17). In 1934, the Missionary activities in Urmia stopped and the Missionary sold all its properties to the Iranian government (Figure 18).

In 1963, on the ground of the Missionary's garden the faculty of agriculture which was the first faculty of Urmia University was established. At present, Dr. Cochran's residence building known as the "Wooden Building" is located in main campus of the Urmia University (Figure 19). In 1981, on the ground of former Medical



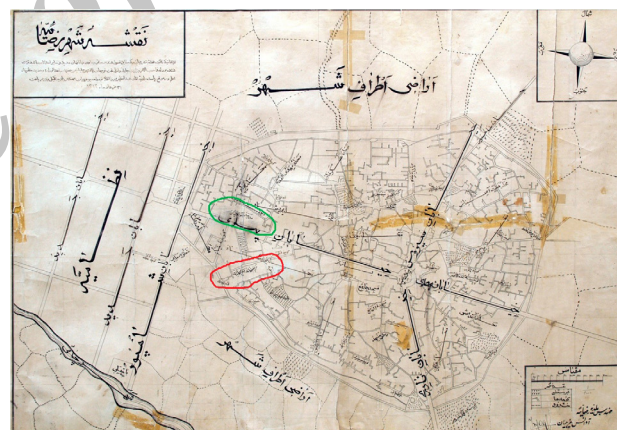
**Figure 16.** The ceremony for the graduating nurses from Cochran Memorial Hospital. Dr. Cochran's son Joseph P. Cochran Jr. (Black suit) is standing on the left.



**Figure 17.** The first nursing class to graduate from Cochran Memorial Hospital, below. In back row Dr. Laura Muller, Wilma Pease RN and Dr. Joseph P. Cochran Jr. 1931..



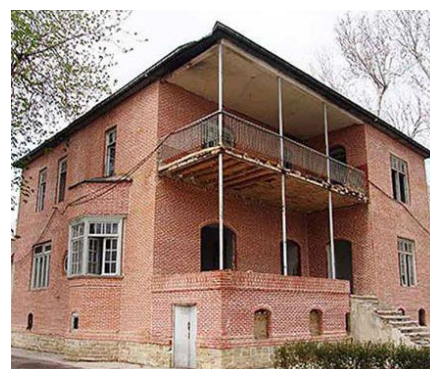
**Figure 14.** Dr. Laura McComb.



**Figure 18.** Map of Urmia in 1934 demonstrates the district of the Cochran Memorial Hospital (red zone) and American school (green zone).



**Figure 15.** Dr. Wilder P. Ellis, 1916.



**Figure 19.** The Wooden Building, the oldest building in Urmia University campus.

College and Cochran Memorial Hospital, the Nursing and Midwifery School of Urmia University of Medical Sciences was established.

In summary, Dr. Cochran's biography collected from his personal correspondence with friends and relatives, reports to the Missionary station and the accounts to the Missionary Board has been written and published by Speer and Shedd, demonstrates his endeavors to improve health and welfare in the northwest of Persia and its neighboring regions.<sup>1,2</sup> Dr. Cochran was entitled by the local people as the Hakim Sahib. "Hakim" means doctor and "Sahib" stands for master or Sir in Farsi. As a doctor, he also used his influence on the different hostile rival parties in the political turmoil in the region. In 1887, Naser al-Din Shah (1831–1896), the king of Iran, bestowed upon Dr. Cochran the decoration of the Second Class of "Grand Order of the Lion and the Sun" of Persia because of his achievements.<sup>1</sup>

#### Conflict of Interest Disclosures

The author has no conflicts of interest.

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