

Ed. Note;

The Saint Louis City Department of Health's 51<sup>st</sup> annual report, submitted in August of 1919 is an important document for anyone interested in the first hand recounting of the Influenza control policies that were put into place in the fall of 1918.

The original report is housed in the Rare Book section of the city library. It was originally typed on onion skin paper that is now very brittle and could not stand up to the photocopying process. To make it widely available we had the report transcribed and have posted the PDF of the transcription on our home page. I'd like to acknowledge and thank the Rare Book staff for their assistance with this project

DM200003

St. Louis, August 25, 1919

Dear Sir:

I beg to submit here with my Annual Report covering the operation of this Division for the Fiscal Year 1918-1919; being the 51<sup>st</sup> of the Department and the 42<sup>nd</sup> of the Health Commissioner. Accompanying same will be found the statement of the heads of several sections of the Division which cover in detail the work accomplished by them during the year.

For the first time during my encumbrance in the Office of Health Commissioner, which covers a period of over 19-years, St. Louis was visited by an epidemic (the pandemic of influenza). The severity of this outbreak called for the prompt action and close application to the work of stamping out this disease. Everyone connected with the Division, from the officer to the subordinate, is deserving of commendation for their untiring energy and devotion to duty during the outbreak.

Kindly accept my sincere thanks for your hearty cooperation in all matters connected with the work of the division; especially am I grateful to both his Honor the Mayor and to your Honorable self for the many valuable suggestions offered during the influenza epidemic which were of incalculable help, and for your support in all measures taken to control this disease.

Yours very respectfully,

(Signed) Max Cstarkloff, Health Commissioner

DM200004

## Report

The year just closed presented abnormal conditions owing to the prevalence of the pandemic of influenza, and as a result of the mortality will of necessity show a marked increase over previous years. However, our City does not suffer in this respect by comparison with other large cities; all having experienced the ravages of this disease to a greater or lesser extent. In fact, no part of the country escaped and our own experience was very favorable as shown by a review of the conditions as outlined later in this report.

If we expect the deaths from influenza and its complications and make allowances for the pneumonia deaths over the normal pneumonia mortality, the health of the community during the year was very good indeed, the death rates being lower than in any previous year with the exception of 1915, since 1867.

A greater interest was manifested by the public in health matters during the year, no doubt due to the unfortunate visitation of influenza in our midst. Individual cooperation was present to a degree far greater than as usual, when normal conditions prevail. While this may have been due to the desire of each individual to safeguard himself and family during the presence of a deadly malady, the effect has been good from an educational standpoint, for I am certain that our citizens, having been aroused to an appreciation of the importance of improving sanitary conditions, will continue this interest and in the future meet with a kindlier spirit of the efforts of its Division of Health, to enforce regulations which have for their object the improving of living conditions and thereby lessen the danger of appearance and spread of disease.

DM 200005

There was a total of 13,748 deaths from all causes during the calendar year, the death rate being 16.76 per thousand based on an estimated population of 820,000, which is considered conservative, (as compared with 11,626 in 1917, and a death rate of 14.17). Of this number, 11,685 for white, and 2,063 colored; 7,387 males, and 6,361 females. For the fiscal year which ends March 31<sup>st</sup>, 13,795 deaths were reported, 11,892 white, and 1,903 colored, with a death rate per thousand of 16.82 based on the same population.

The largest number of deaths 2,063 from any one cause were due to an exceedingly virilian type of influenza which was persistent in epidemic form. This is 15% of the total mortality. While this disease has been more or less present each year, it has not been of a malignant type and the mortality was insignificant as compared to the outbreak of 1918. Lobar and bronchial pneumonia usually high in mortality were increased largely during the year as a result of the epidemic and come next with a total of 2,261 cases, or 16.4% of the total deaths from all causes. The normal death rate from those types of diseases is about 10%. Organic disease of the heart was

responsible for 1,249 deaths. The number of deaths from Tuberculosis was 1,202, as compared with 1,399 in 1917, a decrease of 197. This reduction is encouraging, and let us hope it will continue, though I question if any decided and steady falling off in the mortality from Tuberculosis would be made under the present methods stipulated for combating it. It cannot be officially controlled so long as infected individuals are permitted to mingle freely with the public, and unfortunately the public is not yet ready to accept enforced isolation. No progress will be made by merely caring for persons who have the disease, but we must take all steps necessary to prevent its spread by contact. 1,382 deaths occurred among infants under one-year, or 94.4 out of each thousand of children born, died during the year of birth, which is a decided increase over the year previously when only 1,168 deaths were recorded, and the rate per thousand was 79.6, the lowest in the City's history.

It can be definitely stated that this increase was largely, if not entirely due to the influenza epidemic, which was responsible for 136 of these deaths. In view of the rapid progress which has been made in infant welfare work in the past three years, the number of deaths having shown a decided decrease in each year, it is to be regretted that this excellent record should be even temporarily marred, for I am quite sure that under normal conditions, the effort put forth by this Department and other agencies interested in the work will result in a still further reduction of the mortality among infants.

St. Louis stands second among the largest cities in the matter of infant mortality for 1918, as shown by the following figures:

New York	91.7
St. Louis	94.4
Cleveland	97.4
Detroit	100.7
Chicago	104.3
Boston	114.9
Buffalo	121.54
Pittsburg	122.5
Philadelphia	126.0
Baltimore	147.7

The comparative death rates of several of the largest cities for 1918 and 1917 are given below, which show the large increases due to influenza, with the one exception, Detroit, Michigan:

City	1918	1917
Detroit	15.4	14.2
Cleveland	16.1	15.7
New York	16.71	13.6
St. Louis	16.76	14.1
Chicago	17.7	14.9
Buffalo	20.87	15.88

San Francisco	20.9	14.3
Cincinnati	20.94	16.49
Boston	22.24	16.47
Philadelphia	24.37	17.1
Pittsburg	26.1	18.1
Baltimore	26.74	19.11

The number of births reported was 14,630 as compared with 14,658 in 1917. These figures do not indicate that our efforts to encourage the reporting of births have been very effective. While, of course, it cannot be positively stated that all births which occur are not reported, it is only natural to expect an increase in proportion to the increase in population.

The records show that there were more births reported in 1908 than any year since. During the War, there was unusual demand for birth records, which in many instances were not on record, and it is possible that this may have forcibly brought to the mind of the public the importance of having a child's birth recorded and result in a larger number being reported in the future.

The yearly birth return since 1908 is as follows: table on the fourth page of the document.

The City is in excellent sanitary condition so far as being free from very objectionable nuisances dangerous to the public health, but there are many unsanitary conditions, which while not considered serious menaces are at least objectionable so far as affecting the public comfort and may come, if left unattended to, eventually result in grave nuisances.

As frequently set forth in my previous Annual Reports, our corps of inspectors is not adequate for making systemic inspections and to enable us to give attention to the enforcement of special ordinances relating to the matter outside of the general run of nuisances, such as lodging and tenement houses, store, milk, dairy, food inspections, etc., which, if proper results are to be obtained, should be organized under separate sub-sections. With our present limited force it becomes necessary to assign the inspectors to various duties in the course of their general work. This greatly mitigates against their retaining proficiency in any special line of work.

The inspection service was seriously interrupted during the fall of the year, owing to the influenza epidemic, which necessitated our using almost every available employee to meet the situation. However, it was possible later to catch up in this work with the assistance received from men who were transferred temporarily from other departments and utilized as inspectors, a force of 32 men, sanitary officer inspectors who served 32,880 notices for various nuisances in the sanitary districts. This will give some idea of the volume of work covered. The First Sanitary District comprises all of the territories south of Arsenal Street from the river to the limits and only has one sanitary officer and three inspectors. The Seventh District embraces all territory north of

Easton Avenue from the river to the City limits and is looked after by one officer and two inspectors. The Fifth and Sixth Districts have similar conditions. The Second and Third and Fourth Districts are smaller in area, but vastly more congested in population and have about the same working force.

Everyone of these Districts have a population in excess 100,000 and the largest working force in any one of them, the Third and Sixth, is a sanitary officer and five assistants. It is obvious that this large area cannot be looked after properly with so few men and I am sure that no other city of the same size is compelled to do the sanitary work with this small force.

In addition to the abatement of nuisances, the sanitary section gives special attention to lodging and tenement houses inspection, street car barns, street cars, theatre, screening of food, suppressing of spitting, inspection of hospitals, dispensaries, homes, etc./, swimming pools [], fly and mosquito extermination, weeds, fumigation and disinfection of houses, and any matter which concerned the public health. All of these activities are referred to in detail by Dr. G.A. Jordan, Assistant Health Commissioner, who was in charge of the sanitary section, in his Annual Report, which accompanies the Report of the Health Commissioner, and covers more important points in a clear and concise manner to which your attention is invited. If it were not for the fact that it became necessary to have influenza included in the list of reportable diseases, owing to the epidemic, the total number of infections would show a decided decline over the previous year.

Of the principal diseases of childhood, namely, measles, scarletina (), diphtheria, and whooping cough, the reduction was very marked with the exception of the latter disease which showed and increase. There were only 2,137 cases and 19 deaths from measles, as against 8,817 and 98 deaths in 1917, a reduction of 6,680 cases, and 79 deaths; scarletina () was responsible for 933 cases and 17 deaths, as compared to 2,569 cases and 62 deaths for 1917; diphtheria, 2,274 cases and 117 deaths in 1918, and 3,762 cases and 205 deaths in 1917. The increase in whooping cough cases and deaths, 3,210 cases and 131 deaths. The number of cases of small pox was 502 in 1918 and 427 the previous year. Cerebral-spinal fever, 72 cases in 1918 and 182 in 1917, infantile paralysis 26 cases and 6 deaths.

## Influenza

This disease had not been epidemic in this City since 1889, when there was a large number of cases and the mortality high. However, the death toll was insignificant when compared with that exacted during the outbreak of the disease this year, when there were 31,752 cases reported and 2,018 deaths from October 7<sup>th</sup> to December 31<sup>st</sup>, 1918. There were 921 deaths from pneumonia also during this period which was far in excess of the normal mortality from this disease. Subsequent to this date, the cases average 35 a day, and the deaths, including pneumonia, about 10, until April, 1919, when the cases and deaths reported were very few.

Influenza visited this country very suddenly about September 5<sup>th</sup>, Boston being the first city to show any definitive evidence of the disease in epidemic form. From Boston it spread rapidly to several eastern cities including all the military camps and traveled westward until every city, town, hamlet and military camp in the country was overwhelmed with the disease. A scourge continued and the number of deaths increased each week up to October 5<sup>th</sup>, when 991 died during the week, from September 29<sup>th</sup> to October 5<sup>th</sup> in Boston. The next week, 850 died, and the following week showed the death of 463 people in that city.

In Chicago, the epidemic started during the week ending September 21<sup>st</sup> with 17 deaths; next week 171 persons died, the following week 571 deaths occurred, and the week ending October 19<sup>th</sup>, 1,242 of that city's inhabitants succumbed to this disease. New York and Philadelphia suffered extremely from the epidemic, both cities having large death rates immediately after being invaded. In both cities, the numbers of deaths increased week by week.

The St. Louis Division of Health had been watching the progress of this disease in the eastern cities, and when it was seen to be spreading rapidly to the west, we began to make plans for preventing it from getting a foothold here, if possible. If unsuccessful in keeping it out of the city, preparations were made to use every possible means to keep the number of cases down to the minimum. The first step in this direction was taken when the Honorable Board of Aldermen were asked to pass an ordinance making influenza a reportable disease, which they promptly did; thus placing a very effective measure in our hands to prevent the spread of the disease.

The epidemic visited St. Louis about September 20<sup>th</sup> and from that date to October 5<sup>th</sup>, a period of 16 days; there were only 44 cases reported and no deaths. From October 6<sup>th</sup>, however, the number of cases increased rapidly and on October 7<sup>th</sup>, the Health Commissioner called in conference, the Mayor, the Director of Public Welfare, City officials, the medical profession, the United States Health Service and the Red Cross for the purpose of advising with him as to the most effective means of preventing the City's experiencing a heavy death toll.

The representatives of the various organizations named below met in response to this request and after discussing the situation relating to the presence of Spanish influenza, the danger of it becoming epidemic in the City, and the steps deemed necessary to prevent its spread, adopted a resolution requesting the Honorable Mayor to issue a Proclamation stating that there was presence in the City of malignant, contagious disease known as influenza, and further resolve that it was the sentiment of the meeting that the Health Commissioner be requested to immediately thereafter exercise the powers conferred on him by the Charter, to take such steps as may be deemed necessary to prevent further spread of the disease and in the exercise of these powers, he would want to close all picture houses, theatres and public places of amusement and other such places as may be found to be necessary.

The Mayor immediately issued the Proclamation, following which the order was issued by the Health Commissioner and a copy forwarded to the Chief of Police for enforcement of its provisions:

“October 7<sup>th</sup>, 1918”

“At a meeting held in the Office of the Health Commissioner, on the morning of October 7<sup>th</sup>, 1918, attended by the Mayor, representatives of business interests, hospitals, United States Public Health Service, municipal health officers, public schools, representatives of the American Red Cross and municipal officers, facts were presented justifying the conclusion that Spanish influenza is now present and probably will become epidemic in the City of St. Louis.”

“Acting on this information, the Honorable Mayor has Proclaimed that Spanish influenza will probably become epidemic in the City of St. Louis. In view of this Proclamation, and under the authority vested in me by the City Charter of the City of St. Louis, after such Proclamation, in order to prevent all unnecessary public gatherings, through the medium by which this disease is disseminated, I hereby Order that all theatres, moving picture shows, schools, pool and billiard halls, Sunday schools, cabarets, lodges, societies, public funerals, open-air meetings, dancehalls and conventions, be at once closed and discontinued, and remain closed and discontinued until further notice.”

“The Police Department will see that the provisions of this Order are complied with.”

Approved, Signed; Max C. Starkloff  
Health Commissioner.

Signed: Henry W. Kiel, Mayor, [] John Schmoll, Director of Public Welfare

Churches were ordered closed under the date of October 10<sup>th</sup>, 1918. The people in attendance, Honorable Henry W. Kiel, Mayor, W. B. Brandeburger, Chamber of Commerce, Dr. A.S. Barnes, Chamber of Commerce, John W. Withers, Superintendent of Public Schools, Honorable John Schmoll, Director of Public Welfare, Dr. F. G. Pernoud, Medical Advisor, W. Div. Am. Red Cross, Dr. Cleveland H. Shutt, Hospital Commissioner, G. Canby Robinson, Dean Washington University Med. School, Dr. James C. Stewart, Supervisor Hygiene, Board of Education, Geo. W. Simmons, Mgr. S. W. Division Am. Red Cross, Mrs. F. V. Hammer, Chairman St. Louis Chapter American Red Cross, Charles Chas. H. Daues, City Counselor, Dr. Elsworth Smith, Tres't, St. Louis Medical Society, Dr. L. P. H. Bahrenburg, Surgeon in Charge, U.S. Marine Hospital, Lieut. Colonel, G. E. Freeman, Jefferson Barracks, Dr. John Youngbrad, Dr. Bawilkes, Dr. Max C. Starkloff, Health Commission, Dr. G. A. Jordan, Assistant Health Commissioner, Dr. M. C. Woodruff, Chief Diagnostician, Health Department.

Under the Charter, the responsibility for suppressing disease rests with the Health Commissioner, who is given the power to take any steps he may deem necessary toward that end, with the approval of the Honorable Mayor and the Director of Public Welfare. However, with a desire to getting a diversity of opinion as to the best methods to be adopted to control the spread of influenza, a disease which had baffled the health authorities, both government and local throughout the country, the assistance of the gentlemen named above was sought. Little being known of the epidemiology of influenza, various plans were employed for preventing its spread. There existed quite a difference of opinion as to the most effective means of handling the situation. Some contend that the closing of places where persons congregated in large numbers availed to nothing. Our own experience justified a contrary conclusion. During the initial outbreak, when the closing order was put in effect, October 8<sup>th</sup>, 1918, no deaths had occurred prior to the week ending October 12<sup>th</sup>, and only 40 during that week. The succeeding weeks, the deaths reported number 120, 169, 160, 161, and 178 for the week ending December 16<sup>th</sup>, which was three days subsequent to the date when all restrictions were removed. It can be seen that at no time did the mortality rise to the enormous height that was to be expected, judged by the experience of other cities, and I am thoroughly satisfied that had it been possible to remain the restrictions, we would not have had a recurrence of the epidemic which, though not so protracted, was attended by a somewhat higher mortality.

We realize that a drastic measure would be very disastrous to the business concerns affected and would seriously retard the progress of school children, but having the knowledge of the frightful loss of life experienced in Boston, New York, Philadelphia, Washington, and other cities, its adoption became imperative.

Although this disease is popularly supposed to spread in some mysterious matter, it never spreads more rapidly than can be accounted for by methods of transportation, which indicates that the infected individual, or infected material, or both, is its mode of transmission. The sources of infection are undoubtedly the secretions of the nose, throat and lungs, as the bacilli are found in these secretions in true cases by bacteriologic examination.

It is therefore evident that protection means avoidance from exposure to persons who have catarrhal infections of the ear passages; care of handkerchiefs, towels, etc., is an additional protective measure. The measures adopted by this Department were inaugurated at the onset and maintained, as far as practical, during the entire time that the disease was present to any great extent. Following the passage of the law which made influenza a reportable disease, all premises were immediately placarded and remained so until the physician in attendance upon the patient [] the case. Although this work entailed considerable amount of labor, it was carried on conscientiously and promptly throughout the epidemic and was of much value.

Education of the public in means of personal hygiene and prophylaxis was carried on through the medium of the public press, circulars and the Department Monthly Health Bulletin. We were greatly assisted in this particular work through the

courtesy of the Superintendent of Public Schools, Mr. John W. Withers and Dr. James Stewart, Supervisor of Hygiene, who placed at our disposal a number of teachers, men and women, who volunteered their services in any capacity needed. The men were organized into a corps of inspectors under the direction of Mr. Jno. W. Harris, who came into the Department as a volunteer worker at a sacrifice of much time from his own private business. The women were assigned to do clerical work. They worked conscientiously and effectively and their services were not only a great help during the epidemic, but of lasting benefit to the Department. The City is certainly indebted to them and it is a pleasure for me to hear and record their names and merited recognition. (In the original document, a list of approximately 44 names appear).

So large a percentage of the population was affected that increased hospital and nursing facilities were required. The hospital arrangements were made by Honorable John Schmoll, Director of Public Welfare and placed under the control of Dr. Cleveland H. Shutt, Hospital Commissioner. The addition of the Tausig open air school as an adjunct to the municipal institutions afforded adequate facilities. Dr. James Stewart, Supervisor of Hygiene of the Board of Education, who is in immediate charge of the latter institution worked untiringly on behalf of patients sent there. The Department furnished physicians subject to the call of nurses for medical care of patients where private physicians were not available.

The various nursing organizations of the City were mobilized to be utilized in furnishing nursing relief to indigene persons in their homes and to others who were unable to obtain private nurses. A plan was adopted and the details of organization were perfected and the work carried out on, under the direction of Mr. M.C. Woodruff, and Miss Grace L. Anderson, Superintendent of Municipal Nurses. A staff of approximately 40 nurses were employed as long as needed, and much relief was afforded in families stricken with influenza. The report of Miss Anderson contained some interesting data giving a summary of this service from October 21<sup>st</sup>, 1918, to December 15<sup>th</sup>, inclusive.

Number of Patients	Number of Nursing Visits
3,096	14,339

Each nursing minutes means from 30 minutes up to two hours nursing work. Discharged as convalescent, 1,812, sent to hospital, 171, died 93, average visits per patient, 5.

#### Vaccines

The protective value of vaccines is in question. When influenza threatened St. Louis, the public were offered, free of cost, a vaccine for its prevention. Two types were used, catarrhal and influenza-pneumonia-rosenow formula of Park Davis and Company. About 6,000 persons availed themselves of this protection. It was not practical to follow these cases by visits to the persons who received the injections but in order to obtain some idea of the results which followed the use of these vaccines, a circular letter was

sent to each individual asking for information whether or not they developed either influenza or pneumonia. The results are given below have been 2,509 who supplied the information asked for, not with any idea that the figures are from much value from a purely scientific standpoint, but merely to preserve the record of these cases which after all furnish some interesting facts:

#### Results of Influenza-Pneumonia Vaccine

Total injections		1,027
Number not attacked (1-injection)		103
Cases of influenza, mild		24
Cases of influenza, severe	4	
Cases of pneumonia, total		28
Cases of influenza total		131
Two Injections		
Number not attacked		106
Cases of influenza, mild		16
Cases of influenza, severe		5
Total		21
Total cases of pneumonia		0
Total		158

Three Injections		
Number not attacked		676
Cases of influenza, mild		66
Cases of influenza, severe		24
Cases of pneumonia, mild		0
Cases of pneumonia, severe		3
Total		769
Deaths		1

#### Results of rosenow serum vaccine

Total injections		982
Number not attacked		162
Cases of influenza, mild		22
Cases of influenza, severe		8
Total cases of influenza		30
Cases of pneumonia		0
Total		192

Two injections		
Number not attacked		102
Number of cases, mild		11
Number of cases, severe		2
Total cases		13
Cases of pneumonia		0

Total	115
Three injections	
Number not attacked	649
Cases of influenza, mild	20
Cases of influenza, severe	4
Total cases	24
Cases of pneumonia	2
Total	675

Summary: Total both serums, 2,009. Free of influenza, 1,798. Influenza, 206, pneumonia, 5, deaths, 1. The restrictions determined on were maintained with slight changes where it was thought some benefit could be had, although there was great pressure brought to bear to relieve the interest infected, until November 8<sup>th</sup>, when at a meeting of the Committee it was voted that a more drastic closing order be put in force and that Dr. Robinson, Dr. Shutt, and Dr. Smith, who were appointed to draw up resolutions in conformity with the view of the Committee.

The restrictions determined on were maintained with slight changes where it was thought some benefit could be had, although there was great pressure brought to bear to relieve the interest infected, until November 8<sup>th</sup>, when at a meeting of the Committee it was voted that a more drastic closing order be put in force and Drs. Robinson, Shutt, and Dr. Smith, who were appointed to draw up resolutions in conformity with views of the Committee submitted the following which was adopted November 8<sup>th</sup>, 1918:

Due to the terrible ravages of influenza in other cities and the persistence of the disease in this City, it is prepared to make the closing ban much more drastic than heretofore.

It is felt that drastic measures over a short period will inevitably shorten the length of time that it will be necessary to stamp out this deadly disease, making an early lifting of the ban more likely.

The disease has not raged here with the same intensity as in other communities where tardy or inadequate preventive measures were taken. Remarkably favorable results have been obtained thus far in St. Louis, which has a record thus far unsurpassed by any other community of near equal size in the entire country. There still remains a large number of persons susceptible to the disease in the City and it is the purpose of the more rigid restrictions to protect them.

It is therefore resolved that this Committee unhesitatingly endorses the decision of the Health Commissioner to close all activities with certain unavoidable exceptions. The decision to carry out the above plan brought forth a storm of protest from the business interests represented by the Chamber of Commerce, who asked for a hearing which was granted on November 8<sup>th</sup> at 4:30 p.m. After which the Order was issued effectively November 9<sup>th</sup>, at six o'clock a.m. as follows:

November 8<sup>th</sup>, 1918, "The Honorable Mayor has Proclaimed that Spanish influenza is or probably will become epidemic in the City of St. Louis. In view of this Proclamation, and in view of the fact that the present limited restrictions have not resulted in stamping out the disease in this City, under the power vested in me by the Charter of the City of St .Louis, after such Proclamation, I hereby Order that all business places be closed and discontinued, and remain closed and discontinued for a period of four days, beginning Saturday morning, November 9<sup>th</sup>, with the exception of the following essential industries be allowed to continue:

1. Automobile accessories & automobile repair shops,
2. Bakers supplies,
3. Banks,
4. Construction-buildings: etc.
5. Coffin manufacturers,
6. Coal storage,
7. Drugs-wholesale and retail,
8. Fuel and ice,
9. Garage and staples (livery),
10. Hotels and restaurants,
11. Laundries,
12. Lodging houses,
13. Newspapers,
14. Office building services,
15. Producers and dealers in food products not including candies,
16. Public utilities,
17. Public office,
18. Police Courts to hear confined cases only,
19. Physicians and dentists,
20. Perishable articles in process of manufacture,
21. Railway offices,
22. Rolling mills and furnaces,
23. Red Cross,
24. Railway supplies,
25. Restaurants limited to seating capacity,
26. Surgical supplies, surgical castings,
27. Storage houses,
28. Streetcars, limited to seating capacity,
29. Transfer companies and general hauling,
30. Telephone and telegraph companies,
31. Undertakers and embalmers,
32. Warehouses,
33. Wagon repair and horseshoe shops,
34. Yeast manufacturers.

The Police Department will see that the provisions of this Order are complied

with.”

Signed,  
Max C. Starkloff, Health Commissioner  
Approved (Signed) Henry Kiel, Mayor, Approved (Signed) John Schmoll, Director of  
Public Welfare

November 9<sup>th</sup>, 1918

“The following exemptions are to be added to those previously listed

DM20006

November 9, 1918

The following exceptions are to be added to those previously listed: All industries in so far as they are engaged in executing contracts under priority orders of the government. Every business directly necessary to be carried out on for the protection of life, health and property.

The Board of Directors of the Chamber of Commerce adopted the following resolution at One o'clock p.m. on November 9<sup>th</sup>, the day following their protest before the Medical Advisory Committee. “It is given herewith to complete the record of this organization’s position in the matter: “Resolved, that the Chamber of Commerce assures the City Authorities that its members are in full support of all wise efforts of the Public Health Officers to prevent an increase of the influenza, so well kept in check in St. Louis up to this time.”

“It is further resolved that the Chamber of Commerce assist the authorities to accomplish this desired protection of the City and to that end directs its offices and staff to confer with the health authorities and present such suggestions for modifications in the present closing order as will limit, so far as possible, disturbances of the normal activities of the City, and yet accomplish the beneficial objects sought.”

The objects thought to be obtained by the closing order were greatly interfered with almost, if not entirely nullified, owing to a United States government demand that all establishments doing government work under priority contracts be permitted to operate. These alone number 300 lines of businesses, which with their auxiliaries involved the employment of hundreds of people. It therefore became necessary to modify the order accordingly.

On November 11<sup>th</sup>, conditions looked favorable, the number of cases numbering about 200, and the Advisory Committee was asked to meet the following day to consider the advisability of raising or modifying the restrictions. At this meeting, the situation was reviewed and while there remained in the mind of the gentlemen a question as to the wisdom of the Department relaxing its vigilance, or being over

sanguined by reason of the favorable showing thusfar, feeling that the low mortality experienced was due to the early precautions taken, it also realized that certain business interests have suffered to such an extent that if the conditions warranted it, they were entitled to relief. Taking into consideration the fact that the Department was well organized to meet any emergency, it was decided to remove the ban but leave the Mayor's Proclamation remain in force, in order that the Department could continue to exercise its powers to enforce any regulations deemed necessary and in the event that unfavorable results followed the removing of the restrictions they could be replaced at a moments notice. This action was taken and the following notice issued to the public:

"November 12<sup>th</sup>, 1918. All commercial businesses, religious institutions, theatres, picture shows, and lodges may be opened at midnight, November 12<sup>th</sup>, 1918. Schools to be opened Thursday morning, November 14<sup>th</sup> at regular opening time. All public gatherings, banquets, and public meetings to be prohibited until Monday morning, November 18<sup>th</sup>. All the foregoing to be under the special regulation imposed by the Health Commissioner.

Signed

Honorable Henry W. Kiel, Mayor, Dr. Elsworth Smith, President of St. Louis Medical Society, Dr. A.S. Barnes, Chamber of Commerce, Honorable John Schmoe, Director of Public Welfare, Major L.P. Hdahrenburg, Surgeon, U.S. Marine Hospital Services, Dr. M. C. Woodruff, Chief Diagnostician, Dr. G. A. Jordon, Assistant Health Commissioner, Dr. Jas. Steward, Supervisor Hygiene Board of Education, Dr. C. Canby Robinson, Medial Department Washington University, Lt. Colonel G.E. Freeman, Dr. Max C. Starkloff, Health Commissioner, Dr. B.A. Wilkes, Acting Assistant Surgeon, U.S. Public Health Service, Dr. C.H. Schutt, Hospital Comm'r."

#### Rules, Regulations and Restrictions

Experience with influenza has taught all who have been called upon to combat this disease, that the greatest menace, and practically the only menace, is the gathering together of people in close contact, especially in poorly ventilated places.

A healthy individual has a high resistance against disease. Good health is maintained by personal cleanliness, pure air, regular habits, sufficient rest, and the purity and wholesomeness of food and drink. It is essential, therefore, that proper sanitary conditions must be maintained.

Therefore, the Health Commissioner directs that the following rules and regulations be strictly adhered to: First - all places in which people are accustomed to gather must restrict the attendance of any one time to an extent that will prevent congestion. Second – all special inducements in establishments that tend to attract a large number of people together are prohibited. Third – the United Railway Company is ordered to limit passengers to seating capacity and 20 individual passengers. Fourth – Passenger elevators are to be limited to two-thirds capacity. Fifth – All establishments

storing, preparing, and serving food for the public must at all times be kept in a sanitary condition.

It will be seen by the above regulations that the responsibility of the conduct of a business is placed upon the management. So long as the above regulations are strictly complied with, the business may be continued. Failure to comply will result in a closing order being issued. In order that the health, comfort, and prosperity of our City be maintained, the public is urgently requested to cooperate. The Health Department is dependent upon the Police Department for enforcement of these regulations.

(Signed)

Max C. Starkloff, Health Commissioner

There was a recurrence of the disease, the latter part of November, which necessitated putting in force the following regulations and restrictions:

“November 27<sup>th</sup>, 1918. Our City is again confronted with the very serious menace of an outbreak of influenza. There has been recent large percentage of infections among children. This Department has tried to stamp out this disease by a limited ban on certain industries, and again, by a complete ban on all industries. These plans showed excellent results, and would have been entirely successful had they been complied with as exemplified by the fact that St. Louis has had up to the present time the smallest mortality from this disease of any of the large cities of our country. The question of limiting and suppressing this disease is one that requires absolute cooperation on the part of our citizens, without which it would be impossible to obtain the best results. There are three chief sources of danger: First – an exposure to any person who has even a suggestion of a cold, or who has recently recovered from a cold. Second – avoiding all crowds and crowded places. Third – avoiding all totally ventilated places.

It has therefore been determined to adopt certain rules, regulations and restrictions which can be complied with without undue hardship to anyone, and it is most strongly urged that each of our citizens realize the fact that a dangerous situation prevails, and that it is the duty of each one, by every means in their power, to prevent the spread of this disease. The following rules, regulations and restrictions are necessary to be obeyed, and will be strictly enforced.

The following is prohibited:

1. All schools excepting such as may be operating under a permit from the Health Department.
2. All children under the age of 16 from attending places of amusement.
3. All children under the age of 16 from visiting department stores, ten-cent stores, or any stores where a large number of people gather.
4. All public gatherings excepting under special permit.
5. All conventions and banquets.
6. All streetcars carrying in excess of seating capacity and 20-standing passengers

7. All passenger elevators shall not exceed two-thirds of their capacity.
8. All special inducements and establishments that tend to attract a large number of people together.
9. All undue congestion in places in which people are accustomed together.

The Police Department will see that these Restrictions are rigidly enforced. (Signed) Max C. Starkloff, Health Commissioner, approved, Henry W. Kiel, Mayor, approved John Schmoll, Director of Public Welfare.”

The disease seemed to be less malignant during the second epidemic. Having a well organized corps of physicians and nurses made it possible to furnish medical aid and nursing contention promptly to those affected, thereby avoiding much suffering that otherwise would have occurred. The culminating point in this epidemic was reached on December 3<sup>rd</sup>, when 1,467 cases were reported. Then a gradual decline began, the disease having virtually spent itself on the 21<sup>st</sup> of the same month. Thereafter, a very small number of cases were reported and the mortality was correspondingly light. The ban was lifted entirely on December 28<sup>th</sup>, 1918. The fight against influenza was indeed very strenuous. Everyone suffered to a greater or less extent and every form of business was affected but the theatres and other places where people gather in large numbers were the greatest sufferers. We regretted the necessity of enforcing regulations that interfered with the interest of the people, but it was our duty to invoke all measures for protecting the health of our citizens and while we admit that some mistakes were made in our effort to protect the public, they were only to be expected in view of the uncertainty as to just how best to control the situation.

The Department is very appreciative of the cooperation extended cheerfully by all businessmen in every part of the City. There were few willful violations of the regulations and everyone seemed inclined to assist in the emergency. The thanks of the Department are extended to all who officially or unofficially rendered service during the epidemic. The hardy support of his Honor, Mayor Henry W. Kiel, and Mr. John Schmoll, Director of Public Welfare, assisted me in the work and greatly relieved the strain for which I desire to acknowledge my sincerely thanks. To the members of the Advisory Committee, who at all times responded cheerfully to calls for conference, our desire to express my appreciation for their valued counsel, which materially assisted in an intelligent handling of the epidemic which was fraught with many complex questions.

Influenza/Pneumonia  
Deaths September 1<sup>st</sup> to December 31<sup>st</sup>

	Male			Female		
Age	Influenza	Lobar-pneumonia	Broncho-pneumonia	Influenza	Lobar-pneumonia	Bronc
Under 1	27	12	33	32	3	29
0-4	105	22	76	112	22	53
5-10	22	6	6	29	15	11
10-14	20	5	0	19	4	3

15-19	57	14	0	55	16	4
20-24	92	27	6	136	29	9
35-39	182	34	15	168	47	12
30-34	211	47	12	159	31	7
36-39	138	35	14	78	28	12
40-44	68	32	10	42	13	9
45-49	53	24	9	40	10	5
50-54	42	16	7	22	11	5
55-59	36	11	7	22	7	3
60-64	22	11	8	18	9	4
65-70	24	10	15	10	8	4
70 & over	23	14	11	23	14	5
Total	1096	288	196	933	264	146

Week ending	Males			Females		
	Influenza	Lobar-pneumonia	Broncho-pneumonia	Influenza	Lobar-pneumonia	Broncho-pneumonia
Sept. 7 <sup>th</sup>		2			3	
Sept. 14 <sup>th</sup>		2	5		4	1
Sept. 21 <sup>st</sup>		6	2		1	3
Sept. 28 <sup>th</sup>		5	6		2	2
Oct. 5 <sup>th</sup>	2	11	8		8	2
Oct. 12 <sup>th</sup>	43	33	9	13	11	5
Oct. 19 <sup>th</sup>	70	35	25	36	28	13
Oct. 26 <sup>th</sup>	92	22	10	83	14	14
Nov. 2 <sup>nd</sup>	110	25	17	59	31	11
Nov. 9 <sup>th</sup>	100	8	9	71	11	10
Nov. 16 <sup>th</sup>	98	17	12	78	12	7
Nov. 23 <sup>rd</sup>	66	9	13	56	23	13

Nov. 30 <sup>th</sup>	94	28	10	93	21	20
Dec. 7 <sup>th</sup>	142	25	26	163	34	20
Dec. 14 <sup>th</sup>	185	42	26	195	31	23
Dec. 21 <sup>st</sup>	101	20	19	77	25	13
Dec. 28 <sup>th</sup>	4	3	5	1	1	1
Jan. 4 <sup>th</sup>	4	2	3	2	4	1

End of Dr. Starkloff's report on influenza

It is noted that during that operating period the Board of Health had expenditures of salaries of \$26,498.81; printing and stationary expenses of \$2,077.31; traveling expenses were \$82.82; automobile supplies were \$299. 64; and office fixtures and furniture \$42.50.

DM 200007

This is from the document, St. Louis, Missouri Department of Health, Sanitary Division, Annual Report of Chief Sanitary Officer. It begins on Page Three of the Sanitary Section, September 1<sup>st</sup>, 1919, directed to Dr. M.C. Starkloff, Health Commissioner. Page Three of that document, contagious and infection.

There's been a falling off in the number of contagious and infectious diseases reported during the year. Whether this is due to an actual decrease or whether our influenza epidemic so overshadowed contagion in general as to cause neglect in reporting cases. I do not know. The decrease in the number of vaccinations performed by our Department is directly attributable to the influenza. A large part of our vaccinations are done in the schools and the schools were closed for a long period. In addition, every physician in the Department was called into the influenza work.

Influenza

During the fall months an epidemic disease known as Spanish influenza, which had been prevalent in European countries, especially Spain, where it had been said 8-million cases occurred and by reason of its prevalency there had acquired the addition of the words Spanish, gained entrance to this country through the Port of Boston, Massachusetts. Almost at once, the Army and Navy [] were invaded, with great loss of life, and very soon afterwards, the plaque spread to the civil population of the eastern cities with correspondingly high mortality. Moving westward along the lines of travel, the disease first became formidable in the middle west at the Great Lakes Naval Training

Station, about 30-miles from Chicago, Illinois. At this station, great numbers were attacked and, as elsewhere, the mortality was exceedingly high.

During all this time, this Department was watching developments and making ready to take proper steps for the protection of our City, when the time was opportune for such action. When the disease at the Great Lakes spread into Chicago, we felt the invasion of the City was eminently threatened and on October 7<sup>th</sup>, 1918, a meeting was held in the offices of the Health Commissioner at which meeting the situation was discussed. At this meeting was the Mayor, the Director of Public Welfare, City Counselor, Health Commissioner, Assistant Commissioner, Hospital Commissioner, and local representatives of the U.S. Public Health Service, the President of the St. Louis Medical Society, Superintendent of St. Louis Public Schools, Supervisors of Hygiene Public Schools, representative of St. Louis Chamber of Commerce and other medical and civil representatives of our community.

After a full and free discussion based on available information, it was unanimously decided that prompt and drastic action was at once necessary for our protection and, following the meeting the Honorable Mayor issued a Proclamation declaring that Spanish influenza is now epidemic and threatened to become epidemic. Following are the quotes that are identical to the quotes cited in Starkloff's Report, with an abbreviated excerpt of the Regulations.

This order approved by the Director of Public Welfare once became a law and the police were ordered to rigidly enforce the same.

As a result of this anticipation of an outbreak the number of cases when this disease appeared were limited in number, not more than a maximum of 200 new cases a day being reported. In view of the fact that it seemed possible to greatly limit the number of cases by limited restriction, the Advisory Committee meeting again on November 8<sup>th</sup>, one month subsequent to the first meeting after exhaustive discussion, determined to attempt to stamp out the disease entirely by a drastic closing order, closing all business of any and every description excepting war munition industries and such places as were essentially necessary to remain open. This proposed action of the Committee was vigorously opposed by a delegation of the business interests, who recorded a hearing upon their request. The protest having been overruled a four-day closing order was issued by the Health Commissioner effective in the morning of November 9<sup>th</sup>. The time selected was particularly fortunate for the enforcement of this order, November 9<sup>th</sup>, falling on a Saturday, which is a half of day for business. The next day being Sunday was naturally a holiday, and the following day, Monday, happened to be the day of the signing of the Armistice, and upon this being at once declared a holiday, one half of Saturday and Tuesday, a day and a half, was all the time lost by businesses in this four day closure.

The limited and entire closing restrictions demonstrated the value of crowd limitations, but it did not entirely eradicate the disease. Upon conviction that this was true, the Health Commissioner resolved thereafter to act upon his own initiative, and

realizing the futility of attempting more than the limiting of the disease to such numbers as could be cared for as they developed, on November 12<sup>th</sup>, issued orders releasing the drastic closing order and allowing businesses to resume under the following five restrictions (Those were the same five restrictions that were noted earlier).

In issuing this releasing order an appeal was made to the public for cooperation in avoiding crowds, especially crowds in poorly ventilated places, with the warning that a failure to comply with the five restrictions as enumerated above, would result in a closing order being reissued.

As was feared, the release of drastic restrictions was taken advantage of by the public generally as a license to disregard all precautions and the number of new cases daily reported began to increase and continued steadily to do so until on November 27<sup>th</sup>, when it was apparent that more rigid restrictions were again necessary, and on this date, the Health Commissioner issued new rules and restrictions. Previous experience had taught the futility of most drastic measures in view of the fact that a community must conduct business in order for its people to live and now the endeavor was made to keep all businesses open under strict regulations. First all schools accepted such, and second and third and fourth and fifth. All of these come from the Starkloff's report.

The restriction on children was due to the fact that at this time fully 50 percent of the cases reported were in children under 16 years of age.

The order of November 27<sup>th</sup>, which was generally well enforced, seemed to be productive with good results and conditions were satisfactory as far as could be hoped for, eminently satisfactory when compared with other cities of like size. These restrictions continued in force until December 20<sup>th</sup>, 1918, when conditions being much improved and following the policy of easing restrictions or making them more drastic, according to the situations found, the Health Commissioner issued a Proclamation reviewing the action of the Department from the beginning and modifying the order of November 27<sup>th</sup>, as follows: First – the restrictions on schools have not been changed at present for the reason that almost all schools will not resume their duties until after the Christmas holidays. Second – the age limit of children attending theatres and other amusements has been reduced from 16 to 12 years, for this reason the cases reported in children now show that the 12 years is the age limit in the majority of cases in children.

We realized the necessity of children visiting stores in the congested districts if they may be permitted to do so without undue danger, and we have framed these restrictions to allow children of any age, when accompanied by a parent or guardian to visit such stores before 12-o'clock, Noon. We believe in this way they may be able to visit these places without creating undue congestion, as stores in this district are not as a rule congested before this hour. After the Noon hour no children under 16 years will be admitted. Third – all public gatherings are still required to obtain a special permit from this Department. This refers to large public gatherings and does not refer to such institutions as lodges societies, etc. Conventions and banquets are required to have

permits. The reason for demanding permits for large gatherings, conventions and banquets, is to prevent unduly large assemblage in places too small to safely accommodate them. Fourth – restrictions are removed from streetcars, passenger elevators, cabarets, dinner dances, and in fact from any gathering of people where the number does not exceed 300.

In the issuance of this Proclamation and the new orders, an appeal was made to the citizens to give weight and consideration to the advice to guard against exposure and crowded and poorly ventilated places, and to exposing themselves to any person who might have an infection of the air passages, even though only considered as a cold.

The use of vaccines as a immunizing agent was also urged and this was administered free by the Department upon application.

Proceeding along this final line of decision results were satisfactory and the disease gradually diminished until in early April, 1919, it had practically disappeared. From the outbreak of the disease up to April 1<sup>st</sup>, the beginning of the fiscal year, 34,891 cases were reported with 2,355 cases directly contributable to the disease.

Upon the closing of the schools, the teachers of the high schools volunteered for work in this Department, also some of the janitor force, and I cannot speak too highly of the splendid work done by these men. They were divided into squads and under the personal direction of Mr. John S. Harris, a real estate man who practically abandoned temporarily his business to direct this work, they covered most thoroughly and efficiently all avenues where care and supervision were necessary. To Mr. Harris and these men of the Board of Education, the Department of Health owes a lasting debt of gratitude and I am very glad here to be able to place our appreciation on record.

On December, 1918, the meeting of American Public Health Association, held in Chicago, developed the larger part of its time to the discussion of the epidemic, but little of value resulted for the reason that the cause of the disease is unknown.

The debate also seemed to establish the fact that the disease was of different type and different sections as medical measures effective in one locality were useless in another.

This epidemic is unquestionably the most formidable of any which we have knowledge and [] to be in reality not a true influenza but a rather highly infectious streptococcic pneumonia. Before leaving the subject I was to place on record the apparently valuable procedure of the use of a vaccine in the prevention of this disease.

At the start we were offered and administered a pneumonia influenza vaccine free of charge, not because we knew it was efficient, but because we felt it might be, and at least it could do no harm.

The first vaccine used was the influenza-pneumonia vaccine of Park, Davis and Company, and the latter the Rosenow vaccine prepared by Park, Davis and Company. These differ only in that the first contained only one type of pneumococcus while the Rosenow had four. Some 3,000 odd persons had the vaccine and accurate data later obtained from 2,010 of these persons revealed that of this number, 1,799 escaped the disease, 206 developed mild influenza, 5 developed pneumonia, and only one death resulted. In the event of another threatened outbreak I would strongly favor the free use of vaccine as a prophylaxis.

DM 200008

That was signed by G. Jordan, Assistant Health Commissioner.