# Congestive Heart Failure*

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IN approaching a discussion of this subject one must have first of all a clear conception of what the words "Heart Failure" do or do not connote. Certainly they do not, of necessity, mean organic disease of the heart or any other organ. In simple language they mean that, for one cause or another, the heart fails to do the work that it is called upon to do under variable conditions. The child or adult with a perfectly normal heart and other organs will suffer heart failure, usually temporary, if he puts too severe and usually too sudden strain on the heart, e.g., in running he gets short of breath, red in the face and exhausted. With more prolonged effort there is complete collapse. This collapse may be extreme in adults as in boat or track races, due to insufficient supply of food and oxygen for the overstrained heart and other muscles. Recovery is rapid when the strain is removed, as more blood with oxygen and food flows to the heart rather than the body musculature where activity has temporarily ceased.

As time goes on the effort needed to produce heart failure symptoms decreases, and the time of recovery increases due to the inevitable degeneration of heart muscle and lessened food supply. Most of those present today would have heart failure if a short sprint were undertaken but again with rest, recovery would take place.

The signs and symptoms of temporary failure take on a more serious significance in the presence of debilitating diseases such as cancer, tuberculosis, pernicious anaemia, thyrotoxicosis, etc., but there again recovery may take place as the precipitating cause is removed.

It is however, actual disease of the heart itself, that principally leads to the well-known signs and symptoms of congestive heart failure. These may come with appalling suddeness and give acute congestive failure as in coronary thrombosis. On the other hand they may take years to develop to such a degree that the patient is completely incapacitated. Periods of relapse alternate with periods of remission but eventually one is faced with the picture of chronic congestive heart failure. Of this latter type of failure, the heart diseased years previously, usually by an attack of rheumatic fever, affords the best and most frequent example.

It is the management of these two types of heart failure that I wish briefly to discuss with you today.

The signs and symptoms of acute congestive failure are most frequently seen in coronary thrombosis and pulmonary embolism: sudden onset with sweating, pallor and feeble pulse, pain and dyspnoea, with feeble heart sounds and pulmonary rales of greater or lesser degree are common manifistations of these two diseases. A history of previous attacks of angina pectoris helps with the above signs and symptoms to establish a diagnosis of coronary thrombosis. On the other hand a history of a Pelvic operation or herniotomy done 10-12 days before the attack is useful in establishing a diagnosis of pulmonary embolism. If further evidence is needed it will be obtained in the next few days by the presence or absence of fever leucocytosis and cardiograms. These latter may be typical at first taking or may only become decisive on repetition over a period of days.

* Paper delivered at the annual meeting of The Medical Society of Nova Scotia, White Point Beach, N. S., July 5, 1944.

The management of acute congestive failure as in coronary thrombosis and pulmonary embolism calls for immediate action.

1. Pain often excruciating, must be relieved and anxiety alleviated by morphine, $\frac{1}{4}$ grain per hypo, repeated every half hour till the pain has been relieved. In people who are badly shocked, relatives should be warned that the patient may die, not because of the morphine given but in spite of it.
2. Oxygen should, wherever possible, be administered freely by nasal catheter, mask, or in an oxygen tent for reasons I need not stress.
3. Heat should be applied to the body and extremities.
4. Intravenous glucose 5% should be started as soon as possible.
5. Coramine may be needed to stimulate the respiratory centre and the heart muscle.
6. Epinephrine may be used and may prove useful in maintaining the circulation till signs of collapse begin to disappear.

Lack of appreciation of the action of these two drugs, coramine and epinephrine has led, I believe, to indiscriminate and unnecessary use. In most cases they are not necessary and may even do harm to a heart previously degenerated, now suddenly badly damaged and overstrained.

Morphine, oxygen, glucose and warmth are the most useful and safest therapeutic agencies we have at our disposal.

If the patient survives this crucial period, *treatment* for the days that are ahead is simple. Rest of body and mind, sleep insured by barbiturates, light meals at frequent intervals, peaceful surroundings and above all, good nursing, will carry the patient through the trying weeks that lie ahead.

During the first two weeks following cardiac infarction:—pneumonia, recurrent infarction or cerebral embolism may happen and the immediate friends should be so informed. If this critical period is passed, safely, recovery is almost certain. Six to eight weeks should be spent in bed and thereafter getting up and about should be gradual. Return to work should not be contemplated for at least three months and preferably six months after the onset of the coronary thrombosis.

In cases of pulmonary embolism the time spent in bed will depend largely on how fast the lung clears and the cardiogram returns to normal.

Before discussing the management of chronic congestive heart failure may I say a word about Oedema, as it so frequently becomes one of the most distressing symptoms and its treatment is contingent on some understanding of its causes. It is the term applied to excessive accumulation of fluids in the tissue spaces and is due to a disturbance in the mechanism of fluid-change between capillaries and tissue spaces. There are three factors chiefly concerned:

(1) Reduction in the osmotic pressure of the plasma.

(2) General and localized changes in capillary pressure.

(3) Increased permeability of capillary membrane.

Oedema fluid resembles serum but it contains:

(1) Less protein, 500-1000 mgm. % in our cases as opposed to 6000-7000 mgms. % in serum.

(2) It has lower S.G., 1015 or less as against 1027 for serum.

(3) More chlorides, 630-750 mgms as against 550-600 for serum.

Cardiac oedema is due for the most part to *increase in venous pressure and slowing of the capillary blood flow* resulting from the failing power of the heart. Venuous pressure rises from 10-15 cm. of water to 39-or 35 cm.

*Management of Chronic Congestive Failure.*

The essentials in treatment of congestive heart failure are as follows:—

1. Rest in bed or chair.
2. Good nursing
3. Oxygen therapy
4. Bleeding.
5. Food and fluids.
6. Sedatives.
7. Digitalis and quinidine therapy
8. Diuresis
9. Laxatives or enemas.
10. Drainage.
    (a) Parcentesis of chest or badomen
    (b) Drainage through incision in legs.

1. *Rest of body and mind is essential.* This connotes rest in the usual hospital bed with a Gatch frame except in those cases that are waterlogged. Patients who have arrived at the end stage of congestive failure will do better sitting in an arm chair with a moveable frame in front of them on which they may rest head and arms when sleeping. Beds to them are intolerable and impede the free use of diaphragm and chest muscles so necessary for deeper breathing. Moreover they are not so likely to develop bedsores when resting on muscles of the buttock in a sitting position, as they are when the pressure is on the sacrum, covered with oedematous skin and subcutaneous tissues, when in a recumbent or semi-recumbent position.

Morbidily curious and talkative friends should be kept out of the sick room. Family and business cares should be kept from the patient as far as possible.

2. *Good nursing* especially for those who are incontinent of urine and feces, is indispensable. Even with the best of care, in these advanced cases, bed sores are frequently encountered on heels, hips, sacrum, but a good nurse can do much to prevent these by changing the position of the patient from time to time,

keeping the bed dry, alcohol rubs, etc. A nurse with a quiet reassuring way is a godsend.

3. *Oxygen Therapy* Administration of oxygen in an oxygen tent also gives relief and is of great value in cases of congestive failure, either acute or chronic. The benefit of this together with one dose of morphine often has an astonishing effect in quieting the person, reducing the heart rate, and relieving dysponea. This is well demonstrated in those suffering from paroxsysmal nocturnal dyspnoea and Cheyne Stokes respiration.

4. *Bleeding.* Deeply cyanosed, full blooded individuals with distended veins in neck and arms will be benefited greatly by the rapid removal of 20-30 ozs. of blood: this can best be done by venesection at the elbow. It is procedure simple of execution, devoid of danger and gives instant relief to an over distended heart and congested lungs—an old method of treatment which has been almost forgotten.

5. *Diet.* With the whole gastro-intestinal tract, stomach, liver, pancreas, large bowel oedematous, these patients have little or no appetite; digestion and absorption of food and fluid are restricted. When this occurs they are often dehydrated in spite of their water-logged condition and will improve with intravenous 5% glucose,—2500-3000 cc's per day for several days. Some say this is the ideal method for treating water-logged patients as thereby a profuse diuresis is produced. I have not found diuresis from this procedure so marked as others but can vouch for the improvement obtained through the giving of a 5% glucose solution, intravenously, as noted above, to those patients who have been taking little food or fluid for days. Little is to be accomplished in subjecting these hopelessly ill patients to the tortures of thirst. If they can take food it should be basal in caloric value with proteins raised if possible to make up for the loss of proteins from the blood plasma.

6. *Sedatives* are essential. It is a well known fact that these people, especially of the older age group, frequently sleep a good part of the day and lie awake all night, often irrational and requiring constant attention. Therefore, sedatives at night should be used freely to provide rest of body and mind, and relieve dyspnoea. In the end stages where dyspnoea is marked morphine will have to be used too and should be given in such dose and at such intervals as will ensure reasonable quiet. Before that stage is reached phenobarbital usually suffices. The dose required varies from $1\frac{1}{2}$ to 5 grains. Where this drug is not, by itself, effective, especially when there is marked dyspnoea, the addition of grain I of codeine to the dose of phenobarbital prescribed may be found most satisfactory. Two drams of a mixture of pot. bromide and chloral hydrate, gr. XV of each to the dessertspoonful, are often useful as a sedative. There is, however, the danger that this preparation may make a rational patient quite delirious.

It is well to keep in mind the fact that cardiac cases coming to hospital confused and even delirious may be suffering from prolonged use of this drug, not infrequently in combination with tincture of digitalis. Where this mental state is found in heart or other cases, a blood bromide estimation should be done as soon as possible. We have encountered several such cases in recent years. Some have died from bromide intoxication.

7. *Digitalis and Quinidine.* Digitalization should be commenced at once and can be accomplished in the majority of cases by giving the dried leaf either in capsule or tablet in doses of three grains, three times a day for three days and then continuing at gr. 1½ per day. This drug is most effective in fibrillation but even in those who are not fibrillating it increases the strength of the heart beat and the output of urine. Indirectly it is a sedative also, as with a brisker circulation, relief of congestion in the brain is obtained and sleep ensues.

For those with very rapid hearts (usually fibrillation) extreme cyanosis and dyspnoea, intravenous strophanthin, ouabain or digoxen may be necessary for rapid relief of the above symptoms. Both strophanthin and ouabain are highly toxic. They must be given intravenously and very seldom need to be used. Unless you have used them and are familiar with the dangers, I would advise against their use. The dose of ouabain and strophanthin is 1/250 to 1/125 gr. repeated in 2 hours. Digoxen is also used intravenously; the dose is ½ mgm. it has no place in the treatment of fibrillators suffering from congestive heart failure as these people are victims usually of an advanced myocardial damage and frequently have also well marked arterio sclerosis. It is affective in stopping paroxsysmal fibrillation of the heart and not infrequently stops fibrillation in those who have not reached the stage of congestive failure. Small doses should be given at first to rule out a possible sensitivity to quinine.

8. *Diuresis.* A great many drugs have been used in the hope of ridding the patient of oedema fluid through the kidneys. A common method of producing diuresis is by giving 45 grains of ammonium chloride 2 hours before the administration of 1 cc of Salyrgam or Esidrone intravenously. If the patient has reacted favourably a repeat dose may be given in 3 days increasing the dose of Salyrgan or Esidrone or Neptal to 1½ or 2 cc's. These drugs are mercurials and should not be given in the presence of red cells and casts in the urine. In my experience these mercurials are, on the whole, disappointing, as diuretics, in pronounced congestive heart failure.

Intravenous use of 2500-3000 cc's of 5% glucose solution per 24 hours has already been mentioned. It will relieve dehydration and may produce pronounced diuresis. It should, of course, not be used in diabetes.

*Ammophylline*—7½ grains intravenously at night, I have found more useful in controlling nocturnal dyspnoea than in producing diuresis.

9. *Laxatives.* Bowel movements should be made every other day at least, by laxatives or simple enema but purgatives should be avoided as the loss of fluid by this route in no way compensates for the exhaustion and dyspnoea caused by frequent use of the bed pan.

10. *Drainage.* Where the fluid in lower extremities, abdomen, chest, etc., does not diminish with rest in bed or chair, sedatives, digitalization etc., mechanical methods of removal should be employed, e.g., paracentesis of abdomen or chest with removal of as much fluid as can be obtained without distress to the patient. The familiar trocar and cannula is used for removal of an abdominal effusion and a 50 cc. syringe with a moderately sized needle for removal of a pleural effusion which in the majority of cases reaches to the angle of the scapula. Both these procedures give more breathing space. They will, however, likely have to be repeated at frequent intervals, especially in the advanced stages of congestive failure.

Southey's tubes inserted subcutaneously in the legs are sometimes very effective in lessening oedema but the danger of infection around foreign bodies in devitalized tissues for several days is a constant menace and may lead to ulceration.

In those cases which do not show improvement as evidenced by lessened cyanosis, dypsnoea and oedema, I have in the past two years adopted a very old procedure. The patient sits up in an arm chair, on a rubber ring, with feet on kidney basins in a baby bath tub. Incisions ¾" long into the subcutaneous tissue, are then made over both tibiae in the lower third of the legs. A heat cradle over legs keeps them warm and keeps clothes off the incisions. Fluid in large amounts is drained, by this method, from the pleural and abdominal cavities, back, lower extremities etc., to the great relief of the patient. At the end of a period of time, 4 or 5 days usually, the patient can be returned to bed, and the usual methods of treatment continued. If drainage is successful it is interesting to note that oedema does not recur, or at least if it does, not to any great degree.

There are dangers associated with this procedure. If meticulous care of the wounds is not observed, large spreading and undermining ulcers may occur at the site of incision. We have found these can be prevented by the use of sulfonamides orally or intravenously to get a concentration of 7-9 Mgm%, in the blood and also in the oedema fluid. Together with this we keep sulfonamides dusted frequently on the wounds and a small dressing of sterile gauze strapped lightly over the incisions. This procedure is kept up till drainage has been completed, usually in 4-5 days, and thereafter till the wounds have healed. For rapid removal of oedema fluid from chest, abdomen, extremities this has proved the most satisfactory method when other routine methods of treatment are ineffective. If an ulcer occurs at the site of the incision it will heal slowly and best, with the continued application of Entrox (colloidal sodium perborate) or zinc peroxide directly to the infected area. These preparations release nascent oxygen in the presence of moisture and thus get rid of the infection and dead tissue in the wound.

Discussion by Dr. A. E. Blackett.

Dr. McPhedran spoke of the dangers of bromide poisoning. I would like to bring up the question of digitalis poisoning. We are all familiar with the usual symptoms of digitalis overdosage—slowing of the pulse, nausea and diarrhoea. If we refer to a standard text on Medicine (a Canadian one) we find that digitalis can not only relieve auricular fibrillation, but can cause it: can not only act as a diuretic, but actually reduce the urine output: not only acts to relieve cardiac asthma, but can bring on a paroxysmal dyspnoea similar to asthma—in toxic dosage. Finally the writer makes this statement—"Digitalis poisoning is the most common form of poisoning found in our general hospitals to-day."

My reaction to this statement is that either I (or perhaps we) have been missing a lot of digitalis poisoning, or else the experience of the writer has been unusual and it is on this statement in the text that I would like to have Dr. McPhedran's comments.

The statement referred to is in Meakin's Medicine 1938, p. 366, lines 1 and 2.

# Presidential Address*

Dr. A. R. Morton
City Health Commissioner

Gentlemen:

First, I wish to thank the Provincial Health Officers' Association for the honor of having been your president during the past year. I must apologize that, as president of your Association, I have found very little time to spend on Association work, and only during the past two months, with the valuable assistance of your secretary, Dr. MacRitchie, in the preparation of this programme for the Annual Meeting, has there been any call whatever on my services.

There are many topics from which I could choose to speak to a gathering of this kind to-day, but one of the important ones to my mind, and one which will have very considerable bearing on Public Health of the future, is the problem of housing.

It has been said that good housing is important. In fact, it has been said that it is the RIGHT of all persons. Whether or not this should be made one of the rights of the Atlantic Charter, I would not care to decide, but good housing should be the privilege of everyone, irrespective of their health being adversely affected by housing conditions.

It is rather hard to evaluate the exact influence of the various elements of bad housing on the course of disease. However, I feel that we are not entitled to say that there is a negative position, as statistics very definitely show a certain relation, especially to overcrowding, poor sanitation and home environment in general. Bad housing has sometimes been called a symptom of a low economic state. Poor health has also been called a symptom, but poor health and bad housing with a poor economic state are nearly always found together.

We all know that certain diseases are far more prevalent in crowded than uncrowded areas, and crowding most often goes with poor housing. How much responsibility rests on either one of these is very hard to determine. Possibly, poor food, and undernourishment, may enter into this picture and further complicate the situation. Insufficient medical care or attention because of the economic condition may also play its part. Can we, therefore, say that illness has been responsible for a poor economic state? Or, has the poor economic state been due to illness? No matter which way we look at this picture there appears to be a vicious circle which possibly Social Security, as laid down by the Beveridge plan, or by the Marsh plan, may control by attacking certain of the under-lying principles and bringing them out in the open where each can be assessed and remedies initiated.

In a survey of the United States made in 1934-35, it was found that 75 per cent of households fell into group A where there was one room or more for every person in the house; 17 per cent into group B where there was between 1 and 1/ individuals; and 8 per cent into group C where there were more than 1/ persons per room. If certain sections of the larger cities were surveyed, a far greater degree of overcrowding would have been found. The 1941 census in Canada shows that over 50 per cent of the population has an income of $1,000.00 or less per year; and 33 per cent of the population has an income of $600.00 or less per year. These only

*Delivered at the annual meeting of the Nova Scotia Provincial Association of Medical Health Officers, White Point Beach, N. S., July 4, 1944.

include wage earners, and time after time it hasfbeen pointed out that when any family pays more than 1/5 of the income for rent or housing, then other essentials suffer. In an article by R. H. Brittain, published in the American Journal of Public Health, February 1942, it is stated that some diseases, particularly diphtheria and mumps, show very much higher rates in crowded households than in less crowded ones. In the same article, it is also shown that secondary cases of tuberculosis were 200 per cent higher in the people in group C, or where 1/ persons per room were found, than occurred in group A. Surely these figures are sufficient to indicate the place of overcrowding, especially in our communicable disease problem.

Illness rates have been found to be higher in congested households, for certain diseases. Digestive diseases are frequent in households not having private inside flush toilets. Whereas, home accidents are higher in houses where the rental value is low, it is manifest that at the heart of the housing problem lies the economic problem. Poor housing is definitely a symptom of a maladjusted economic state and it must be attacked as a symptom, realizing that the underlying issue is not only the securing of a better distribution of income but also a better state of general health. During the period from 1900 to 1925 the urban and rural population of Canada was about equally divided. Due to industrialization since that period; and especially in the last five years, with war production, it is estimated that 64 per cent of the population in Canada is now urban. This increase on already overtaxed urban congested areas has had a profound bearing on overcrowding.

In an article also in the Journal of American Public Health for June, 1943, Dr. Wolman and Mr. A. H. Fletcher showed that the percentage of families living in the United States with improper sanitary conveniences was as high as 32 per cent. They also point out that the figures for houses requiring major repairs ran as high as 20 per cent in certain sections and that houses unfit for human habitation were as high as 3.4 per cent of the total houses surveyed.

They further say that the problem of providing safe and healthful housing for all families may, at first glance, be one of forcing property owners to maintain or improve their property up to a minimum standard. Tenants, however, have something to do with this, and tenants, as a rule, do not care to improve property they are renting for fear that the rent will be increased. It is not simply a matter for any health official to see that all these complaints on poor housing are remedied, but a major effort should be put forth by the division of sanitation, and by the Health Officer himself; then we shall remedy a certain percentage of our bad housing conditions. In addition to this, a plan of zoning in cities and towns, a plan of financing, and the general co-ordination of a whole team is necessary in order to correct any local problem. The future holds promise of an expanding programme of Public Health activity in this field and, if housing has the effect on health that I pointed out previously, why should not a housing programme be part of a Health Insurance programme? If poor health, to a certain extent, can be laid at the door of poor housing, why not correct the housing situation at the same time that we attempt to bring better health to the whole population?

I do not wish to go into the financial end of better housing, but if low income groups are to have the type of housing which would assure the con-

quest of the problems mentioned earlier, then possibly subsidized housing construction should be carried out. It has been found, especially in the City of Milwaukee, Wisconsin, that when certain districts were condemned that the assessed value of the condemned houses was 1/7 of the value of the building permits issued to rebuild on the same property. Thus, the general community gets value in taxation, and if they have subsidized the houses, a certain return on the financial end of it, as well as a return on the health of their citizens as a whole is assured.

A special survey in Cleveland, Ohio, indicated that in the slum area, the amount of taxes collected by the City represented about $225,000.00 whereas the actual cost for fire protection, police protection, schools, health, welfare, and the proportion of the community fund spent in that area represented close to $2,000,000.00. Surely, therefore, slum clearance has a definite effect on the essential services in any city.

Landlords have often been blamed for the condition of their houses, but landlords should do more to encourage tenants to make repairs, to do painting, and other maintenance work than they do. Perhaps the progress in improving housing after the cessation of hostilities should be one of our big public programmes. If so, then each and every one of us should be prepared to say just where our slum clearing is to begin. The Health Department cannot and should not be expected to do more than its share of the job, but certainly it can assume a position of leadership and encourage the co-operation between all interested parties, and in doing this it will encourage the improved housing that each community deserves.

Just to mention briefly some of the improvements we must keep in mind, I would like to quote from Harland Bartholomew, England, with the City Planning Commission, of St. Louis, Missouri, who states that the following nine prerequisites of Public Health should be kept constantly in mind during any housing scheme:—

1.—A more orderly development of the city.
2.—Adequate supply of light.
3.—Adequate supply of pure air.
4.—Reduction of congestion.
5.—Reduction of traffic hazards.
6.—Reduction of noise, odors, and other nuisances.
7.—The prevention of slums.
8.—The improvement of recreational facilities.
9.—The improvement of residential environment.

It is necessary that a body or organization should be formed to be responsible for the above prerequisites, and since housing affects the lives of all citizens, it is felt that such an organization, or body, should be appoieted by and for those citizens. Further, it is up to the Health Officer to awaken public opinion to the urgent need for definite planning insofar as any local problems can be presented to such a body and the organization of a planning board should be set up as early as possible.

Bad housing has been called Canada's national disgrace; our biggest menace to health in peace time. It was a problem long before the First World War, exaggerated by it and by the present war in certain areas.

To quote from an article in Health Magazine during the winter of 1941-42, written by Leonard Knott; it is stated that the cost per slum inhabitant for police and fire protection, public health and other municipal service, is $48.00 per year. The cost for other residents of the same city is less than $11.00 per year. Not only is the slum dweller a potentially sick and criminal citizen, but he costs the community an extra $37.00 a year to live in his unpleasant surroundings.

I have pointed out briefly some of the principles behind any programme for slum clearance. I have indicated that slum clearance is not a new problem, but is one which we, as Canadians, have had with us for some time. In closing, is it not now time that plans, definite and concrete, and organized plans to overcome this situation, be drawn up ready to be proceeded with, on the cessation of hostilities?

# A Study of Recent Reactions in the Fields of Maternal and Child Hygiene*

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I AM presenting some of the highlights which stand out from a study I am making regarding the factors accounting for the remarkable improvement in the maternal situation during the war years. I am aware of the limitations of this study since it was made from statistical data, from occurrences in a limited area, and from experiences with hospitals situated in the same locality.

In this connection it is interesting and encouraging to note that we should now be concerned with finding the causes of progress when, for so long, we have been engaged in searching for the factors hindering improvement.

The occasion for such a study seems particularly propitious since profound changes in our way of life have taken place—changes which might serve to bring out in greater relief the share of credit we should accord to the various influences favouring the welfare of mothers and children.

**The Maternal Situation**

**Maternal Mortality Rates, per 1,000 live births**

| | | | | | |
|---|---|---|---|---|---|
| 1935 | 4.9 | A reduction of 14.2 per cent | 1939 | 4.2 | A reduction of 30 per cent |
| 1936 | 5.6 | | 1940 | 4.0 | |
| 1937 | 4.9 | | 1941 | 3.5 | |
| 1938 | 4.2 | | 1942 | 3.0 | |
| 1939 | 4.2 | | | | |

During the five years preceding the war a reduction of 14.2 per cent was recorded; during the war years, 1939 to 1942, a further reduction of 30 per cent was realized. (The preliminary report for the first six months of 1943 shows a rate of 2.7—a record low for Canada.) This continued progress tends to confirm the fact that the causes at play are really significant.

In 1942 we lost 806 mothers through childbirth; however, if the rate of 1939 (4.2 instead of 3.0) had prevailed, the number of maternal deaths would have been 1,143; this represents a saving of 325 mothers. The saving for the three war years, through the reduced rate, means the lives of 544 mothers.

**The Infant Situation**

**Infant Mortality Rates, per 1,000 live births**

| | | | | | |
|---|---|---|---|---|---|
| 1936 | 66 | A reduction of 7.6 per cent | 1939 | 61 | A reduction of 11.4 per cent |
| 1937 | 76 | | 1940 | 56 | |
| 1938 | 63 | | 1941 | 60 | |
| 1939 | 61 | | 1942 | 54 | |

(The rate for the first 6 months of 1943 is 55 (provisional).)

The four pre-war years show a reduction of 7.6, whereas the decline in the rate during the three war years was 11.4 per cent. The results in this field are

*Delivered at the annual meeting of the Nova Scotia Provincial Association of Medical Health Officers, White Point Beach, N. S., July 4, 1944.

rather impressive if we take into account the many adverse conditions of the hour, such as crowding, unsettled home life, etc.

Before analyzing the statistical data, it is well to assure ourselves that the figures for the years before and after 1941 are comparable, because since 1941 we have been using the Fifth Decennial Revision of the International List of the Causes of Deaths. However, this list reveals no modifications, such as a change in allotment or preference which might tend to disturb comparability in this group. In any event, had this been the case, a sudden and marked change in the rates would have resulted in 1941 (the year of the adoption of the new list), and would have been followed for some time by maintenance at or near the new level. On the contrary, the improvement since 1939, especially in the maternal situation, has been progressive and steady, confirming the fact that the figures represent a true picture of the situation. (In so far as the infant mortality data are concerned, all deaths under one year of age are of necessity included in one group. Comparability would be upset only if a new definition of stillbirth were adopted. This was not the case.)

It is appropriate also to consider any outstanding achievements in obstetrics which might have accounted for more creditable rates of maternal mortality.

In 1935, the sulpha drugs made their appearance. This has resulted in a considerable decline in mortality from sepsis since 1937.

In 1937, vitamin K came into being, and its adoption for the prevention of haemorrhage is becoming more and more generalized.

To these specific measures, and to the higher calibre of obstetrics, evidently practised by our physicians, we owe credit for our progress in the maternal situation. But these are not the only factors, for it is in connection with toxaemia that progress is most marked—a condition for which no appreciable scientific advances have been recorded. In fact the maternal mortality rate for toxaemias of pregnancy was reduced 46 per cent as compared with 26 per cent for haemorrhage, and 16 per cent for puerperal sepsis between 1939 and 1942.

**Sepsis—Haemorrhage—Toxaemias**

Rate per 10,000 live births

| | | Reduction |
|---|---|---|
| In 1939, 13 | mothers per 10,000 live births died from sepsis | 16 per cent |
| In 1942, 10.9 | " " " " " " " " | |
| In 1939, 6.9 | " " " " " " " haemorrhage | 26 per cent |
| In 1942, 5.1 | " " " " " " " " | |
| In 1939, 10.1 | " " " " " " " Toxaemias | 46 per cent |
| In 1942, 5.4 | " " " " " " " " | |

Reference has been made to changes in our mode of life since 1939. In fact, immediately upon the declaration of war, we witnessed, in addition to an extensive development of military centres, a sudden and vast industrial awakening, offering to everyone an opportunity for employment and for relative financial stability.

It is of interest to note the immediate effect of these events in a substantial increase in marriages and in live births—in opposition to the uncertain trend during the preceding decade in the birth rate.

| | Marriages | Rate, per 1,000 population |
|---|---|---|
| 1938 | 88,438 | 7.9—1930—7.0 |
| 1939 | 103,658 | 9.2 |
| 1940 | 123,318 | 10.8 |
| 1941 | 121,842 | 10.6 |
| 1942 | 127,372 | 10.9 |

| | Live Births | Rate, per 1,000 population |
|---|---|---|
| 1938 | 229,446 | 20.5—1930—23.9 |
| 1939 | 229,468 | 20.3 |
| 1940 | 244,316 | 21.5 |
| 1941 | 255,317 | 22.2 |
| 1942 | 272,313 | 23.4 |

This increase meant some 43,000 more live births in 1942 than in 1939.

Owing to extensive migration toward industrial and military centres, a considerable number of mothers were apparently brought within reach of facilities for care which, under normal conditions, would have been prohibitive, difficult of access or lacking. This statement seems to be confirmed by an increase in the proportion of urban births and by the reduction in the number of births having no medical attendant.

| | Total Births | Urban Births | Percentage |
|---|---|---|---|
| 1935 | 221,451 | 113,354 | 51.2 |
| 1939 | 229,468 | 128,038 | 55.8 |
| 1942 | 272,313 | 177,381 | 65.1 |

The increase in urban births between 1935-39 was 8.9; and between 1939-42, 16.6%.

**Percentage of Births Without a Medical Attendant**

| | |
|---|---|
| 1935 | 10.1 |
| 1939 | 8.2 |
| 1940 | 7.6 |
| 1941 | 7.0 |
| 1942 | 6.1 |

Again, as a consequence of crowding and lack of domestic help, availability of hospital facilities, and due, in a measure perhaps, to a developing trend, more mothers are seeking hospital care for their confinements, as the following figures indicate,—

**Confinements in Institutions**

| | |
|---|---|
| 1935 | 32 per cent of the total confinements |
| 1939 | 41 " " " " " " |
| 1942 | 53 " " " " " " |

This fact is stressed because of the most interesting relationship which seems to exist between the percentage of hospital confinements and the maternal mortality rate.

| Year | Institutional Confinements | Maternal Mortality Rate |
|---|---|---|
| 1935 | 32 per cent | 4.9 per 1,000 live births |
| 1939 | 41 " " | 4.2 " " " " |
| 1940 | 45 " " | 4.0 " " " " |
| 1941 | 49 " " | 3.5 " " " " |
| 1942 | 53 " " | 3.0 " " " " |

The provincial figures show the same reaction, that is, a low maternal death rate associated with a high percentage of hospital confinements.

The statistics for the provinces showing the highest and the lowest proportion of hospital confinements are as follows:—

| Year | Hospital Confinements and Provincial Maternal Mortality Rates | | | |
|---|---|---|---|---|
| 1939 | 82 per cent | 3.1 | 14 per cent | 4.6 |
| 1940 | 84 " " | 3.1 | 15 " " | 4.5 |
| 1941 | 87 " " | 2.7 | 17 " " | 4.3 |
| 1942 | 89 " " | 2 7 | 22 " " | 3.3 |

The experience of one city, of nearly 100,000 population, illustrates the relationship between a low maternal mortality rate and a high proportion of hospital confinements.

| Year | Hospital Confinements | City's Maternal Mortality Rate (Residents) |
|---|---|---|
| 1940 | 98.4 per cent | 2.8 per 1,000 live births |
| 1941 | 98.9 " " | 1.6 " " " " |
| 1942 | 99.4 " " | .5 " " " " |
| 1943 | 99.3 " " | 1.6 " " " " |

These observations are not intended to prove that hospitalization for childbirth is "ipso facto" the determining factor in the maternal situation. One must also take into account the fact that the presence of a hospital in a community is usually accompanied with other facilities and probably with more appreciation by the citizens of the value of services.

Experience gained from the first world war taught us that there was need for control of essential commodities, particularly as it applies to nutrition, in order to maintain a satisfactory standard of life amongst all classes. This explains the creation, early in this war, of a commission to control the distribution of foods and to maintain price levels. Coincidental with the creation of this commission there was an intensification of educational endeavours with regard to nutrition through a newly established Federal Division of Nutrition. These events, coupled with improved economic conditions, appear to have resulted in a creditable amelioration of the dietary habits of our people if statistical data based on distribution of food stuffs, published by the Federal Bureau of Statistics, are a true criterion of this fact. The Nutrition Services of the Department of Pensions and National Health make the following statement on this report,—

> The trend during the war years has been upward for all nutrients with minor exceptions. Animal protein, calcium and riboflavin show the greatest increases, each being 14 per cent higher than the basic pre-war period. There have been slight increases in calories, ascorbic acid and thiamin, and more marked increases in fat, iron, vitamin A and niacin.

This would tend to prove that better nutrition generally prevailing in Canada has probably played an important part in the progress made in the maternal situation. This is particularly evident with regard to toxaemia and confirms the great emphasis laid by scientists recently on good nutrition for the prevention of toxaemia. As previously stated, the reduction in maternal mortality from toxaemia from 1939-42 was 46 per cent while there was a decrease of only 26 per cent from haemorrhage and 16 per cent from sepsis.

Furthermore, nutrition has undoubtedly played a part in the reduction of neonatal deaths and stillbirths, and deaths from prematurity.

| | Neonatal Mortality and Rate | | Stillbirths and Rate | | Prematurity Mortality Rate (Infant Mortality) | | |
|---|---|---|---|---|---|---|---|
| 1939..... | 7,038 | 31 | 6,365 | 27.7 | 3,002 | 1,308 | per 100,000 live births |
| 1942..... | 7,653 | 28 | 7,132 | 26.2 | 2,844 | 1,044 | " " " " |

This contention seems to be supported by a study carried out in Toronto by Drs. Tisdall, Ebbs and Scott. Among the 400 women observed in this study, it was found that there was a much higher incidence of miscarriage, stillbirths, premature births, and minor complications in those found to have "poor diets" throughout pregnancy. The whole course of pregnancy appeared to be favourably influenced by supplying simple foods to those on deficient diets, and by giving advice to those who could afford a proper diet.

An important 12-year research programme has recently been carried out by the Dept. of Child Hygiene of the School of Public Health of Harvard University, under the direction of Bertha S. Burke, M.A., et al, on 216 expectant mothers.

> In this study, no mother whose diet during pregnancy was considered "good" or "excellent" had pre-eclampsia, while with a "poor to very poor" diet during pregnancy, almost 50 per cent had pre-eclampsia.

Concerning the infants born to the mothers under this study, the report says:—

> If the diet of the mother during pregnancy is "poor to very poor," she will, in all probabliity, have a poor infant, from the standpoint of physical condition. In the 216 cases studied, every stillborn infant, every infant who died within a few days of birth (with the exception of one), the majority of infants with marked congenital defects, all premature and all "functionally immature" infants were born to mothers whose diets during pregnancy were very inadequate.

I might refer also to a report published by the Royal Society of Medicine, in June 1938, to the effect that out of 10,384 cases where the diet of expectant mothers was supplemented with eggs, vitamins A and D, and a food containing vitamin B, during the last months of pregnancy, the maternal mortality rate was 1.6 per 1,000 live births, whereas in the same locality and during the same period of time, it was 6.1 in 18,854 mothers whose diets were not supplemented.

A first essential in the success of public health endeavours is their acceptance and support by the public. This implies enlightenment on matters of hygiene. We have tried, therefore, to evaluate the extent to which our people are concerned with maternal care.

Observations lead one to believe that education is playing a leading role today in the favourable trend in the maternal field. There appears to be a growing interest in matters of child and maternal hygiene. This is manifested by the type of inquiries concerning the various problems and by the increasing demand for literature. For instance, our Division of Child and Maternal Hygiene has distributed upon request over 470,000 copies of *The Canadian Mother and Child* since 1940.

Physicians report much better cooperation from mothers. This is also shown by the fact that mothers agree to earlier admission to hospital for complicated cases than was formerly the case; and, as a consequence, greater demand is made of laboratory facilities and X-ray. From these favorable reactions one would expect a marked reduction in fatal accidents during preg-

nancy and at the time of birth, and consider them as having contributed substantially to the progress of the last few years.

From the combined number of factors to which reference has been made in this study, influencing favourably the maternal situation, the chief conclusions which would appear to be justified are that the majority of the Canadian public seem to appreciate the necessity of close medical supervision during pregnancy, and that our own people are prepared to take good advantage of the facilities we are able to offer. Our results, consequently, in the maternal situation, are dependent upon the accessibility of the services placed at their disposal.

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## "COURAGE AND DEVOTION BEYOND THE CALL OF DUTY"

Through the cooperation of Mead Johnson & Company, $40,000 in War Bonds are being offered to physician-artists (both in civilian and in military service) for art works best illustrating the above title.

This contest is open to members of the American Physicians' Art Association. For full details, write Dr. F. H. Redewill, Secretary, Flood Building, San Francisco, California.

# Milk Control Under Public Utilities Board*

J. A. Hanway, K. C.,

Chairman, Board of Public Utilities

WHEN Dr. MacRitchie asked me some weeks ago to speak to a meeting of Health Officers, I came back with the inquiry as to what subject he had in mind. Said he: "Public Utilities." I remarked that I didn't think that would be a very interesting subject to medical men, but, said he: "What about Milk?", and I gathered what was behind the suggestion.

Dairying is one of the oldest and one of the most important Canadian industries. In this Province it has received less attention than the other branches of agriculture, but it is never too late to start.

The dairy industry of this Province is the largest agricultural revenue producer of any branch of Agriculture. It employs a large number of people 365 days in the year, it is not subject to extremes of wind and weather, and it is a food product everyone uses. And half of it is produced before most of us are out of bed in the morning.

The permanent establishment of cattle in Canada dates from about 1608 when Champlain brought a few cattle to Quebec. Cattle were placed in Acadia in 1632, and by 1671 according to a census of that year the number increased to 866. The number of cattle in Nova Scotia in 1943 was 212,500, of which 104,300 were milch cows.

The total milk produced in 1943 was 205 million quarts, of which 46 million quarts were sold.

Let me at the very outset assure you that milk is not a public utility in the Province of Nova Scotia. The Public Utilities Act sets forth definitely what are declared to be public utilities—the supplying of electric energy, telephone service, water, and the operation of tramways; also to a certain extent, the operation of buses where they operate in competition with the tramways—there are only two, Pender's bus as it operates within the City of Halifax, and the operation in Glace Bay, a town which also has a tramcar system.

These utilities operate for gain of course, not gratuitously—though, strange to relate, there is in operation in Cape Breton a water system which makes no charge to its customers.

Although the Board of Public Utilities is charged under a statute with the control and direction of a public service, that does not make the particular service a public utility. For instance, neither gasoline or inter-urban buses are public utilities, yet the Board has complete charge over them, subject to the interference of Federal Oil and Transit Controllers made necessary by the war.

At the last Session of the Legislature, the Agriculture & Marketing Act was amended and the powers heretofore exercised by the Dairy Arbitration Commission were vested in the Board of Public Utilities. Milk thus came under the control and direction of the Board. It might be pointed out, however, that these powers were greatly enlarged. The Dairy Arbitration Commission had control only over fluid milk—"milk" under the amended Act is defined as "whole milk and such products of milk as are supplied, processed, distributed

*Delivered at the annual meeting of the Nova Scotia Provincial Association of Medical Health Officers at White Point Beach, N. S., July 4, 1944.

or sold in any form; including cream, butter, cheese, ice cream, condensed, evaporated, and powdered milk."

The Board has power to examine and audit books and accounts of any licensee; to prescribe within the limits of any area in the Province a standard for whole milk, cream, butter fat, or any of them, or any grade or grades thereof, having regard to the prevailing market price and the conditions of production, manner of delivery, cost of handling; and to prohibit within the limits of any area the sale or delivery of whole milk, or of cream, or of whole milk and cream in combination, at a price greater or lower than the price set by regulation. It may make regulations prescribing conditions upon which milk may be received, transported, stored, delivered, supplied, processed, and kept for sale. It is also provided that the provisions of the Public Utilities Act conferring power or authority on the Board of Commissioners or any member thereof shall mutatis mutandis apply to the Commission.

The present milk price structure is supported by Dominion Government subsidies. The Dairy Arbitration Board fixed certain areas in the Province as follows:—Amherst, Halifax, Kentville, Liverpool, Truro, Pictou, Windsor, Yarmouth, and Sydney. On the first of September 1943, the Wartime Prices and Trade Board, by Order No. 195 introduced ceiling prices in certain designated areas across Canada. The ceiling price is 12c in all of these areas, except Halifax where it is 13, and Sydney where it is 14.

In the month of December 1942 a *consumer* subsidy of 2c a quart was authorized by the Wartime Prices & Trade Board to keep down the cost of living.

In December, 1941, the Wartime Prices & Trade Board authorized a *producer* subsidy of 30c per 100 lbs. This was removed at the end of April 1942, and in September of that year a subsidy of 25c per 100 lbs. was authorized. This lasted until the end of September 1943, when it was raised to 55c, a few remaining at 25c until the end of April 1944 when it was changed to 35c. Finally, on October 1st of last year it was increased to 55c per 100 lbs.

The standard of milk in practically all areas is 3.7 per cent butterfat, carrying a price of $2.60 per 100 lbs., and this is increased or decreased at the rate of 3c as the percentage of butterfat increases or decreases one-tenth of 1% over or under the standard tests. There are only two grades of cream.

This legislation imposed upon the Board a great amount of additional work in a field which is entirely new to the members. At the time the legislation was enacted, we had no staff to carry out the provisions of the amended legislation. We therefore absorbed the staff of our predecessors, and Mr. W. J. Bird, Provincial Dairy Superintendent for Nova Scotia, was appointed Secretary and Chief Inspector of the Board, which acts as a Commission under the Agriculture & Marketing Act. We have also retained the services of the three Inspectors and the office staff.

Shortly after assuming our duties under the amended Act, I was invited to sit in at a conference of Provincial Medical authorities and medical and health experts representing the three armed services. This conference was presided over by the Honorable Dr. F. R. Davis, Minister of Health, and in my opinion was occasioned by protests which had been received by the services from Ottawa as to the condition of the milk supply in Nova Scotia.

It was the submission of the service authorities that the same quality milk was supplied the civilian population and that they were concerned that all

milk be improved since the servicemen drink milk when off duty. In other words, the servicemen were exposed to the same contamination whether on or off duty.

As a result of what was brought out at this meeting, a conference was held with the Honorable Minister of Health, the Deputy Minister, and the Sanitary Engineer, Mr. McKay. We have attempted to work out together a system by which there will be co-ordination of effort between the Inspectors operating under the Board and the Provincial Health authorities. This is not sufficient and will not be efficacious until the plan is enlarged to bring in the municipal, town and city health authorities. We have had a further conference with the Provincial and City of Halifax health officials and complete understanding has been reached as to the procedure to be followed insofar as the City of Halifax is concerned.

It might be pointed out here that in the City of Halifax there are eight dairies, and practically the entire output of milk comes from the Valley Counties, Colchester County, and Halifax County, the product of some 700 farmers. This milk is all pasteurized and distributed directly to the consumers by the dairies. These dairies are to be inspected regularly by the City health officials and the Inspectors appointed by the Board. Where there exist unsanitary conditions, a report is to be made to Dr. Morton, the City Health Officer, who will take the matter up directly with the dairy involved. A reasonable opportunity will be given the dairy to improve or correct what has been pointed out as being detrimental to the processing of the milk, such as mechanism or environment, which tends to develop contamination. If the dairy involved does not remedy the situation, Dr. Morton will notify the Board, and the licence of the dairy will be suspended and may finally be cancelled and revoked for failure to remedy the unsanitary conditions existing.

It is our ambition to eventually bring into effect a similar system in all the towns and cities in the province. This can only be brought about by the most co-operative efforts of Town and City health officers working in conjunction with the Board and its inspectors and officials.

It is the opinion of the Board that in following out this program, it is actually working backwards. From listening to discussions of medical authorities and inspectors, it is our belief that much of the contamination in milk is not removed by pasteurization and that much of the milk offered for human consumption contains particles of dirt, some, if not all of which could be eliminated by the producers.

Most important in the production of sanitary milk is the dairyman. If he is interested in sanitation, he ought not to be sending contaminated milk to market for human consumption. However, I believe that the great majority of dairymen want to do the right thing. The reason they are not doing so is that they do not know what is required of them or how it should be done. It then becomes in my humble judgment the joint obligation of the Board and the Health Department to instruct these producers. In the meantime I commend to you two very valuable and instructive pamphlets issued by the City Health Board of Halifax on Ice and the Harvesting of Ice, and second, on the Washing and Care of Milking Machines, the latter dealing specifically with cleaning and sterilization.

I read somewhere that a thimbleful of fresh wet manure contains 50 million bacteria and a dry thimbleful 4 billion. I have with me sediment discs

showing the amount of sediment contained in samples of milk brought to certain dairies in Nova Scotia, which I would be pleased to show you gentlemen, though I would hesitate to estimate the number of bacteria contained in them.

We appreciate the fact that considering the number of producers in the province and the limited number of personnel that can be utilized for inspection of barns, milkhouses, and places where milk is stored, such a procedure is impossible at the present time. However, these factors should not deter the health authorities and the Board from making a beginning in purifying the source. Mr. Bird and his staff have already begun a series of sediment tests, and arrangements have been made with the City of Halifax health authorities to carry on tests in the city. When the test shows a continuance of unclean milk, the premises of that producer will be inspected and if the condition of the milk is not improved, then that producer will have his licence suspended and eventually cancelled.

Much can be done if some education is given to the prevention of the accumulation of bacteria. The other day, we were shown a number of cans that came from a hospital in this province, and the milk had been taken out of the cans—the cans had never been cleaned, had never even had clean water passed through them. The stench that came from the stale milk was enough to turn the average individual's stomach. Surely, if such a condition pertains to a hospital, what can be expected from an ordinary institution.

Further than this, one of our inspectors visited a creamery in one of the towns in the province and watched the health authority in that town prepare his samples to determine the presence of B-coli and bacteria. Here is how he carried it out—

(1)The samples were taken in ordinary pint milk bottles which were washed in the bottling machine, rinsed with hot water and then washed with a chlorine solution;

(2) the bottles were placed upside down in a bottle case;

(3) the bottles were sampled with a dipper which was steamed once and rinsed in a chlorine solution after each sample was taken. The bottle was sealed with an ordinary milk stopper. These stoppers were placed on a desk which was not clean and where dust could accumulate. Each cap was numbered to identify the sample;

(4) the temperatures of the milk were variable but one lot was up to 86°F.

(5) the sampling commenced about 8 o'clock and completed at 10.30. During this time the samples stood in a warm room and at about 10.30 were taken to a cold room at a temperature of 32°F. The samples were held until between 12 and 1 o'clock when they were called for by the Medical Health Officer.

There is no further record of the samples except that the Health Officer was back on Friday about 11 o'clock and stated the samples contained millions of bacteria.

This brings up the matter of licensing. The Board, after considerable experience in the control of gasoline, believes that the imposition of penalties is not desirable as a corrective upon those who operate a public service or produce essential food products such as milk for the general public. It has been our experience that licensing, with the power to suspend and cancel, is much the more effective means. With that end in view, the Board has already granted a

blanket licence to all producers of milk for human consumption in the province. These licences are good until the first day of December, after which date all producers will be required to secure a licence at the cost of $1.00 per year. The dairies are already licensed and since the Board has assumed its duties under the amended Act, creameries and ice cream manufacturers are also licensed.

## WATER

Under the Public Utilities Act the supply of water to the inhabitants of any city, town or district in the province for gain is a public utility. Practically all water systems are owned by the cities, towns or municipalities, and in point of fact there are only five private systems. While the Board under the Act is charged with the obligation of seeing that these utilities supply a safe and adequate supply of water to the consumers, yet on account of the fact that most of these water utilities, some thirty-five in number, are operated by the towns and cities as part of the public services of the towns and cities, the Board has permitted these utilities to carry on with the least amount of interference possible, with the result that in many instances (during the last few years and due particularly to the influx of large numbers of servicemen and war workers into certain areas) the matter of the safe and adequate supply of water became a matter of vital importance. In addition, the towns and cities in many instances neglected to set up a reserve for depreciation and as a result the systems which were installed 50 to 100 years ago are greatly in need of repairs and often complete replacement, and the towns and cities find themselves in a difficult financial position. This should be of particular interest to you gentlemen. In many cases (according to the reports from the Provincial Sanitary Engineer) the water is as contaminated as the milk, and the only remedy is for the establishment of chlorination plants.

The cost of the chlorination plant could be added to the water system and the burden of paying for the same placed upon the water consumers. By extending the payment for the same over a period of fifteen or twenty years, the increase in the cost of water sufficient to pay principal, interest and carrying charges and an amount for depreciation, would not mean any substantial increase in the cost of water to the average householder consumer.

It would not be prudent of me to recite the names of the communities in which the water supply is far from safe and adequate. You who come from various towns and cities in the province receive regular reports from the Provincial Sanitary Engineer as to the condition of the water in your particular community and much could be done by health authorities to convince the towns of the necessity of setting up chlorination plants where such have not already been established.

I have no scientific or medical knowledge of whether or not it is essential that pure water should be supplied domestic animals, and particularly cows, but the Department of Agriculture recommends pure water and suggests that the principal sources of contamination are seepage from barns, outhouses, sinks and polluted brooks. They recommend that all wells should be dug on locations far from the source of contamination. It would, therefore, be my opinion that the contamination of the water supplied towns and cities should be protected for the benefit of animals as well as humans.

I have many times listened to addresses of one kind or another, and while it is easy to criticize existing conditions I notice the speakers frequently leave

the audience without any concrete suggestion for the correction of such conditions. Possibly they are more discreet than I. However, I feel it is my duty to make these suggestions, whether or not they are accepted in full or in part, or even entirely rejected. When I make them, insofar as milk and water are concerned, I feel I am reciting the opinion of the Board and the Chief Dairy Inspector for the province as well as many citizens of Nova Scotia.

It is obligatory that all milk sold in the town of Wolfville should be pasteurized. Why should not all milk in the province be so treated? The province of Ontario, almost every city in Canada, and many States of the Union have compulsory pasteurization. I would therefore recommend that all milk sold in the province be pasteurized and further, that all local and municipal health regulations dealing with the supply of milk be scrapped and that the Board enforce a provincial uniform system of regulations dealing with the production, processing, pasteurizing, and sale of milk and milk products;

That until such time as these latter regulations can be brought into effect, the city or towns follow the practice set up and agreed to by the health authorities of the city of Halifax, as previously outlined;

That all city, town and municipal health authorities in the meantime report conditions to the Board which in their opinion are detrimental to the production, processing and sale of milk, in order that the Board may after further investigation take such steps as in its opinion are advisable for the correction of the conditions militating against the supplying of pure milk;

And finally, that all public utilities supplying water be compelled to install chlorination plants.

I cannot close my remarks without acknowledging the assistance the Board has received from the services, and particularly the work and co-operation of Captain Baldry of the R.C.A.M.C. and Squadron Leader Lyon of the Air Force. They have been most helpful and co-operative in our efforts to secure a pure supply of milk.

# Problems of a Medical Health Officer*

Dr. Samuel Marcus

Bridgewater, N. S.

Mr. Chairman, fellow members of the Medical Health Officers' Association:

When I was first approached by Dr. MacRitchie to give a paper before this gathering, I couldn't for the life of me see when I would find time to prepare it, but when he refused to accept "No" for an answer, I succumbed, but asked him to name the subject. He replied, "How about 'The problems of the Local Medical Health Officer'?" I acquiesced without giving the matter much thought at the time, but on thinking it over shortly afterward, I decided I didn't have any problems. I felt that I was in the position of the perfectly normal, contented person who was unwillingly dragged into a revival meeting conducted by some evangelist, and, before the meeting was over, was convinced that he was all kinds of a mortal sinner. However, the analogy is not quite accurate. There are some problems—some major and some minor, some serious and some humourous—which a local medical health officer under our present system of the appointment of local health officers does come up against, and I would therefore crave your indulgence for a few minutes while I recount some of these.

To be perfectly frank with this gathering I was first appointed medical health officer for the Municipality of Lunenburg because I had a few friends in the Municipal Council. My qualifications for a public health administrator were absolutely nil. I was told that my appointment was by a narrow margin of one single vote. However, as the years have gone by, the margin has grown a bit larger, even though my qualifications as a public health administrator have not. I am reminded that Thomas Carlyle once said that some people are appointed to public office not because they have ability, but because they have ability to be appointed.

For purposes of convenience I should like to list the medical health officers' problems under three headings, although not necessarily in the order of their importance:

1. His problems in dealing with the public.
2. His problems in dealing with his fellow practitioners.
3. His problems in dealing with the local municipal governing body.

Let us now deal with the first one, that is, his problems in dealing with the public. I realize that a good deal of what I am going to say here is quite familiar to all of you present. My experiences, where they do differ from those of other health officers, probably differ only in degree due to local conditions. I should like therefore, at the beginning, to stray from the subject and give you a bit of geography and economics about the municipality over which I have jurisdiction, in order to help you understand a bit the background of some of my experiences.

The County of Lunenburg has a population of approximately 35,000. The incorporated towns of Lunenburg, Bridgewater, and Mahone Bay, with their individual health officers, constitute a total population of approximately 8,500. The Municipality of Chester, while in the County of Lunenburg, is a separate municipality with an approximate population of 6,000. This leaves

*Paper delivered at the annual meeting of the Nova Scotia Provincial Association of Medical Health Officers, White Point Beach, N. S., July 4, 1944.

a population of approximately 20,000 over which I have jurisdiction as medical health officer. The population is largely rural and semi-rural, with these three industries predominating: Fishing on the coast, farming and lumbering in the mid portion of the county, and lumbering in the northern section of the county where it borders on the Counties of Kings, Annapolis, and Queens.

In my nineteen years of residence in Lunenburg County, I have developed a healthy respect for its people. I have learned to admire their industry, their thriftiness, and their good, hard, common sense. I doubt whether any part of Nova Scotia is socially and economically on a more solid foundation than is the County of Lunenburg. We have no great over-powering industry controlling the economic life of the people. We have a lot of little industries, and most economists are agreed that a number of small industries, controlled entirely by local capital, makes for economic stability. Such people, accustomed to stand on their own feet, unaccustomed to receiving doles and handouts from governments, are naturally independent by nature, and proud of their independence. This trait of their's manifests itself even in such matters as public health regulations, and the enforcement of public health laws must, therefore, be tempered with a little tact and common sense.

Sooner or later every health officer must resort to some mild form of coercion in enforcing public health regulations. Now people in general object to any form of coercion. This is especially true in a democracy where the people are free to eject by ballot the perpetrators of the coercion. Quarantine is, for instance, a form of coercion, and, while most people readily agree that quarantine is necessary for the other person, a good many consider it unjust when applied to themselves. In the enforcement of quarantine, therefore, I believe where some resistance is encountered a considerable amount of tact and patience should be used; and, of course, if these fail there is nothing left but firm enforcement of the public health regulations.

With the advent of the public health nurse, and the wide publicity given public health matters in the press and over the radio, the problems of the local medical health officer have been made much easier. Another great aid to health officers' problems is the occurrence of an occasional epidemic. It is unfortunate, but nevertheless true, that epidemics, although they inflict some suffering on a number of people, do, in the end, make for an increased awareness of the public to measures instituted for the safeguarding of their health.

One of the most annoying aspects of every health officer's work is the receiving of innumerable anonymous letters from people, complaining about nuisances, unsanitary health conditions, alleged infectious disease, the presence of dead cows or horses in pastures, etc. I need hardly add, however, that all anonymous letters are consigned to the waste basket. Nevertheless, this is the sort of thing that sometimes happens: A person comes in with a complaint that a neighbour is suspected of harbouring an infectious disease, but does not wish to be identified as the informer. What to do in a case like this? If there is some infectious disease prevalent in a community, one's duty is to control it. One can perhaps sympathize with the informer in his desire for anonymity. In such cases, if a public health nurse is available, it might be well to have her investigate the situation in the locality. She can usually be relied upon to handle it in a satisfactory manner.

I must recount an experience in my locality. During an epidemic of

diphtheria, about two years ago, one rural settlement continued to contribute a fair number of cases over a considerable period of time. It was decided, after consultation with the divisional health officer and the public health nurse, to conduct a survey in this locality. A goodly number of carriers were discovered, and the homes from which these carriers came were, of course, quarantined. But it happened to be harvest time, and the problem arose as to whether the non-carriers of the households quarantined should be permitted to take perishable fruits and vegetables to market. It required considerable patience and tact on the part of the public health nurse, who did practically all the work in the survey, and myself, to handle the situation. I remember being violently attacked by the head of one of the households quarantined while I was strolling about the grounds of the local Agricultural Exhibition. Some of them to this day have not forgiven me for inflicting quarantine on them, even though the survey resulted in complete eradication of diphtheria from the locality within a very short time.

One could pointedly relate here an anecdote in the career of the late and notoriously great Huey Long of Louisiana. The president of the University of Louisiana had recently died, and the problem arose of appointing a successor. Mr. Long's advisors insisted that a man with the requisite scholastic attainments and administrative ability was not available in Louisiana, to which Huey replied: "I don't care whether he has any scholastic attainments, and I don't care whether he has any administrative ability—what I want to know is 'Has he got a hide like a rhinoceros'?"

I could recount numerous other occurrences in the health officer's dealings with the public, but these would occupy a prohibitive amount of space and would add but little to whatever informative value this paper may have.

I shall now pass to the health officer's problems in dealing with the rest of the profession. To the credit of the profession in general, and to the members of the profession in my locality in particular, I must say that no serious problems are encountered. The one I should like to dilate on is that of the adequate reporting of communicable disease. I cannot believe that the weekly and annual reports issued by the Department of Health are a true picture of the morbidity statistics relating to infectious disease. When one sees such diseases as influenza and measles and diarrhoea reported in round figures of 25, or 50, or 75, or 100, from some of the larger centres, one cannot help but suspect that they are merely estimates or guesses. Then again, some districts seldom submit weekly reports. I have often thought about this problem of the adequate reporting of communicable disease. I realize that there is a very understandable human element involved. Nearly every local medical health officer, as you know, is also a fellow practitioner of the other members of the profession, and therefore, a competitor. I think he therefore understands the natural desire for privacy, especially in venereal diseases, but where the desire for privacy interferes seriously with the public interest, then I feel that privacy must yield to public interest. I think that if the number of public health nurses in each locality were sharply increased—and I believe there is a definite need for that—the public health nurses could very easily assume that function. I did start that system a few years ago in our municipality. The public health nurse contacted every doctor, every week, and asked for a report of the number and nature of infectious diseases present. These she reported to me at the end of every week. This system worked very well, but as her work began

to increase, she was forced to give this up because she simply could not find the time. I feel that the Provincial Department of Health will have to work out some system in the future that will result in the adequate reporting of communicable disease, otherwise our statistics, as compiled at present, do not constitute a true picture.

We shall now deal with the third problem of the local medical health officer—his dealing with the local municipal governing body. I am not sure whether the system of the administration of public health as practised in our municipality is the same as that practised in other municipalities. I believe there are some variations in different localities. My remarks under this heading will, therefore, apply to conditions as they exist in the municipality under my jurisdiction.

In spite of whatever criticism one may sometimes voice privately against any municipal council, it is well to remember that most members of such a body are responsible citizens, and will, as a rule, readily agree to any measures aimed at the betterment of the public health. There is always the odd trouble-maker, but he is usually recognized as such by his colleagues, and is seldom given an opportunity to do any mischief.

I think that the most serious weakness in our local set-up is the way in which local health officials, such as sanitary inspectors, are appointed. Bearing in mind that I am health officer of a rural municipality, one of the first things I found when I became health officer was that the sanitary inspector covered too great an area, and was usually inaccessible because of lack of telephone communication. This made the work of the health officer in the control of communicable disease more difficult. As soon as a communicable disease is reported, it is, of course, desirable to institute quarantine as rapidly as possible, but when 24, or 48 or 72 hours elapse, then the public is apt to be critical of the public health administration, and rightly so. When I was first appointed health officer, the chief inducement to a man accepting the appointment of sanitary inspector was a fee he received for fumigation. This, I believe, amounted to $4.00 plus travelling expenses. When, however, I pointed out to the Municipal Council, in one of my annual reports, that fumigation was of no great value and should be discontinued, and when I put my recommendations in practice, then the sanitary inspectors lost interest in their jobs, since the instituting of quarantine and the removal of quarantine merely gave them small fees for mileage travelled. With the advent of the war, and a sharp rise in most people's earnng power, this lack of interest on the part of the appointees took another sharp drop. In fact, a number of them refused to act. With an over-worked public health nurse, and a not entirely idle medical health officer, the adequate control of communicable disease requires sanitary inspectors who will act. As far as I can see, the answer to this problem is the appointment of full or part-time sanitary inspectors with adequate remuneration. I am afraid I cannot see this being done in the present stage of development of public health work.

The most important aspect of public health work in every municpality continues to be the control of tuberculosis, and you will all agree that in this work most heartening progress has been made. The greatest drawback to the further progress is the fact that many people cannot afford prolonged treatment because of the necessarily prolonged absence from gainful occupation. The obvious solution to the problem is, of course, free treatment. While this

cannot be provided for everyone, our Municipal Council has, for the past several years, been very generous in the provision of free sanatorium treatment for a goodly number of people. Approximately 20 free beds are maintained at the Nova Scotia Sanatorium by our municipality. This, however, creates somewhat of a problem for the municipal health officer. Every applicant for free treatment must be O.K.'d by the local municipal councillor, and there is some jealousy encountered in the attempts of the various councillors to obtain preferential bookings for patients in their respective districts.

I must relate a more or less amusing incident which comes under this heading of a medical health officer's relations with the Municipal Council. When diphtheria broke out in our municipality early in the winter of '40-41, a widespread campaign for the toxoiding of children of the school and pre-school ages was instituted as rapidly as possible. In this I enlisted the aid of my fellow practitioners, and, at first, when the schools bordered near the town in which I practise, no fees were charged as a gesture of good will and an indication of our genuine interest in the public welfare. However, as the roads became more difficult to travel, and the distances from the towns greater, small fees were charged, usually 10, 15 and never more than 25 cents for inoculation. It happens that one municipal district is represented by two councillors, one councillor representing a district bordering on our town, and the other councillor representing that portion of the district farther from the town. I had set a date for the toxoiding of a large school in a district represented by the councillor living farther from the town, and had sent word that the fee charged would be 10 cents. On completion of the first toxoiding clinic I found that there was a general strike as regards remuneration, and when I inquired as to the reason, I was told that they were instructed by their local councillor that they were not to pay any fee since no fee was charged in a school near the town, and represented by the other councillor. He felt that there was discrimination against him. While I fear that I lost my temper at the time, the situation was satisfactorily cleared up when I asked the councillor in question to come to see me, when the matter was explained to him.

During my nine years as municipal health officer I have come to feel that one of the most important duties of the medical health officer, if not *the* most important, is the submitting to the municipal council of a comprehensive annual report of the previous year's activities in public health. I am firmly of the opinion that such a report should be educational as well as purely statistical. Any new developments in public health, and any advances in medical science which have a bearing on public health—and there are few that have not—should be brought to the attention of this lay-governing body. It will help to raise the relations of the medical health officer and the Council to a level of mutual respect and trust. It is high time that the mystery surrounding things medical, with their sometimes incomprehensible hieroglyphics, should be dispelled from the lay mind.

I could mention the relations of the medical health officer with the Provincial Department of Public Health, the divisional health officer and the public health nurse, but these relations do not constitute problems. On the contrary, the Department of Public Health and its full-time men and women in the field are ever ready and willing to aid the medical health officer in whatever problems he may encounter. I merely wish to pay a justly deserved

tribute to a forward-looking policy pursued by the Department within recent years.

I have recounted a few of the problems of the local medical health officer, but none of them, I believe, is of any consequence. Most of those I have recounted can be easily solved. The greatest problem still remains—the difficulty for a busy practitioner to devote sufficient time to public health matters on the present small salary. One is often seized with a sense of frustration, when one considers that there is so much to be done and so little opportunity to do it. Naturally, a good many things remain undone. I believe, for one thing, that a municipal health officer should visit every school once a year, but when, in a large and populous municipality such as ours, there are over 130 schools, such a task is impossible. It is well to delegate a great deal of the public health work to the medical man or men usually appointed to each local board of health—there are thirteen such in our municipality. This lightens the burden of the medical health officer and lessens the possibility of his meddling in his fellow practitioners' affairs. I mentioned in another part of this paper that in the toxoiding of our entire school and pre-school population such a system was followed. Every medical practitioner should really be given the opportunity to advise his patients in public health matters. The medical health officer thus becomes merely the co-ordinator of all public health activities, and that is perhaps what his chief function should be under the present set-up.

There are arguments for and against the permanent full-time health officer in each municipality. At the present time insufficient funds and personnel are available for a full-time health unit in each municipality. Without provincial or federal aid, sentiment in a municipal council would be against such a move. The presence of a medical health officer who is also a practitioner makes for versatility and for flexibility. Certainly a practitioner is well acquainted with the work and problems of his fellow practitioners. I realize the tendency is toward specialization, and I visualize in the not too distant future the possibility of this meeting comprising none but full-time health officers. In the meantime I believe the part-time medical health officer has served, and is serving, a very useful and honoured role in the safeguarding of the public health.

# Function of the Medical Health Officer in Venereal Disease Control*

M. R. MACDONALD, M.D.

Sydney, N. S.

VENEREAL disease is the most important public health problem in Canada to-day. Venereal disease is the most important public health problem in Nova Scotia. The approach to this problem in the past has been handicapped a great deal by the impractical way, in which it has seemed necessary to attack it. We have exaggerated the unwholesomeness and the seriousness of these so-called social diseases—we have not told people the facts—we have attempted to treat it as a problem purely medical and have always emphasized the "horror angle." If it is to be attacked with success—it must be attacked on the basis of a problem not only of the individual but of the community. We must understand that we cannot frighten people into control of venereal disease. It must be attacked with a program of wholesome, dignified, health education and on a many sectored front.

In order to be successful, there must be thorough understanding of the problem and its many ramifications and it behooves every health officer to acquire this understanding and to take the lead in his own community in this battle.

With war there is the problem of concentration in camps and other military installations of young men, some emotionally confused by their uncertain future, at times unusual contacts and associates; their detachment from families and fixed and settled feminine social contacts. The problem of venereal disease has always arisen under such conditions and a bad and poorly controlled peace time problem has been increased and further complicated.

Under these conditions the problem of venereal disease at present must be faced—it cannot be faced except under the conditions that are unnatural and that are existing in the country to-day. We have to face it with the changed relationships—family, social and economic. We have to face it as a social problem, as a legal problem, as a moral problem, as a medical and our greatest public health problem.

In any venereal disease control program—the whole program revolves around the health officer. He enters the picture as a physician, as a leading citizen of his community, as a health educator and lastly as the protector and guardian of the public health. If the health officer neglects or refuses to interest himself in venereal disease control, he should not occupy the position, because he is not assisting in the solution to the problem, and is actually hindering progress.

In every province there are a number of health officers who will give a variety of reasons for not interesting themselves in this control. One is too busy, it tends to lower his prestige with his private patients, he does not wish to interfere with the patients of his colleagues, and some have even said that it is not the business of the health officer to interfere in the private life of an

*Address delivered at the annual meeting of the Nova Scotia Provincial Association of Medical Health Officers, White Point Beach, N. S., July 4, 1944.

individual—it is the perrogative of the individual to acquire venereal disease, if he wishes to take the chance. All these arguments are very easily refuted —the last is ridiculous. The fact remains that while a physician occupies the position of health officer, it is his sworn duty to protect the public health.

The venereal diseases—syphilis and gonnorrhoea are infectious and communicable and as such every community has the right to protect itself from them. As the community's representative, it is the duty of the health officer to take the lead in this matter.

How may the health officer help in the control of the venereal diseases?

(1) Syphilis and gonorrhoea are communicable and notifiable diseases under the Public Health Act in Nova Scotia. As such every case should be reported to the health officer and he in turn should report them to the Provincial Health Department. One of the biggest handicaps in control is the fact that we have no accurate statistics and only by means of figures in regard to the prevalence of these diseases can a concentrated and efficient attack be made upon this serious problem. It follows likewise that such cases cannot be properly treated or isolated unless it is known to the health authorities, where they exist.

Shortly, there is to be issued for all Canada a standard, uniform, confidential, franked card for the reporting of venereal disease—not only of cases but also sources and contacts. These will be distributed to every physician in the province. The Health Officer should see that these cards are made use of by the physicians in his community. As a physician he should set the example by reporting his own cases and their contacts.

(2) Follow up of cases and contacts is the next important duty, and this brings in the duties and the authority of the health officer under the Public Health Act.

Section 66 of the Public Health Act says—"any Medical Health officer or any person thereunto authorized in writing by the Minister—etc."

This means simply that any Medical Health Officer may pick up and detain any person whom he suspects has a venereal disease and is not receiving treatment, or who should be receiving treatment, and may examine or have him examined by another doctor, and if found infected may detain the person in jail or elsewhere, until treatment has rendered him non-infectious. It is not necessary to go to court in such a procedure. Under the regulations, he may serve a suspect with a notice requesting such suspect to appear before a doctor for examination and treatment if found infected—this without detention.

Under Section 73—"every person knowing or having reason to believe that he is or may be infected—etc."

This means that the health officer may lay information before a magistrate that a person who is infected or under treatment for a venereal disease is conducting himself in such a manner which may lead or is likely to lead to the infection of another person.

I might say here that within the last week we have detained two people in jail under Section 66 and have secured a conviction under Section 73. Both of these sections have been used and are being used by the Divisional Medical Health Officers and a number of the local health officers, in many instances.

If these sections are used with discretion and judgment, they will go a

long way towards cleaning up a lot of the promiscuity and prostitution that are rampant throughout Nova Scotia.

(3) The health officer can help to raise the medical standards of diagnosis and treatment of venereal disease in his community. Both by example and by discussion in local medical societies, he may stimulate his colleagues to a greater interest in these diseases. Recently, the Department of Health has issued a syllabus on the treatment of syphilis and gonorrhoea, to all the doctors. This is not ideal, there are probably no ideal standards with our present limited knowledge of syphilis and gonorrhoea—but they are practical applications of the knowledge available and of known methods of diagnosis and treatment. I believe that a standard or near standard form of diagnosis and treatment is desirable, both from the viewpoint of the patients and the doctors. I think this syllabus serves a useful purpose and I heartily commend it to you and hope that you in turn will commend it to your fellow doctors.

(4) Next is the problem of delinquent patients. There are those who come to the doctor, once for diagnosis and do not appear for treatment, there are those who take one or several treatments and then become delinquent. Then, there are many who will come when they think of it but who make no attempt to get treated regularly. In the past there has been no attempt made by the doctors or even the health officer to have these people return. The doctor did not feel that he should have to go out and "canvas" his patients and he did not report them to the health officer. This is an important phase of venereal disease control and this angle will have to be remedied.

When the doctor makes a diagnosis of syphilis or gonorrhoea, he should instruct the patient in regard to treatment and also in regard to his conduct while under treatment. Copies of the leaflets *Instructions for those having syphilis*, and *Instructions for those having gonorrhoea* issued by the Department of Health should be given to the patients. A copy of section 73 of the Public Health Act is also available for doctors. If they do not follow up treatment regularly, they should be reported to the health department and an effort made to have them return for treatment.

(5) Then, there is the important work of case finding. Our main methods of case finding to-day are those sources and contacts reported through the services and merchant marine—there are a limited number reported by the doctors, police and other sources.

The procedure in regard to the reports from the services is roughly, as follows:—

These reports are sent to the Provincial Department—and in turn the local health officers or the divisional health officers are notified. The local health officer should interest himself in the tracking down of these alleged sources of infection and have them brought under examination and treatment if found infected.

The local health officer may refer the case to the family physician, he may desire to refer it to the public health nurse, or he may contact the suspect himself. Once examined and if found to be infected the patient should be placed under treatment. This may seem like a lot of bother but when one considers the number of cases prevented by the treatment of one promiscuous girl or an infected prostitute, then it would seem worthwhile.

The results of the efforts in location, examination, and whether or not the person is under treatment should be reported to the Health Department at once, who will then convey the information back to the original informant.

In regard to the examination of these alleged sources: it is desirable to have on all those reported, regardless of whether the report says gonorrhoea or syphilis—at least one blood test for syphilis, and in the case of gonorrhoea, treatment may or may not be started on the first visit, (depending on clinical evidence). The criterion for discharging the patients as cured should be at least three consecutive negative smears taken at weekly intervals and the absence of clinical evidence. A further negative smear should be obtained following menstruation—not less than one month after cessation of treatment.

Only in this way can we hope to clean up the reservoir of venereal infection that exists in the civilian population. The co-operation of some health officers in this regard has been very good,—with others it has been poor or non-existent.

(6) Finally, there is the question of health education for such cases. The health officer is in a very desirable position to carry on such education in his community. He should encourage and ask the doctors to cooperate in this matter. As health officers, as physicians, as citizens, we must attempt to inform the lay population of the facts about the prevalence, methods of diagnosis and treatment and to show and prove to them that these diseases are dangerous to personal and public health and to national welfare.

As citizens and as health officers we must bring to the attention of the responsible authorities the fact that in nearly every community there are certain factors operating that facilitate the spread of venereal disease and that a complaisant population refuses or neglects to take cognizance of the situation. Among these factors may be mentioned, the number of complaisant hotel proprietors who are in reality running disorderly houses; also there are many taxidrivers who are helping to aggravate the situation by procuring or pimping for women of immoral character. There are many other factors in addition to these that should be wiped out.

As health officers, we cannot help but be interested in these factors and it is up to us to stimulate an insistent public demand for their repression a demand that will be effectively communicated to the responsible law enforcement authorities.

Briefly, may I summarize the various duties and functions incumbent upon the health officer in such a program:—

(1)—Reporting of cases of venereal disease—because they are communicable and notifiable.

(2)—Follow up of cases and contacts—enforcement of sections 66 and 73 of the Public Health Act.

(3)—Raising of medical standards of diagnosis and treatment for syphilis and gonorrhoea.

(4)—Follow up of delinquent patients.

(5)—Case finding and the prompt and efficient investigation of alleged sources reported through the armed services and a prompt report to the Provincial Health Department of the results of investigation.

(6)—Health education concerning syphilis and gonorrhoea.

In closing, I might say that the cooperation of the health officers is absolutely necessary if this control program is to be successful. The incidence of venereal disease in any community will increase or decrease in proportion to the interest and activity that the health officer and the medical practitioners show in such a program.

# Editor's Column

## THE FIVE DAYS

Like the autumn rains, the Dalhousie Refresher Course again has come and gone. The Halifax water supply being as it is, we could dwell at some length on the likenesses of these two simultaneous occurrences. Let it simply be said that the Dalhousie freshening raised the level of our mental lakes without the pollution of any extraneous matter. The course was strictly business, five days of it. With eight o'clock breakfast seminars and a couple more evening sessions it would have rivalled its bigger American counterparts. In the fact that the medical man gets genuine pleasure out of this sort of thing may lie his greatest attribute.

The guest teachers were, of course, of high calibre. Dr. Thorne, of Harvard, young, modest, weaving biochemistry and physiology inseparably into medicine in his brilliant clinical studies, was a delight to his confreres and an inspiration to his student listeners. Returning to his native soil from Chicago, Dr. Huggins gave fresh evidence of the qualities inherent in the staples of Nova Scotian diet. His original work on cancer of the prostrate has made him a world authority. Dr. Tyson, of Temple, gave presentations noteworthy for their sound clinical sense.

Opening of the military and naval hospitals to the Course, with their excellent clinicians and their fresh teaching material, did much to enrich the five days. The Dalhousie staff, of Saint John and Kentville as well as Halifax, played their usual, dependable role, hardest laborer of the vineyard being Dr. Judson Graham, chairman of the Committee, who bore the heat of the day and the chill of many late nights of preparation, for somewhat less than the gospel's penny.

On the evening of the second day Dr. Mainland and Dr. Saunders officially opened their anatomical museum. Many discovered with surprise that here, in the classroom, was the anatomy they had taken years of clinical practice and study to discover. Two centuries ago John Hunter taught that function does not result from form; but that form develops from function, that anatomy is as vital as life itself. Spellbound by the static spirit of the cadaver, many anatomists have yet to appreciate the living organism. In making anatomy live, in infusing it with the medicine and surgery of which, to every good physician it must be an integral part, Dr. Mainland and Dr. Saunders are breaking down the cramping, mental compartments of the medical student's timetable. They are not only teaching better anatomy. They are bearing a torch for all the preclinical sciences.

Five days out of three hundred and sixty-five. That is not very many. But Dalhousie is growing. She is growing in the power of her medical alumni. She is growing in teaching personnel and equipment. The new Victoria General Hospital will be unexcelled in its teaching facilities. The new naval hospital, and the proposed new Camp Hill hospital, additions to the Children's and City Tuberculosis hospitals should make available great clinical resources. With the end of the war will come many young men, eager for the medical

problems of civilian life they have forgotten, for the problems they have not had the opportunity to learn.

It will be the responsibility of Dalhousie to help these young men. It will also be her opportunity. She will do postgraduate teaching. The benefits of this to Dalhousie, her alumni, the profession of this province, and her teaching staff, when once appreciated, will not readily be relinquished. The Refresher Course must go on, not as a solitary, yearly outburst of clinical ardor, but as the brightest constellation in a three hundred and sixty-five day firmament.

A. L. M.

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Public Health Laboratory, Pathological Institute
Halifax, N. S., September 18, 1944

Dr. H. W. Schwartz
183 South Park St., Halifax, N. S.

Dear Dr. Schwartz:

Some days ago while we were discussing the taxonomy and nomenclature of bacteria I promised to send you a list giving both the international and the provincial or vernacular names of some of the more common pathogenic bacteria. I must confess that I forgot this promise until this morning when the isolation of a strain of pseudomonas aeruginosa from a specimen, reminded me that this term would be unfamiliar to most physicians. The use of the international or scientific nomenclature has become quite widespread in the past few years and is used almost exclusively in all scientific publications. Its use eliminates the confusion which formerly arose due to the great number of local names for the same organism.

A list of the commoner pathogenic bacteria and a few nonpathogenic forms is enclosed. The generic portion of the name is generally shortened to the first letter as was the case with the older terminology.

Yours truly

(Sgd.) D. J. Mackenzie
Director of Laboratories
Department of Public Health

| International | Local |
|---|---|
| Diplococcus pneumoniae | Pneumococcus |
| Neisseria intracellularis | Meningococcus |
| Neisseria gonorrhoeae | Gonococcus |
| Neisseria catarrhalis | Micrococcus catarrhalis |
| Corynebacterium diphtheriae | B. diphtheriae |
| Corynebacterium xerosis | B. zerosis |
| Mycobacterium tuberculosis | B. tuberculosis |
| Escherichia coli | B. coli |
| Salmonella paratyphi | B. paratyphosus A. |
| Salmonella schottmuelleri | B. paratyphosus B. |

| International | Local |
|---|---|
| Salmonella typhosa (Eberthella typhosa) | B. typhosus |
| Shigella paradysenteriae | B. dysenteriae (Flexner) |
| Pseudomonas aeruginosa | B. pyocyaneus |
| Brucella melitensis | B. metitensis |
| Pasteurella tularensis | B. tularense |
| Pasteurella pestis | B. pestis |
| Hemophilus pertussis | B. pertussis |
| Bacillus anthracis | B. anthracis |
| Clostridium tetani | B. telani |
| Clostridium welchii | B. welchii |
| Clostridium botulinum | B. botulinus |
| Borrelia vincenti | Spirochaeta vincenti |
| Monilia albicans | Oidium albicans |
| Hemophilus influenzae | B. influenzae (Pfeiffer) |
| Klebsiella pneumoniae | B. mucosus capsulatis (Friedlander) |
| Shigella dysenteriae | B. dysenteriae (shiga) |

# Programme of the Twentieth Refresher Course October 9-13, 1944 inclusive

## MORNING

### Monday, Otober 9

8.00-10.00 a.m.

REGISTRATION
at
DALHOUSIE PUBLIC HEALTH CLINIC

VICTORIA GENERAL HOSPITAL

Chairman—Dr. C. W. Holland.
00-11.00 a.m.
Medical Clinic
Drs. K. A. MacKenzie and J. R. Corston
10 a.m.-12.20 p.m.
Surgical Clinic — "Intestinal Obstruction"
Drs. C. E. Kinley and A. L. Murphy

### Tuesday, October 10

VICTORIA GENERAL HOSPITAL

Chairman—Dr. J. W. Reid

9.00-10.00 a.m.
Medical Clinic
Dr. George W. Thorn

10.10-11.10 a.m.
Medical Clinic
Dr. T. A. C. Rennie

11.20 a.m.-12.20 p.m.
Medical Clinic
Drs. C. W. Holland and J. W. Reid

HALIFAX MILITARY HOSPITAL

9.00-10.30 a.m.
Medical and Surgical Clinics with discussion period
Staff

10.30-11.15 a.m.
Lecture—"Therapeutic Use of Procaine in Surgical Conditions"
Major H. F. McKay

11.15 a.m.-
Lecture—"Pencillin"
Major S. A. Yaffe

### Wednesday, October 11

VICTORIA GENERAL HOSPITAL

Chairman—Dr. H. W. Schwartz

9.00-10.00 a.m.
Medical Clinic
Dr. T. A. C. Rennie

10.10-11.10 a.m.
Medical Clinic
Dr. George W. Thorn

11.20 a.m.-12.20 p.m.
Surgical Clinic—
"Amputations"
Dr. W. A. Curry
"Some End Results with Smith-Petersen Pin"
Dr. J. V. Graham

ROYAL CANADIAN NAVAL HOSPITAL

9.00-11.00 a.m.
Surgical Clinic
"Recurring Dislocation of Shoulder"
"Internal Derangement of Knee-joint"
Surg. Cmdr. W. K. Welsh
Surg. Lt. Cmdr. W. G. Breckenridge

11.15 a.m.-
Surgical Clinic
"Stone in the Urinary Tract"
"Urinary Infection, Diagnosis and Treatment, including Gonorrhoea and or Tuberculosis"
Surg. Lt. Cmdr. D. R. Mitchell

PUBLIC HEALTH CLINIC

9.00-10.00 a.m.
Lecture—"Community Sickness"
Dr. N. E. McKinnon

10.10-10.40 a.m.
"Tuberculosis"
Dr. W. J. Dyer

10.40-11.10 a.m.
"Orthopedics"
Dr. J. C. Acker

11.20-11.50 a.m.
"Surgery"
Dr. W. K. House

11.50 a.m.-12.20 p.m.
"Medicine"
Drs. C. W. Holland and R. O. Jones

### Thursday, October 12

VICTORIA GENERAL HOSPITAL

Chairman—Dr. W. G. Colwell

9.00-10.00 a.m.
Surgical Clinic — "Diagnosis and Treatment of Prostatic Diseases"
Dr. Charles Huggins

10.10-11.10 a.m.
Surgical Clinic
Drs. N. H. Gosse and A. M. Marshall

11.20 a.m.-12.20 p.m.
Radiological Clinic
Surg. Lt. Cmdr. C. E. Vaughan
Surg. Ltd. Cmdr. J. Bouchard
Major R. L. Smith
Dr. W. M. Roy
Dr. S. R. Johnston

PUBLIC HEALTH CLINIC

9.00-9.30 a.m.
"Treatment of Wounds"
Dr. P. Weatherbe

9.30-10.00 a.m.
"Flexion Deformity of the Hip in Quiescent Hip Disease, Corrected by Osteotomy"
Dr. J. C. Acker

10.10-11.10 a.m.
Paediatric Clinic
Dr. Ralph M. Tyson

11.20 a.m.-12.20 p.m.
Ward Rounds—
Drs. M. J. Carney
Gordon Wiswell
N. Barrie Coward

CAMP HILL HOSPITAL

9.00-12.00 a.m.
Medical and Surgical Clinics
S/L W. D. Smith
S/L A. T. Thom
S/L H. C. Moorhouse
S/L R. M. Ramsay
S/L E. J. Blanchard
Lecture—"The Stader Splint" with films
S/L W. D. Smith

### Friday, October 13

VICTORIA GENERAL HOSPITAL

Chairman—Dr. K. A. MacKenzie

9.00-10.00 a.m.
Surgical Clinic
Drs. H. K. MacDonald and J. W. Merritt

10.10-11.10 a.m.
Surgical Clinic—"Recent Advances in Urological Treatment"
Dr. Charles Huggins

11.20 a.m.-12.20 p.m.
Clinical Lectures—
"The Red and Painful Eye"
Dr. H. W. Schwartz
"Foreign Bodies in the Bronchi"
Dr. D. M. MacRae

ROYAL CANADIAN NAVAL HOSPITAL

9.00-12.00 a.m.
Medical Clinics
"Respiratory Disease Control and the Prevention of Rheumatic Fever"
Surg. Ltd. Cmdr. Alan Ross
Surg. Lt. Cmdr. John Keith
"Headache"
Surg. Lt. Cmdr. J. P. Robb

PUBLIC HEALTH CLINIC

9.00-11.00 a.m.
Symposium in Obstetrics
Drs. P. A. Macdonald, H. B. Atlee, W. G. Colwell and K. M. Grant

GRACE HOSPITAL

11.15 a.m.-12.15 p.m.
Paediatric Clinic—"The New Born Child including Prematurity"
Dr. Ralph M. Tyson

## AFTERNOON

**Chairman—**
**Dr. J. G. MacDougall**

**.00-4.00 p.m.**
Lecture — "Empyema and Lung Abscess"
**Dr. V. D. Schaffner**

**.10-4.50 p.m.**
Report—"Insulin Therapy at The Nova Scotia Hospital"
**Dr. M. MacKay**

**.00-6.00 p.m.**
Lecture—"Resection of Duodenum and Pancreas for Carcinoma of Ampulla of Vater"
**Dr. George F. Skinner**

**Chairman—Dr. K. A. MacKenzie**

**3.00-4.00 p.m.**
Lecture—"Gout"
**Dr. George W. Thorn**

**4.10-5.10 p.m.**
Lecture — "The Recognition and Management of the Psychoneurotic Patient"
**Dr. T. A. C. Rennie**

**Chairman—Dr. J. R. Corston**

**2.30-3.30 p.m.**
Lecture — "Some Principles and Problems in Preventive Medicine"
**Dr. N. E. McKinnon**

**3.40-4.40 p.m.**
Lecture—"Some Common Psychosomatic Disturbances and their Treatment"
**Dr. T. A. C. Rennie**

**4.50-5.50 p.m.**
Lecture—"Diagnosis of Adrenal Insufficiency"
**Dr. George W. Thorn**

**Chairman—**
**Dr. H. K. MacDonald**

**2.30-3.30 p.m.**
Lecture—"Cancer of the Prostate"
**Dr. Charles Huggins**

**3.40-4.40 p.m.**
Lecture—"Tuberculosis in Children"
**Dr. Ralph M. Tyson**

**4.50-5.50 p.m.**
Lecture—"Some Aspects of Meningococcal Infection"
**Dr. N. E. McKinnon**

**Chairman—Dr. G. H. Murphy**

**2.30-3.30 p.m.**
Lecture—"Blood Dyscrasias in Infants and Children"
**Dr. Ralph M. Tyson**

**3.40-4.40 p.m.**
Lecture—"Acute Methyl Alcohol Poisoning—a Survey of some Thirty Cases"
**Dr. D. J. Tonning**

**4.50-5.50 p.m.**
Lecture—"Sex Hormones in Clinical Practice"
**Dr. Charles Huggins**

## EVENING

**Opening of New Anatomy Department at Forrest Building, Carleton Street**

**8.30 p.m.**

Address—"Is Anatomy Dead?"
**Dr. Donald Mainland**
Opening of Anatomy Museum
**Dr. R. L. de C. H. Saunders**

**Chairman—Dr. Alan Morton**

**8.30 p.m.**
Lecture—"Modern Trends in the Management of Syphilis"
**Major Georges LeClerc**

Dr. C. E. Kinley invites any doctor to visit the Polio Clinic at the Nova Scotia Hospital, Dartmouth, N. S., on Friday afternoon, October 13.

**Discussions and Questions invited at close of final paper each afternoon and evening**

**NOTES**

1. All afternoon and evening lectures will be held in the ballroom of the Lord Nelson Hotel.
2. Each attendant is requested to register his name, rank (if in services) and address. The register will be found in the Dalhousie Public Health Clinic, Morris Street. It opens at 8.00 a.m., Monday, October 9th.
3. Registration fee of $2.00 is payable by each civilian physician taking the Course. Medical Officers of the Canadian and United Nations' Army, Navy and Air Forces are invited to register and attend the course without payment of any fee.
4. Attendance at clinics, etc., in the morning will be limited to the number that can be comfortably accommodated. The hospital and hotel management request no smoking.

## GUEST TEACHERS

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|---|---|
| DR. CHARLES HUGGINS - - - - | Professor of Surgery, University of Chicago. |
| DR. GEORGE W. THORN - - - - | Professor of Medicine, Harvard University. |
| DR. THOMAS A. C. RENNIE - - - - | Associate Professor of Psychiatry, Cornell University. |
| DR. RALPH M. TYSON - - - - - | Professor of Paediatrics, Temple University, Philadelphia. |

(The above sent by the courtesy of War-time Graduate Medical Meetings of United States, under the auspices of the American Medical Association, The American College of Physicians, and the American College of Surgeons.)

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|---|---|
| DR. N. E. McKINNON - - - - - - | Professor of Epidemiology and Biometrics, School of Hygiene, University of Toronto and research member Connaught Laboratories. |
| DR. V. D. SCHAFFNER - - - - - - | Surgeon to the Nova Scotia Sanatorium, Kentville. |
| SQUADRON LEADER W. D. SMITH - - | Surgical Consultant No. 5 Command Medical Board, formerly on surgical staff Saint Michael's Hospital, Toronto. |
| SQUADRON LEADER A. T. THOM - - | Medical Consultant No. 5 Command Medical Board, formerly on staff of Royal Victoria Hospital, Montreal. |
| SQUADRON LEADER H. C. MOORHOUSE | Neuro-psychiatrist for No. 5 Command Medical Board, formerly with the Ontario Hospital Service. |
| SQUADRON LEADER R. M. RAMSAY - | Ophthalmologist with No. 5 Command Medical Board, formerly fellow in Ophthalmology at University of Minnesota, and on staff of Miller Hospital, St. Paul, Minnesota. |
| SQUADRON LEADER E. J. BLANCHARD | Otolaryngologist with No. 5 Command Medical Board, formerly in charge E.E.N.T., Davis Clinic Hospital, Statesville, North Carolina. |
| MAJOR GEORGES LECLERC - - - | V. D. Consultant R.C.A.M.C. |
| MAJOR H. F. McKAY - - - - - - | R.C.A.M.C. Officer in Charge of Surgery, Halifax Military Hospital. |
| MAJOR S. A. YAFFE - - - - - - - | M.D., M.R.C.P. |
| MAJOR R. L. SMITH - - - - - - - | B.A.,M.D.,C.M. |
| SURGEON COMMANDER W. K. WELSH | Staff of Toronto General Hospital. |
| SURG. LT. CMDR. J. BOUCHARD - - | Staff of Royal Victoria Hospital, Montreal. |
| SURG. LT. CMDR. W. G. BRECKENRIDGE | Ex-Resident in Orthopedics, Massachusetts General Hospital, Boston. |
| SURG. LT. CMDR. JOHN KEITH - - | Staff of Children's Hospital, Toronto. |
| SURG. LT. CMDR. D. R. MITCHELL - | Staff of Toronto General Hospital. |
| SURG. LT. CMDR. J. P. ROBB - - - | Staff of Verdun Protestant Hospital, Montreal. |
| SURG. LT. CMDR. ALAN ROSS - - - | Staff of Children's Memorial Hospital, Montreal. |
| SURG. LT. CMDR. C. E. VAUGHAN - - | Radiologist, Hamilton General Hospital and McGregor Clinic, Hamilton. |

# *Syllabus For Treatment of Gonorrhoea

**For Guidance of V.D. Clinics and General Practitioners**

1. All patients presenting themselves with symptoms indicating possible gonorrhoea are **to have a blood serologic test for syphilis.**
   (1) on initial visit. (2) 3 months after that date.
2. Local treatment of any kind (injections, irrigations, massages, instrumentations) is contraindicated in uncomplicated acute gonorrhoea in the male.
3. **Treatment** will consist of one course of sulfathiazole consisting of one gram (2 tablets of 7½ gr. each) 4 times daily for 7 days.
4. A careful inquiry should be made as to previous sulphonamide therapy.
5. In females smears must be taken from both urethra and cervix—**in taking cervical smears no lubrication should be used on speculum.** A notation should be made on record card of the clinical signs and symptoms present on speculum examination.
6. Data sheets accompanying smears to laboratory from **suspect source should have this fact clearly stated.**
7. In every case of **clinical gonorrhoea** sulfathiazole should be started on the first visit immediately after smears have been taken. If smear reports are waited for in frank clinical cases of gonorrhoea the patient's chances of cure are lessened and other persons may be infected.
8. Definite epidemiologically **suspect sources should be regarded and treated as gonorrhoea cases in spite of negative smears.** For example, if a person is twice reported as being the source of gonorrhoea such a person should be treated in spite of the fact that smears are negative It is known that smears are far from being infallible in the diagnosis of gonorrhoea, also previous sulphonamide therapy causes difficulty in the laboratory identification of the gonococcus.
9. **Cessation of Treatment.** The criterion for stopping treatment in the **female** shall be the finding of **3 consecutive negative smears** at weekly intervals and the absence of clinical signs. Following this the patient **should not be discharged** but must have at least one other negative smear following menstruation **not less than one month** after cessation of treatment. During this **probationary period** the patient must follow the same rules and regulations regarding conduct as during the treatment period—this should be made clear to the patient.

   **Male** patients should have:
   (a) absence of urethral discharge.
   (b) 2 clear urines (2 glass test).
   (c) negative smears after prostatic massage.

   This examination should be repeated when patients return for the second blood test.
10. If smears and/or clinical signs still indicate the presence of gonorrhoea after the first course of treatment, a rest period of 5-7 days is indicated before a second course of sulfathiazole therapy—the second course should be along the lines of the first course except that somewhat larger dosage should be given. When possible, the patient should be put into hospital or otherwise kept under close observation during the second course.
    **If case is hospitalized** the following regime is suggested for the second course.

*Published at the request of the Department of Public Health, Province of Nova Scotia

1st day —8 grams (120 grains) in divided doses.
2nd " —7 " (105 " ) " " "
3rd to 10th day—5 " ( 75 " ) " " "

During the second course in the male the installation into the urethra of 6 cc. freshly prepared 5% solution silver proteinate by the doctor is recommended. This same preparation can be used in the female—installation of 1 cc. into the urethra and tampons in the cervix.

11. No instrument of any kind to be passed into the urethra unless
    (a) there is absence of urethral discharge.
    (b) both glasses of urine (a glass test) are clear.
12. No case of gonorrhoea should be considered to have been adequately dealt with until the following steps have been taken:
    (a) **Prompt treatment of the gc.—taking of a blood test.**
    (b) **Smears to the laboratory.**
    (c) **Obtaining the name, address, etc., of suspected source of the case.**
    (d) **The suspected source either brought into the doctor's office or reported to the Health Officer, whose duty it is to have such suspected sources examined.**
    (e) The Doctor should obtain the names of persons with whom the patient has had contact since the earliest possible date of the beginning of his infection—these contacts dealt with as in (d)
    (f) Follow up of the case till cure is obtained as outlined in 9 above.
    (g) **If case does not complete treatment, he or she should be reported to the Medical Health Officer as a delinquent.**
    (h) **Each case should be reported to the Department of Public Health on the confidential form provided.**