

REPORT TO THE GOVERNOR  
BY  
THE SUPERINTENDENT OF PUBLIC HEALTH.

The Arizona Board of Health was created by an act of the Legislature dated March 19, 1903, and although a Superintendent of Public Health was appointed in accordance therewith and most of the counties proceeded to organize their boards of health under its provisions, there are no records to show that prior to March, 1907, any reports were made to the Territorial Board of Health. In this latter month, Dr. J. W. Coleman was appointed Superintendent of Public Health to succeed Dr. Wm. Duffield. The vital statistics of the territory date from the first of April, 1907. The effect of the laxity of the previous administration is shown by the almost constant increase in the returns of births and deaths since the Territorial Superintendent of Public Health began to require the quarterly reports from the county officers. Not only have these officials tried to secure more complete returns but the physicians throughout the territory have responded to their pleas in a way that deserved a tribute to their public spirit. For it must be understood that out side of the cities of Globe Phoenix, Tucson and Prescott burial or removal permits prior to burial or removal are not required and as a result, the law requiring the issuance of certificates of death cannot be enforced.

VITAL STATISTICS

In order to obtain complete returns of the deaths in the territory, it is essential that the present system of reporting to county officers be abolished and the "model law" recommended by the United States Bureau of the Census be enacted. The county system of reporting vital statistics has been tried in nearly every state of the Union and without

exception, has proved a failure. Requiring an undertaker in Bisbee to send to Douglas for the burial or removal permit that would enable him to bury the body of a person dead in the former city would involve a delay and inconvenience that is unjust and unnecessary. And yet the burial permit is absolutely essential, not only for the accurate recording of deaths for statistical purposes but in order to prevent the burial of those who have died as the result of some unlawful act.

Complete returns of all the deaths is the very foundation of efficient public health work. Without them, officials are unable to properly estimate the importance of the various diseases and the value of the means applied to their amelioration or eradication. They form the only means of checking back to discover whether or not the births and contagious diseases are being reported as they should be.

The necessity of reporting contagious diseases is apparent to every one and yet pressure is constantly brought to bear on physicians to make exceptions in particular cases and it is to be regretted that they sometimes yield. If the patient happens to die, no certificate of death is filed and no one is the wiser, though some other family may wonder where their child contracted diphtheria or scarlet fever or other disease as the case may be. Under an enforceable and enforced law, physicians would not dare take chances and where all alike feared detection, there would not be the fear of losing cases which is the determining factor in nearly every instance of evasion.

The "model law" referred to is the one that has been drafted by the Division of Vital Statistics of the Census Bureau working in conjunction with committees of the American Medical Association, The American Public Health Association and the Conference of State and Provincial Board of

Health. It has received the approval of these bodies, the endorsement of Congress and of the Committees on Uniform Legislation of the American Bar Association. It is not intended that it be adopted in precisely the same form, in every one of the states and territories, but that it be adapted to the local conditions, without, however, violating any of its essential requirements. ~~It does not seem wise at this time to consider the registration of births. The difficulties of obtaining complete registration of births are so much greater that probably any kind of a law would fail to obtain it in this territory.~~

To quote from the circular of the Census Bureau (Division of Vital Statistics, 106,) the essential requirements of a successful law are :-

"1. Deaths must be registered immediately after their occurrence.

"All deaths must be registered immediately after their occurrence in the jurisdiction where they occur (city or other primary division). By Immediate registration is meant, registration before interment or removal of the body.

"2 Certificate of Death should be required.

"The primary record of death should consist of a certificate of prescribed form, including, as a minimum requirement, all the data necessary for the mortality statistics of the United States Census.

"3 Burial or removal permits are essential to the enforcement of the law.

"No dead body should be removed from the place of death, interred, cremated or otherwise disposed of, unless such action is authorized by a burial or removal permit based on a satisfactory certificate of death and signed by the local registrar.

"4 Efficient local registrars are necessary.

"There should be an efficient local registrar in each city, town or other political district, whose duty it should be to receive and approve certificates of death and to issue burial or removal permits for all deaths that occur in his jurisdiction. He should be properly compensated, and should be required to enforce the law in his district under penalty for neglect.

"5. The responsibility for reporting deaths to the lo-

cal registrar should be fixed.

"The responsibility for obtaining and filing the original record of deaths with the registrar should be fixed by the law. The best results are obtained, when this duty is imposed upon the undertaker or other person having charge of the interment, removal or other disposition of the body. He should therefore be made primarily responsible, under penalty for neglect, for presenting the certificate of death and obtaining the burial or removal permit before the body is disposed of. The attending physician, coroner, health officer or other official should be required to certify the cause of death and to furnish, upon demand, any other information he may possess that is required to complete the record of the case. The personal data relating to the decedent may be supplied by any member of the family, next of kin, landlord, or person in charge of the premises, upon which the death occurred, and they, and all other persons cognizant of the facts, should be required to furnish such information to the undertaker, physician or other person preparing the return. The name and address of the person furnishing the personal data should appear in the return.

"6 The Central Registration Office should have full control of the local machinery, and the rules should have the effect of law.

"The central registration office of the state should have direct supervision and control of all matter relating to local registration. It should be charged with the maintenance of complete records and with the efficient and uniform enforcement of the law. To this end, it should be able to command the assistance of the legal department of the state. It should also be empowered to remove inefficient or negligent local registrars and to appoint others in their stead; to prescribe, print and distribute the forms of certificates and records for local use; to receive the returns from local registrars; and to preserve the records in suitable order for convenient reference.

"7 The transmission and preservation of the records should be provided for.

"A complete, permanent record of each death should be kept in the office of the local registrar and in the central registration office, and provisions should be made for indexing the records in alphabetical order.

"Returns should be made monthly to the central registration office, and within a certain specified period after the close of each month. This is necessary in order to enable the central office to ascertain the efficiency of local registration, and to scrutinize the certificates and secure corrections if they are found defective as soon as possible after the cases have been reported.

"Returns should be made to the central office in one of these two ways:

(a) A copy of each record may be made by the local registrar, in which case, the original record will be forwarded to the state office;

(b) the original record may be retained by the local registrar, in which case, a complete copy should be made in a permanent form, certified by the local registrar, and for-

warded to the state office.

"The first mentioned form is considered preferable.

"8 Penalties should be provided.

"Penalties should be provided for the violation of any of the provisions of the law. Each section should specify the penalties imposed, which should be based on the importance of its requirements."

The greater difficulties of enforcing a law for the registration of births makes it seem unwise to enact a compulsory law for such registration. In view of the importance that registration of births may have for the ones registered or for their parents, it would seem proper to provide for optional registration by the parents and by systematic work educate them in this importance. The Chief Statistician of the Division of Vital Statistics, Bureau of the Census, Dr. Cressy L. Wilbur, advises that the law for this territory follow those adopted by the states of Colorado and California with the exception of the sections relating to the registration of births. A copy of the Colorado law is appended. Its deviation from the "model law" consists principally in making the secretary of the Board of Health the chief registrar.

#### TUBERCULOSIS.

This disease, as in nearly every state in the union, played the leading role as the cause of deaths in this territory. Practically 85% of the deaths from this disease were reported from the counties of Pima, Maricopa and Yavapai, which are much frequented by the advanced cases sent out by ill-advised physicians and mis-informed friends of the east. It is to be regretted that our statistics are not complete, that the returns of deaths from other counties are not so nearly representative of the conditions therein as those from the counties above mentioned. The probabilities are that owing to the better understanding among physicians of

the conditons favoring recovery and the large amount of information that has been disseminated among the laity by the various boards of health and by charitable organizations, the immigrations of advanced cases (and of others also) has measurebly decreased. The advantages of our climate are, for many of them, more than counterbalanced by the lack of the wherewithal to <sup>obtain</sup> proper food and shelter. Many an unfortunate has come to our territory with little besides the clothes on his back, possibly having spent his last cent on the ticket that brought him; expecting to find work at once and to live without shelter until <sup>he is</sup> ~~gets~~ paid; expecting milk and eggs to be as plentiful and as cheap as in the eastern markets; little understanding that when we say "we can sleep out of doors the year round", we do not mean that we do so without covering. Undue exposure and lack of proper nourishment are consumptions greatest aid, not the patient's. Cases have their origin in this country just as well as elsewhere though the conditions predisposing to the disease are not so easily found.

The indiscriminate manner in which people have been sent to the territory in the past, the voluntary coming of many who have not been professionally advised, many of them indigent when they arrive, many of them becoming so soon after their arrival, has placed an economic burden upon some of our counties that is not to be lightly disregarded. Many of them have never been instructed by competent person as to the proper manner of caring for themselves or the proper manner of caring for their sputum for the protection of others and in consequence the ordinary hygienic rules that form the basis of--nay are--the means of recovery, the means by which a consumptive is rendered as safe to live with as a case of hysteria, these rules never come to their notice. They hurry to an untimely grave and far too often start others along the same mournful highway.

The problem of the elimination of tuberculosis has probably received more study by the worlds brightest minds in the past two decades than any disease since the dawn of civilization. There are many things that we might do for the tuberculars, as Dr Porter, Commissioner of Health of New York has said, but there is one thing we must do, <sup>and</sup> that is to insist upon the registration of all cases of tuberculosis. It is absolutely essential that the location and distribution of these cases be known in order that they may be instructed in how to conduct themselves, not only for their own good but for that of the public; for the purpose of calling attention to the unhygienic surroundings that they may be living in, to direct the aid of charitable institutions to their releif, and in order to prote ct those who may come after them, by proper cleaning of their recent habitats. This does nnot mean that the register should be open to public inspection, for as a matter of face, it should be strictly guarded from the eyes of the public ~~and~~ merely curious; it does not mean that printed matter should be sent to those who are guided by the advice of <sup>a</sup> competent physicians, without his desiring it, <sup>sent,</sup> it does not mean that a policy of officious and unnecessary inspection eb adopted. It does mean that as tuberculosis is a communicable disease, the health authorities should have a right to know where to expend their efforts. The cheap boarding house, the ill-lighted and ill-ventilated adobe shack are places that first ~~of all~~ <sup>we must face</sup> we want figures on. We must know whether or not these houses are frequented by the foreign tubercular patients who come here and whether or not there is an appreciable number of the native population acquiring the disease in such surroundings. It is not sufficient that we refer to the data collected elsewhere. The germicidal properties of our glorious sunlight is attributed with the power to kill germs which that sunlight never reaches.

Our dry atmosphere is given credit as a destroyer of infection in places where it seldom has a chance to enter. In order to be convincing, we must be able "to deliver the goods", to show by maps and charts <sup>that</sup> what we say is true.

To many, the question may present itself, "Well, why not go ahead and register these cases"? The answer is, that under our present laws, the registration can not be made effective. If a patient has tuberculosis and his case is not reported, when that patient dies, his death is not recorded and except in the cities mentioned before, ~~as~~ requiring burial permits, there is no way of discovering this evasion. So that the ultimate solution of the problem of registration is the securing of reliable mortality reports--the proper registration of deaths. Unless a registration regulation is enforced

~~ed~~ that are good reason why it should not be made. There is always more or less opposition to registration by the people registered and the conscientious physician who reports his cases loses some of them, while the one who evades the law, adds to his clientele, and until <sup>as</sup> insurance is had that injustice will not be done thereby, it is better to have no regulation at all.

Some city councils are in the habit of passing all sorts of ordinances in the interest of public health, many of them excellent, but with no adequate provision for their enforcement. In order to enforce the <sup>health</sup> ordinances of some of our cities, it would require the entire time of the health officer and <sup>the</sup> occasional aid of others under his direction. While this requirement is perfectly proper in my opinion, yet the city should be willing to pay the salary commensurate with such services and should refrain from passing ordinances until there are willing to do so. The laxity of enforcement of these laws only serves to bring them into public contempt and along with them are dragged laws which are enforceable and perhaps more essential to the general welfare

The resolutions adopted by the International Congress on Tuberculosis on October 3, 1908, are here given. It will be noticed that obligatory notification is given first place in these resolutions .

The establishment of a sanatorium by this territory is, at present, not to be thought of. For this territory to take upon itself the expense of such an institution which would immediately be filled by the tubercular citizens of less favored states, would be a burden too great to be considered.

Dr Livingston Farrand, New York, made the following report:

The Committee on Resolutions presents the following resolutions:

"1. The attention of state and general governments should be called to the importance of proper laws for the obligatory notification by medical attendance to proper health authorities of all cases of tuberculosis coming to their notice, and for the registration of such cases in order to enable the health officers to put into operation adequate measures for the prevention of the disease. We urge on the public and all governments the establishment of hospitals for the treatment of advanced cases of tuberculosis.

2. We urge the establishment of sanatoria for curable cases of tuberculosis.

3. We urge the establishment of dispensaries and day camps and night camps, for ambulant cases of tuberculosis which can not enter hospitals and sanatoria. Again, the utmost efforts should be continued in the struggle against tuberculosis to prevent conveyance from man to man of tuberculous infection as the most important source of the disease. Further , preventive measures must be continued against bovine tuberculosis and the possibility of the propagation of this to man should be recognized.

RESOLVED: That this Congress endorses such well-considered legislation for the regulation of the factories and workshops, the abolition of premature and injurious labor to women and children, and the securing of sanitary dwellings as will increase the resisting power of the individual to tuberculosis and other disease; that instruction in personal and school hygiene should be given in all schools for the professional training of the teachers; that wherever possible , such instruction in elementary hygiene should be entrusted to properly qualified medical instructors; that colleges and universities should be urged to establish courses in hygiene and sanitation, and also to include these subjects among their entrance requirements to stimulate useful element-

ary instructions in the lower schools. That this Congress endorses and recommends the establishment of playgrounds as an important means of preventing tuberculosis through their influence on health and resistance to disease.

#### PNEUMONIA.

The second most frequent case of death during the past two years according to our statistics is pneumonia. As transcripts of the deaths have never been sent to this office, nothing more than the total number of deaths and these under the general term, it is not possible to say how many of these were of the lobar or croupous form and how many of the bronchial or lobular form, how many of the cases were primary and how many secondary. Lobar or ordinary pneumonia has quite a marked tendency to become epidemic in certain portions of this country particularly in the mining camps. It is a disease with a very high mortality rate under the best of circumstances and it is commonly credited with being much more severe in such a locality as Bisbee. That the altitude, itself has little to do with this increased mortality rate, if it exists, is shown by the studies made in Leadville, Colorado where the altitude is over ten thousand feet and the mortality rate, according to the collected cases studied, actually less than in New York City. Though the <sup>cause</sup> cause of the disease is known, little can be said as to the means of prevention beyond the general admonition to keep the general resistance as high as possible. Though strong and healthy men are often attacked yet unquestionably, alcoholism and undue exposure play important parts in predisposing to the disease. Undoubtedly too, the breathing of foul air by people cooped up in houses has its effect in greater incidence of this disease as well as others.

Bronch-pneumonia usually occurs secondary to some other disease affecting the bronchial tubes, most frequently

measles and whooping cough, and when so occurring should be entered as the secondary cause of the death. It is to be feared that this has not been done and that it accounts in a measure at least for the few deaths reported under measles and whooping cough.

#### TYPHOID FEVER.

Ranking third among the causes of death is typhoid fever. It is said that the incidence of this disease is the sanitary index of the community. As it is not as highly contagious a disease in the sense that smallpox and scarlet fever are, it has not been commonly reported to health officers. Yet it is essentially transmissible and should be reported: that the sources should be investigated and measures taken to stamp it out. Unlike the cities of the east, our public water supplies are not usually taken from streams and therefore subject to pollution and it is quite probable that milk, flies and contact with the infected are the most frequent means of transmission. It is however, a subject that requires investigation as no mere impressions should be allowed to stand when positive knowledge can be obtained. General measures of sanitation while perfectly proper are apt to be <sup>so</sup> slow in producing the desired results that many lives may be lost and many days wasted in a sick bed before the real source of infection is reached. The distribution of printed circulars warning the public of the danger of the disease and telling them how to avoid it, are commonly necessary. The spoken word is too often forgotten, and where some startling truth may be remembered, an apparently trifling detail that is, nevertheless, essential will slip the memory all too soon.

The registration of cases of typhoid, like tuberculosis,

depends ultimate on the registration of deaths and, in order to prevent the plea of mistaken diagnosis being made, the territory should support a laboratory for the examination of the blood of the suspects. The city where a laboratory might be located could well afford to contribute to its maintenance. The fact that some physicians have private laboratories of their own makes no difference. Every body is not treated for by those physicians and their laboratories are not for general use.

#### DIPHTHERIA.

This disease ranks fourth in the deaths due to specified causes. In 1907, there were reported 123 cases with 25 deaths and in 1908, 70 cases with 15 deaths. Although a highly contagious disease, it is quite apparent that either all of these cases have not been reported as they should have been or that some of our physicians need instruction in the use of anti-toxin. A mortality rate of over 20% seems almost medieval and it is not believed that it is the true rate. In a disease of this character, the cases should not be allowed to go unnoticed. Houses should be placarded, the patients confined to the house until well and efforts should be made to discover the source of infection and the means of transmission. No children from such houses should be allowed to attend school until granted permission in writing from the health officer. I feel sure that teachers and school superintendents having jurisdiction would be only too glad to cooperate and if practiced for only a short while, the principle would become firmly established. It is the law at present although it is not generally enforced.

This is another disease that frequently demands the aid of a laboratory for its positive identification. Though physicians will sometimes give anti-toxin on suspicion, they

they will not report on these suspicions. While it is very true that usually, a diagnosis is wanted immediately and is highly desirable before administering anti-toxin, yet it is also true that it is not absolutely essential to such administration and the physician would or would not give it in the absence of a bacteriological examination according to the clinical course the case pursued. This he is at perfectly liberty to do while awaiting the result of a bacteriological examination. But it is different about the isolation of the patient and the restrictions placed on those in contact with them. After having given the anti-toxin and the recovery of the patient, <sup>is</sup> the physician is to be allowed to say that the disease was not diphtheria and turn him and all his recent intimates loose upon the youthful and highly susceptible community of the public school? ~~This does not meet with my approval, however it may appeal to others.~~

Doubtless, this has been done with perfectly honest motives, but it affords a loop-hole so apparent and so wide that it should not be allowed to continue.

On the other hand, there are cases that are diagnosed diphtheria that are not due to the specific germ of the disease at all. These cases which include tonsillitis and other forms of sore throat though they, in many cases, are contagious, seem to require more intimate or prolonged contact, are contagious for a shorter period and are not accompanied by a high mortality. The clinical diagnosis of diphtheria if allowed to stand and the proper safeguarding of the public health is enforced, results in unjustly restraining innocent people, a thing that is far from the desire of the health officials.

Under the particular subject of diphtheria, the general subject of sore throats from the standpoint of public health

any receive a word. Whereas the vic tims of these maladies should not of necessity be quarantined, yet in view of the fact that many mild cases are really unrecognized cases of diphtheria or scarlet fever, no child having a sore throat should be allowed to attend school, or any gathering where children may gather. Wisdom would further extend this prohibition to teachers under like circumstances. It is beleived that regulation would prevent many an epidemic and that the actual school days would be materially increased. Scarcely a winter passes but that one or two schools are closed on account of an epidemic among the pupils. It may come early or late or in the middle of the term but the effect is to throw back the wo work of all and not a few.

#### SMALLPOX

but

Though one death was reported from this disease during the year , 1908, it is safe to say that it cost the territory more in money from direct taxes , than all the other combined. The neergy displayed by health officers in seizing and quarantining these patients, the public panic, the "loosening up" of the Board of Supervisors and the general hulabaloo, are almost amusing. Why is it that we are so stirred to action by a disease that has caused but one death during the past year and which will not spread to the recently vaccinated, a disease whose means of prevention are simple and have been known for more than a century, a disease, we might say of the ignorant, why is it, we ask again, that we are moved to such activity by this disease *while 500 cases of typhoid fever* and then sit idly by and see probably *scarcely a case of typhoid* five hundred bed ridden *from* typhoid fever.

Our smallpox cases are placed under a rigid quarantine and fed and sheltered and nursed at the expense of the county . Nearly all of them are indigent and so while the burden of their care would fall upon the county anyway, yet there is

no good reason why the public should bear the expense of special nurses, <sup>and</sup> guards and pay the attending physician three or four times his regular fee for attendance. There is no more reason why a physician should be paid more for attending a smallpox case than for attending a case of scarlet fever or diphtheria. There are reasons why a somewhat higher fee is proper in attending these diseases, owing to the necessity of disinfection and other precautions against carrying the contagion and to the possible falling practice due to people fearing infection, but if the physicians do not charge more in the latter cases of their private patients there is no reason why they should charge more of the county. *for smallpox*

The proper way to prevent smallpox is by vaccination. While we have a vaccination law in this territory for minors it is not generally enforced except in times of epidemics. A reasonable requirement would be that which has been in force in most states for some time past, of requiring vaccination before allowing a child to enter school. Those admitted to our county hospitals should also be vaccinated as should the prisoners in the county jails. A policy such as this would practically eradicate the disease from our territory. The small additional expense being more than covered by the lessened cost of quarantine which is so often necessary.

Those vaccinated should be given a certificate of vaccination and record should be made of it in a book kept for that purpose. The certificate should not be issued, however, until it has been determined that the vaccination was successful. The practice of giving vaccination certificates immediately after vaccination is absurd, for there is no way of telling whether or not in a particular instance the result will be a "take". This practice is quite a common one and should stop at once.

As to the protective influence of vaccination, there can be no doubt whatever to the fair minded . The statistics have been given again and again, and it is not necessary that they be repeated. When we remember, that during the eighteenth century, one person out of every three bore pockmarks, we can understand the remark that if a gentleman of Beau Brummell's day were to return now to Picadilly and Rotten Row, his greatest surprise would be at the number of smooth skinned faces. That this not due sole to improvement in general sanitary conditions, as held by some, is shown by the epidemics of exanthematic typhus which "prevailed extensively throughout Europe during the first half of the nineteenth century", and is a disease requiring <sup>unsanitary</sup> surroundings for its development, ~~that are unsanitary.~~

#### MEASLES.

One death was reported from this affection during the year, 1908, and 2 during the year 1907. It is safe to say, however, that it was the primary cause of death in a number of cases of pneumonia reported, and that the number of cases exceeding the 49 reported. In view of the fact that this disease has of late frequently exceeded in actual mortality scarlet fever, the importance of having these cases reported is apparent. While right <sup>is</sup> quarantine is probably not necessary yet the children from these houses should be placed under restrictions and the houses should be placarded. It is important too, that there should be a more general dissemination of the facts concerning the danger of the disease and its complication. The fact that it is not harmless and that it is not better for the children to have it while they are young cannot be too strongly impressed upon the parents.

#### SCARLET FEVER.

Nearly every county in the territory has been visited by

scarlet fever during the year 1908 though no fatalities were reported as the result. During 1907, an epidemic of a sever form of the disease prevailed in Jerome, Yavapai County. A total of 41 cases and 10 deaths were reported from this county during the second and third quarters, which would give a death rate of nearly 25%. A number of these cases occurred among the Mexicans amid surroundings that were far from favorable and among a class of people too that are inclined to hide their cases thus rendering an effective quarantine a matter of extreme difficulty. Though more enlightened people are generally fully alive to the danger of the disease and are perfectly willing to undergo the inconvenience of isolation for the benefit of the public. However printed pamphlets of instructions should be published by the Territorial Board of Health and on the appearance of the disease, they should be sent into the affected community and given a free distribution. the press is always quite willing to help in such matters and by having reliable information at hand would be able to accomplish much more than the Board could possible do unaided. At the present time, the information obtained by them, is sometimes inaccurate and frequently the opinion of some physicians given in an off hand way that is not conducive to reliability.

#### LEPROSY.

Three cases of leprosy were reported by the Superintendent of Health during the year, 1908, one from Globe, one from Clifton and one from Tombstone. It is regrettable that the same promptness is not shown in reporting some other more common and contagious diseases. Leprosy is not a highly contagious disease. In fact, it requires the most intimate and prolonged contact in order that it be transmitted. This

is shown not only by the report from Molokai, the leper island of the Hawaiian group, but by one of these very cases that was found in this territory. The husband of the woman leper had lived with her continually for a <sup>number of</sup> ~~great many~~ years, and was anxious to acquire the disease, and although an old man and with his vital resistance lowered by an already fatal disease, he failed in his purpose.

The proper solution of the problem of what to do with lepers seems to lie with the National Government. These cases are found from time to time all over the United States and there is usually an effort made to force them upon some other community. These cases should not be allowed to go about at will neither should they be kept on the move by the health authorities. The expense of keeping one or two isolated cases is proportionately so much larger, that if such a national institution were existent, the ~~different~~ states and territories could well afford to pay the cost of maintenance of the cases found within their borders at that institution.

#### DENGUE.

An epidemic of Dengue prevailed in the city of Tucson during the months of September and October, 1908, and the number of persons attacked has been variously estimated from 1000 to 3000. Though only three deaths from the disease were reported during October and none whatever since, yet the economic loss to the community must have been quite large. The amount of data supporting the mosquito theory of transmission is quite sufficient to make that the basis of work to prevent its recurrence. Experience elsewhere has shown that once the disease occurs in epidemic form, it is very apt to recur and become endemic and such a focus would in all likelihood spread the disease over all the territory infested by the particular mosquito (~~Culex~~ *pungens*)

which acts as a host of the infecting organism. A possibility not to be disregarded is the fact that this disease is sometimes mistaken for yellow fever and viceversa and has led to the quarantining of towns on this account. The immense loss in business that such measures occasion makes it well worth while to expend a sufficient sum to eradicate the breeding places of mosquitoes, and avoid <sup>such</sup> a possibility.

#### DIARRHOEA & DYSENTERY.

One of the most regrettable features of the method of reporting deaths that has been in vogue in the past is that it is impossible to tell from the returns made to this office, the number due to these diseases. They are reported under the class of "Diseases of the Digestive System". Whether of not there is a large infant mortality in the summer months due to them can only be surmised and the significance of the higher figures for this class in the second and third quarters of each year can only be deduced from the experience of other states and cities. Not only should these deaths be reported separately, but the cases should be reported <sup>as</sup> are scarlet fever and smallpox. The frequency with which they are associated with contaminated milk should lead to a closer supervision of the milk supplies of our large cities and towns, while mothers should be informed of the danger of bottle feeding.

#### INFANT MORTALITY.

From the reported statistics, there is no way of telling the number of deaths from the various diseases in the different age period. These period are commonly divided as follows: Below 5 years, 5,10, 10-15, 15-20, 20-25, 25-35, 35-45, 45-55, 65-75, and over 75 though in recent years there has been a tendency to increase the number of periods by making each year of the separate years under five a distinct

period and every five years thereafter. In some places the first two years are made a separate period, from 2 to 5 the second period and then every five years up to 95. The wisdom of making at least the first two years of life a separate period is apparent when we consider the enormous number of deaths that commonly occur during this period and the necessity of having accurate information concerning them. The Department of Health of New York City last summer called a conference for the purpose of considering the summer care of Babies and as a result a card of instruction as to "How to Keep the Bay Well" was carefully drawn up and with a pamphlet of a more comprehensive nature was issued by the Department. It is desirable that the Territorial Board of Health do at least this much and a card of instructions on the care of the eyes of the new born might do something to prevent the loss of sight which is not infrequent among the children of the poorer classes.

#### SCHOOLS AND SCHOOL CHILDREN.

The approval of plans by local boards of health is a very desirable measure, especially with regard to the facilities for ventilation and heating, the location of water closets and the material used in their construction, the arrangement of windows for light, the height and shape and style of the seats and desks. While it may be, that architects commonly know more about such matters than the local health officers yet the school trustees are not usually informed on such matters and they can not give the sanitary side of the question the proper consideration..

A closer attention to the construction of school buildings might materially lessen the incidence of sickness not only from the epidemic diseases of childhood but from the other affections to which they are susceptible.

The medical inspection of school children is a matter that should receive the attention more and more as the years

go by, and as we realize more and more, the important part played by defects of sight and hearing in the making of backward children. That mouth breathing due to adenoid growths and other forms of nasal obstruction is a strong predisposing cause of tuberculosis has long been believed by physicians, though the knowledge has not become so generally spread among the public as is desirable. The medical inspection of school children would serve to call attention to such conditions and lead parents to seek their relief.

The teaching of hygiene in the public schools, not the old physiology and hygiene that dealt with the ill effects of alcohol and tobacco, things that the children have not yet thought of using, but the newer hygiene of today whose slogan is clean air, clean food and clean bodies is increasing everywhere as its importance becomes more clearly recognized. It should form a part of the curriculum of every school in the territory, and as recently suggested, can be most effectively taught by the examination of the school children as indicated above. Instructions in the cause and prevention of tuberculosis and typhoid fever are especially needed and would be especially beneficial.

#### MILK INSPECTION.

Although most of our incorporated cities have ordinances requiring that milk sold within their limits shall be up to a certain standard in fats and solids, yet there are none so far as I know that require that their milk shall be clean. The only way in which diluted milk concerns the public health is through the possible infection of it by dirt or contaminated water. The pennies and dimes that are lost through the dishonesty of the milk dealers amount to very little as compared to the dollars that are spent by the community in doctor's bills, medicines and nurses and the paraphernalia of the sick room in an endeavor to bring about recovery of children sick

with gastric and intestinal disorders. The expense frequently reaches further. Not only is the bread winner of the family often kept at home but even when at work there can be no doubt but what the worry and care of the sick child will impair his efficiency. The expense of the funeral in case the outcome is death is also to be borne in mind.

Intestinal diseases are not the only ones that are borne by milk, for investigations have shown a great number of epidemics of typhoid fever, scarlet fever and diphtheria that were due to the drinking of infected milk, while there can be no doubt but that it is a frequent source of tuberculosis. In communities affected by water borne typhoid, it has been demonstrated that for every life saved by purification of the water supply, two or three deaths from other causes have been prevented. It is probable that a purification of our milk supplies would show a similar diminution in mortality. It may not do this necessarily by eliminating the specific germs of the diseases but by preventing the lowering of vitality that gives the germ an opportunity to proliferate, and by preventing the malnutrition that results from imperfect digestion.

<sup>no</sup> ~~The~~ amount of testing for fats and solids will eliminate the dirt, and <sup>the</sup> dirt contained in milk is the most frequent cause of these disorders. In order to get at this problem properly it is essential that milk inspection begin at the dairy and be followed through to the consumer.

Dairy inspection should include inspecting of the herds for tuberculosis, for diseases of the udder, for general healthfulness and for cleanliness of the cows. Note should also be made of the time since parturition and the milk from the cow <sup>which have recently</sup> ~~recently~~ having calved as well as <sup>from</sup> those which are soon to do so, should be excluded.

The general cleanliness of the cows, milkers, stables, pails, and cans, milk houses, separators and in fact every thing that is in connection with the supplying of milk, should be insisted upon. The water supply should be tested and unless uncontaminated the milk should be excluded from sale. The sale of milk from dairies where there are cases of communicable disease existant should be prohibited. The details of dairy inspection, it is necessary, <sup>un</sup> to go into any more extensively here. The foregoing merely indicates some of the points that it is necessary to take into consideration.

The testing of milk for the adulteration <sup>by</sup> of watering, formalin or other foreign substance should be carried on also, though it is even more necessary that bacterial counts be made to determine the effectiveness of the inspection and to detect any laxity in the enforcement of the regulations. This could be done by the local health officers while from time to time, the Territorial Board of Health could examine and verify their findings. This is done in many of the states and regular outfits for field work along these lines are easily prepared. It must be understood that the production of clean milk, means an increase in the cost of the production and that people must expect to pay a price that will permit the dairyman to make a profit. If they find that they are unable to make a profit at the prices heretofore charged, they are likely to be forced out of the business or the contamination of the milk will continue. This should not, however, all <sup>the</sup> them to give inspection as an excuse for illegitimately advancing prices and it is quite probable that the prices at present received for milk in this territory would be quite sufficient.

Along with this inspection of dairies and milk should go instruction of the public in the danger of dirty milk and

in the inherent economy of clean milk even at a higher price . This is done in many states by stereoptican illustrations of conditions at the ordinary dairy farm and on the properly conducted farm and by lectures accompanying the illustrations, by pamphlets in plain and easily understood language illustrated with half tones of actual photographs of conditions existant in the neighborhood, by articles in the press and by teaching in the schools. This part of the work should properly be taken up by the Territorial Board of Health as the expense of preparing a separate pamphlet or a separate series of lantern slides for each city or county would probably prevent many of them from doing it, and would be a duplicate of work that would be unnecessary.

It is my belief that the inspection of milk and dairies should be borne in part by the counties and in part by the cities. While the citizens are the ones most frequently affected yet it must not be forgotten that the rural districts come in for their share of the mischief and that they would be benefited accordingly by any regulations for the good of the cities. While the treasuries of the cities are not usually overflowing, the treasuries of the counties are generally able to take care of the extra expense, which while it would not be great as compared to the expense going on every day in interests of the preservation of the property and of the prevention of deaths from violence would be a noticeable addition to the expense of the preservation of health and of the prevention of deaths from disease. In saying this it is meant that there would be an interest in the fixed charges for, except in a few of the counties, I am convinced that there would be a corresponding decrease in the incidental expense for quarantine, and the care of persons under quarantine, and in the expense for the care of the indigent sick

and the burial of the indigent dead.

The examination of milk and dairies should be done by the health officers. While the inspection of dairies does not usually require the services of a physician yet a layman can seldom appreciate the necessity for care and cleanliness as can a properly qualified physician and it would therefore be proper that the health officer have supervision. The examination of milk is a different matter and requires a man with a technical training for both the chemical and bacteriological determination of its purity, and should never be left to a person without this training.

#### LEGISLATION.

It is said that it is common thing for physicians to look upon legislation as the panacea that will cure all the ills the state is heir to, and especially does this seem to be true, when the cures of the public health legislation is followed a little way. Just what good a statute will do if it is not enforced is not quite clear. For the small advantages of having something to refer to with pride as an up-to-date, we are apt to pay with contempt for that law and its requirements. The present public health act of this territory is, with the exception of the sections providing for the collection of Vital statistics and the organization of the Territorial Board and the pay and allowance of the Superintendent of Public Health about as good as we can expect at this time. The subject of Vital Statistics has already been referred to. As regards the organization of the Board, it is now almost unique in its personnel. The Superintendent of Public Health is without official advisers in the technical work that devolves upon him. He must be guided in these matters, to a large extent at least, by the opinion of the medical profession as he comes in contact with it or not at all.

Furthermore the medical profession as a whole, does not pay a great deal of attention to matters pertaining to public health--at least not to the extent of being well informed on the subject of hygiene and that of practical health administration. Few of them have a book on the subject of hygiene that is of a later date than <sup>their</sup> the first year of college while the latter subject so far as I know is not found in a text book, but must be learned by reading the reports of others engaged in this work. Reports of other boards of health, reports of conferences of sanitary officers and the constant reading of articles appearing in the current literature are the sources of information. It requires medical training in order to read these articles and reports with understanding and appreciation, so that the question is one of getting physicians to take more interest in the matter in order that they may advise out of a full knowledge of the subject.

I would therefore recommend that the law be changed in this respect and that the Board of Health be made to consist of four or five or six physicians, a civil engineer and a secretary who shall be the executive officer. The members of the Board, with the exception of the secretary should be chosen by the Governor and their terms made to expire in different years so that a board of entirely new men would not be appointed at the same time. The secretary should be chosen annually by the board and his tenure of office made dependent entirely on the satisfactory discharge of his duties. The board should meet once in each quarter and provisions be made for calling meetings in cases of emergency. They should be paid sufficient to make it worth their while to be absent from their practice for the required time consumed in going to and from and attending meetings and considering sanitary problems.

The secretary of the board should receive a salary that will enable him to devote his entire time to the work and

should be given such clerical assistance as may be necessary .  
With the exceptions of the sections of the law providing for  
the organization of the boards of health and those pertaining  
to the salaries and allowances, no part of the public health  
law has been lived up to and enforced. The reason for this  
can be found in the fact, that enforcement of this law would  
require that the superintendent of public health give all of  
his time to the office, while the salary is not such that he  
can afford to do so. It is said that the salary was put thus  
small in the bill in order to ensure its passage. If so, what  
good <sup>was</sup> served thereby? The effect has been to create a  
sinecure. There has been no supervision of the county boards  
of health worthy of the name; no monthly reports have been re  
quired of County superintendents of health; no reports of  
the quarterly meetings of the county boards of health have  
been required or received; contagious diseases have not been  
reported immediately, but at the end of the quarter and in  
totals; births have been reported in total without names, dates  
or anything else; deaths have been reported only in totals  
from certain causes and classes of causes; uniformity is non-  
existent and the only benefit to be observed is that the  
territorial health officer can make the county officers more  
active in securing births and deaths returns in greater  
numbers. Death returns <sup>if</sup> when properly made are <sup>not</sup> what  
is needed and it does not take a physician to secure numbers.  
While in this way they may be of value to the probate court,  
they are not of great value to the sanitarian. Accurate  
statistics to be of value should be acted upon. While their  
accumulation may make them of value for future comparisons,  
there is the better reason for turning them to account at  
once.

If we are able to have inspection of milk,

*As already stated, the reports of the county officers are not what is needed and it does not take a physician to secure numbers.*

of schools and school children, investigation of water supplies, garbage and refuse disposal, of tuberculosis, typhoid fever, of epidemics of any kind; if we are to publish pamphlets on communicable diseases for public distribution, arrange for hygienic exhibits at professional and commercial gatherings; in short, if we are to have a real public health work, it is going to keep one man busy supervising. The fact that some of these things are now done by individual physicians and by medical societies is no reason why they should continue to unselfishly give up their time and money. We do not look to lawyers as individuals or as bar association to prosecute our ordinary criminals. The times when lawyers volunteered their services are times that may be likened to those when cholera and yellow fever make their appearance. The day of the vigilantes in the suppression of crime has passed, why should it longer continue in the suppression of disease?

Furthermore the science of sanitation is becoming yearly more and more ~~and~~ special study and to an extent not fully realized <sup>even</sup> by the medical profession. There should be a good reference library in connection with the office of the secretary and files of the leading journals kept and ~~arranged~~ ~~arrangements~~ made for the securing and dissemination among health officers of reprints of articles bearing on public health. The expense of these books and of providing shelf room for them prohibits the usual health officer from buying them, especially in view of the fact that they are of little practical use to him in general practice. The time consumed and the inconvenience in ordering reprints makes it certain that they will not be ordered. The secretary of the territorial board should attend the annual conference of the Surgeon General of the U.S. Public Health and the Marine-Hospital Service with the State and Territorial Officers and the annual conference of the State and Provincial Boards of Health of North America.

In this way <sup>he</sup> can get in closer touch with sanitary methods and sanitarians, than ~~he can~~ possibly <sup>gain</sup> get by reading their reports, and he will unquestionable learn many things that do not appear in these reports. The salary of the secretary should be fixed by the Board of Health with the approval of the Governor; an allowances should be made for his expenses and he should not be paid mileage or any other fee. An appropriation or a tax levy to provide a fund sufficient to pay such a salary and to properly remunerate the members of the board and to provide for the carrying on of the work, it will be required to do, should be made by the legislature.

Unless this is done, there seems to me, no good reason why the office should continue to exist. That there are men willing to take the position under the circumstances that exist at present, doesnot affect the validity of this belief. Two questions are to be asked "Can he perform the duties of the office?" and "Will he perform those duties as required by law and in accordance with the teachings of modern sanitary science?"

It is a far cry from the status of public health work in America to that which has for years been in vogue in England. The time has not yet come, when we can hope for such a system in this territory. But it is time that the medical profession and the general public as well, get rid of the idea that every physician is a competent health officer regardless of whether or not he has given the subject particular study. Therefore it may be in place to show what is required of the English physician before he becomes eligible to appointment as medical health officer. <sup>of health.</sup>

He must have a diploma in public health, the examination for which consist of two parts. Before he can be admitted to the first part of the examination, he must be twenty-three years of age and have been a qualified practitioner of

of medicine for twelve months, and after his graduation he must have had six months practical instruction in hygienic chemistry, bacteriology, and the pathology of the disease of animals transmissible to man. The first part of the examination covers the following subjects:

1- Physics in its application to health, and with reference to ventilation and heating; water supply and sewage; 2-Chemistry, in its relation to air, water, food, soil and sewage. 3- Microscopical examination of air, water, food, articles of cloth, <sup>and</sup> parasites. 4 Bacteriology, in relation to sanitary work.

Before admission to the second part of the examination, the candidate must show that after his graduation, he spent six months in acquiring practical instructions in the duties of public health administration under a medical officer of health in a city of not less than 30,000, and has also had three months, experience in a hospital for infectious diseases. The subjects covered by the second part of the examination are as follows:-- 1- Origin, pathology and prevention of diseases, with special relation to infectious diseases. 2- Effects of unwholesome air, water and food. 3- Disease of animals in relation to the health of man, . 4- Influence of occupation, unhealthy trades. 5- Influence of climate, 6- Sanitary administration in the relation to the requirement of houses and other buildings. 7. Construction, arrangement and management of hospitals, sanitary engineering 8- statistics in relation to health, 9- sanitary laws, including by-laws, orders and regulations. 10- Duties of sanitary officers.

The following significant sentence is taken from a speech of Dr. William H. Welch of Johns Hopkins University.

"In England the decline in the death rate from tuberculosis began long before the discovery of the tubercle bacillus

and has continued to the present time, but in that country, there have been through out this period, special hospitals for consumptives and intelligent public sanitation."

New Jersey now requires examinations prior to appointment, New York and Pennsylvania are certainly approaching it, and with the passing of these offices to a class of civil service, public health schools will become as common in this country as in England.

The county superintendents of public health should, in my opinion, be paid a salary alone and the board of supervisors given the same discretion as to the amount as the city councils are given in the salaries paid to city health officers. The present method is common enough in this country, but it is nevertheless ridiculous. This becomes apparent if we consider how it would look to pay our district attorney three hundred dollars a year and ten dollars a day for each day actually and necessarily spent in a court, and allow him nothing for the time spent in preparation of his cases.

Again it is possible with a complaisant board of supervisors, for the county health officer to make a pretty good thing out of his office <sup>and</sup> yet render no adequate service in return. The tax-payers presume that he is receiving only the twenty-five dollars per month and expect little or nothing from him.

The fees he may receive do not enter into their calculations. If an epidemic begins they do not inquire what conditions led to the disease getting a foot-hold. All they want is to have it stopped. If it occurs for several years, they finally take action, but it is seldom to the health officers that they look for advice.

These things are certainly not as they should be and it seems to me that they can and should be remedied. Perhaps the best way to accomplish this would be to, 1st- Pay the health officer a decent salary. 2- Make the Board of Health to con-

sists of two physicians in addition to the present membership.

3- Make the payment of the salary dependent upon the performance of the duties of the office, and let the Board of Health decide upon this matter. When a good officer is found, keep him, even if his salary has to be raised a little from time to time.

Physicians have a better appreciation of the sanitary work and would be able to advise the Board as to whether or not a health officer was doing his work properly; they would be able to advise on matters of policy; the increased salaries would lead the tax-payers to expect service, while any future increase would be money well spent and speedily to be returned--with interest.

It may be said that this is asking too much--that the ideas are too far advanced, But there is just the trouble. Sanitary legislation and especially sanitary appropriation, have not advanced with sanitary science. Suppose that restrictive medical laws had been <sup>en</sup> enforced throughout the country forty years ago; that the diploma mill had no alumni among the ranks of practicing physicians; suppose that the public had received its knowledge of the causes of and the cures for disease from trained physicians and not from blatant quacks and from <sup>the</sup> fraudulent vendors of nostrums; suppose that lectures on tuberculosis and typhoid fever had been as numerous as the biennial crop of speeches on statehood; suppose that the sanitary knowledge of the public had kept pace with its political knowledge--would these be advanced under these circumstances, Would they be advanced if medical men had always asked for what they needed instead of what they <sup>did they?</sup> could get, at least it may be doubted.

The public and the legislators need to be impressed with the importance of these measures. They do not look upon

every bill introduced by a lawyer as a measure to increase litigation even the increased litigation may result from its enactment. They have no more reason to look upon a bill introduced by medical men as a measure to increase the income of physicians. Were legislators largely made up of physicians it may easily be conceived that there might be some difficulty in making certain class of cases appealable-- especially so if there happened to be an increased expense involved and a lawyer or two in good standing to say that it was unnecessary. Yet the great majority of well-informed lawyers would perhaps see the advantage of such a measure to the public at a glance.

The time to do it is now. While we are growing up. To do, so that we will not have to undo. So that we will not have to face the problems that are being faced in the east. So that an enormous expenditure at some future time will not be necessary. "An ounce of prevention is worth a pound of cure", and if anywhere that motto is true, it is in the prevention of infectious diseases. We are too far behind in matters of public hygiene already.