

## OFFICE PRACTICE IN THE VALUATION OF COMPENSATION LOSSES.

BY

RICHARD FONDILLER.

This paper presents the methods in use in the New York State Insurance Fund in the valuation of claims arising under its policies. I believe that the methods outlined herein are applicable in some degree to the business of any company writing workmen's compensation in any state.

Every notice of accident received by the Fund is transcribed in its actuarial division upon an accident history card shown below. These cards may be filed in two ways: first, by year of policy issue; second, by calendar year of accident. Under either plan it is desirable to file the cards by employers, so that the loss experience of employers may be analyzed in addition to the loss experience by classifications. The cards of each employer are alphabetically arranged by employees. A medical record card is written as a carbon of the accident history card. The medical record card is successively used by the medical division, the safety engineering division, and the claim division.

The accident history card is practically a summary of the information required by the New York State Industrial Commission in the reporting of accidents. The following description of the card may be helpful.

The name of the employer and his business are given, the former information being essential because the cards are filed by employers. The statutory group and classification number are necessary in the work for the declaration of dividends on each of the groups. The cards are classified according to group, and an analysis of incurred losses is made of each group. The earned premiums in each of the groups is computed for the purpose of arriving at the amount which is divisible in the form of a dividend for each group.

The date of the policy is entered on the card, so that all accident notices may be charged to the proper year of policy issue. The number of the policy is filled in, together with the notation that

EMPLOYER	BUSINESS	GROUP	CLASSIF.	DATE OF POLICY	POLICY No.	
City	Accident Location	County	Accident Date	Date Returned	Days Lost	Est. Duration
Injured Person	Address		Sex	Age	Occupation	Daily Wage
Cause of Injury						
Nature of Injury						
Physician	Address				Date Written	
Dependents					Serial No.	

IF FATAL

CASH PAYMENTS

Date Paid	Compensation	Medical	Date Paid	Comp.	Date Paid	Comp.	Date Paid	Comp.



it is an A or a B policy, the former including and the latter excluding, medical aid; this item is required for the setting up of the medical loss in the valuation. The accident location comprises the complete address of the place where the accident occurred; an important element in the work of the safety engineering division is to investigate both the location and manner of occurrence of the accident. The accident date is a self-explanatory phrase, and the date returned to work is often filled in from the first report of the accident, or from subsequent reports. The days lost is the number of days that the employee was absent from work. The estimated duration is the length of time, counting from the date of injury, which the employer or physician reports that the employee may be disabled.

The name, address, sex and age of the employee are clearly necessary; the occupation at the time of injury is required to ascertain whether there was coverage and to what classification to charge the accident where the risk is written on a divided payroll. The daily wage, being the measure of the compensation rate, is used in the valuation of every compensatable case. A considerable portion of the card is reserved for a description of the cause and nature of the injury, as that is the foundation upon which the incurred loss is set up.

The physician and his address, or the hospital where treatment was received, is entered, so that the medical division is in possession of this information for further investigation. The date that the card is written is inserted, so that a record may be kept of losses reported after the valuation date. Whenever the facts are obtainable at the date of first report, regarding the dependents in fatal cases, that information is entered in the space provided. The serial number is used in the cases of certain employers where it is desired to keep a numerical record of all accidents for registry. In the space entitled "cash payments," there is only one column provided for medical, because experience shows there are generally not over four or five items on this account. Each payment of compensation may be posted, or only totals paid for periods of time of three, six, or twelve months each.

On the reverse side of the card, both the award number and the file number are entered, so that the case may be checked up with the records of any division which keeps its records only under one set of numbers. Every award, whether for compensation or med-

ical, made by the New York State Industrial Commission is entered on the card, as part of the daily work of the actuarial division. An absolutely essential part of the information for valuation purposes as to awards, is whether the action of the Commission at the time of the making of the award was to close or continue the case for further awards. The two-thirds of a week's compensation is the compensation rate under the New York Act.

Under the estimated incurred loss is placed the valuation of each notice, based upon the information posted on the card at the valuation date. The valuation date and classification of the injury are entered and the column "wks." is used to show the number of weeks elapsed on open temporary total cases, or to insert the schedule benefit of permanent partial cases. The use of the other columns is explained at length below, several illustrations being given.

The losses are classified in the manner shown in the paper of Mr. Joseph H. Woodward, entitled "Analysis of the Cost of 10,307 Accidents Arising under the New York Workmen's Compensation Law," appearing in the *Proceedings*, Vol. II, p. 196. After deducting the cash payments made, from the incurred loss, the balance remaining is called the "reserve." The incurred loss on the various classes of injuries is ascertained as follows:

I. (a) DEATH: DEPENDENTS.—The claim folder is consulted to ascertain the number of dependents, their dates of birth and relationship to the deceased employee. If no award has been made at the date of valuation by the Commission, the present value of the pensions of all persons claiming dependency is set up on the general theory that it is safest to take the most adverse condition of affairs. If an award has been made, the present value is computed not only of those dependents to whom an award has been made, but also of those known to be dependent. In some cases the information in the claim folder shows the existence of a family in this country or abroad. In that event, conservative assumptions are made as to the dependents and their ages, with due regard to the age of the deceased employee and the facts on file at the date of valuation.

If there is no definite information as to dependents, either by reason of their being abroad or because the death is recent and no claim for compensation has yet been filed, the married or single state of the deceased will determine the amount set up. Statistics based upon the experience of all classes of insurance carriers, including the Fund, have led us to adopt the following rules: (1)

If the employee was married, set up \$6,000 as the present value for each \$1,000 of annual earnings. (2) If the employee was single, set up \$2,500 as the present value for each \$1,000 of annual earnings. In the absence of information as to conjugal state, he is presumed to be married in those cases where he is aged 21 or over.

I. (b) DEATH: NO DEPENDENTS.—No assumption is ever made in any fatal case that there are no dependents, unless there is positive information to that effect filed in the claim papers, or where the Commission has officially determined that there are no dependents and ordered the case closed.

The incurred loss for fatal cases may be calculated by means of the tables given in my paper entitled "Tables for Computing the Present Value of Death Benefits arising under the New York Workmen's Compensation Law," in the *Proceedings*, Vol. II, p. 110. For the purposes of valuation the same amounts are set up in cases where the dependents are aliens. However, if the alien dependents procure commutation under Section 17 of the New York Workmen's Compensation Law, by which only one-half of the present value is payable, the incurred loss is then carried at the amount actually paid.

In all fatal cases the liability for the funeral benefit is carried at \$100 (which is the legal maximum), except that when a lesser amount is paid such amount is substituted. No amount is set up for medical, except in cases where medical services were given, in which event \$30 or the amount paid, whichever is the greater, is carried into the valuation.

I. (c) SUSPENDED MORTALITY.—This item has been created to meet the liability for deaths arising subsequent to valuation out of injuries originally classified as non-fatal. The sum of one-eighth of the reserves on all non-fatal cases is taken in the manner shown in the illustrations below. The assumption has been made that the cost of suspended mortality will be proportionate to the outstanding cases from which the suspended mortality may arise.

II. PERMANENT TOTAL DISABILITY.—Every claim folder is consulted in cases where it is suspected that permanent total disability may be the final development; the reports of physicians and investigators are carefully analyzed as to the nature and duration of the illness. In general, those injuries which may eventuate in permanent disability (in addition to dismemberments presumed by law to constitute permanent total disability) are skull injuries, spine injuries, paralysis, serious injuries affecting the whole body, and

TABLE I.

PRESENT VALUE OF \$1 PER ANNUM, PAYABLE MOMENTLY TILL DEATH.  
SURVIVORSHIP ANNUITANTS' MORTALITY— $3\frac{1}{2}$  PER CENT. INTEREST.

Age.	Present Value.	Age.	Present Value.	Age.	Present Value.
0	23.760	35	19.471	70	8.253
1	23.699	36	19.255	71	7.884
2	23.636	37	19.033	72	7.519
3	23.570	38	18.804	73	7.159
4	23.502	39	18.568	74	6.805
5	23.431	40	18.325	75	6.458
6	23.357	41	18.074	76	6.118
7	23.281	42	17.817	77	5.786
8	23.201	43	17.552	78	5.462
9	23.118	44	17.280	79	5.148
10	23.033	45	17.000	80	4.843
11	22.943	46	16.714	81	4.549
12	22.851	47	16.420	82	4.265
13	22.755	48	16.119	83	3.992
14	22.655	49	15.811	84	3.730
15	22.551	50	15.497	85	3.480
16	22.444	51	15.175	86	3.241
17	22.332	52	14.847	87	3.014
18	22.217	53	14.513	88	2.799
19	22.097	54	14.172	89	2.596
20	21.972	55	13.826	90	2.404
21	21.843	56	13.475	91	2.224
22	21.709	57	13.118	92	2.055
23	21.570	58	12.756	93	1.897
24	21.427	59	12.391	94	1.750
25	21.278	60	12.022	95	1.613
26	21.123	61	11.649	96	1.487
27	20.964	62	11.274	97	1.371
28	20.798	63	10.896	98	1.263
29	20.627	64	10.518	99	1.165
30	20.450	65	10.138	100	1.076
31	20.267	66	9.758	101	.995
32	20.077	67	9.379	102	.922
33	19.882	68	9.002	103	.854
34	19.680	69	8.626	104	.790
				105	.653
				106	.500

The younger ages are included, for the sake of completeness.

serious cases where the injured employee is over sixty years of age. Very few cases are recognizable during the first six months after the date of accident as permanent total disabilities. Cases where the probability is slight that the employee will ever recover his earning power should be placed in the permanent total class.

The incurred loss is assumed to be the present value of a life annuity taken at the date of accident of the age of the injured employee, in cases where the date of valuation is less than six months after the date of the accident. The New York State Industrial Commission has adopted for purposes of valuation and commutation the Survivorship Annuitants' Table of Mortality with  $3\frac{1}{2}$  per cent. interest; the values are given in Tables I and II. It is convenient to use the same mortality table for permanent total and fatal cases.

*Example 1.*—The injured employee is aged 40 and earned \$3 daily. He is entitled to a weekly compensation of \$11.54 for life, which amounts to \$600.08 annually. Referring to Table I, the present value of \$1 at age 40 is 18.325, which should be multiplied by \$600.08, the annual award. The product, \$10,996.47, is the incurred loss on this case, as of the date of accident. Ten years later, the present value of this case is the product of \$600.08 and 15.497 or \$9,299.44.

Some cases that are valued as permanent total may finally result in temporary total by full recovery or return to work of the injured employee, in which event an award is made to such date and the case is closed by order of the Commission. In these cases, however, it is safest to review all the claim papers before taking down the permanent total reserve. Other cases may terminate in death, in which event they should be valued as fatal cases. In this connection, it is often desirable to secure the names, ages and relationships of dependents in permanent total cases. Any case which has been outstanding as a temporary total for two years, is thereafter valued as a permanent total. In the majority of instances the value of a fatal case is less than that for permanent total disability; this is invariably true where the age of the injured employee is under 50.

III. PERMANENT PARTIAL DISABILITY—DISMEMBERMENT.—This classification falls into three divisions.

1. Those cases involving physical loss, either total or partial, by amputation of one of the members of the body.
2. Those cases in which there is a loss of use, either total or partial, of any of these members.



TABLE II.

PRESENT VALUE OF \$1 PER ANNUM, PAYABLE MOMENTLY FOR DURATIONS GIVEN. SURVIVORSHIP ANNUITANTS' MORTALITY— $3\frac{1}{2}$  PER CENT. INTEREST.

Age.	Years.					
	1	2	3	4	5	6
15	.98055	1.92295	2.82867	3.69913	4.53568	5.33964
16	.98054	1.92293	2.82862	3.69903	4.53553	5.33941
17	.98054	1.92290	2.82855	3.69892	4.53535	5.33914
18	.98053	1.92286	2.82848	3.69879	4.53514	5.33885
19	.98052	1.92283	2.82841	3.69865	4.53493	5.33854
20	.98051	1.92280	2.82832	3.69849	4.53468	5.33817
21	.98050	1.92275	2.82822	3.69831	4.53439	5.33776
22	.98049	1.92270	2.82811	3.69813	4.53410	5.33733
23	.98048	1.92265	2.82799	3.69791	4.53376	5.33683
24	.98046	1.92259	2.82786	3.69767	4.53338	5.33628
25	.98044	1.92253	2.82771	3.69741	4.53296	5.33568
26	.98043	1.92246	2.82756	3.69712	4.53251	5.33501
27	.98041	1.92237	2.82736	3.69678	4.53197	5.33423
28	.98039	1.92229	2.82716	3.69642	4.53140	5.33341
29	.98036	1.92218	2.82694	3.69601	4.53076	5.33248
30	.98033	1.92207	2.82688	3.69556	4.53005	5.33143
31	.98030	1.92196	2.82641	3.69508	4.52928	5.33031
32	.98027	1.92182	2.82610	3.69451	4.52840	5.32903
33	.98023	1.92167	2.82576	3.69389	4.52742	5.32761
34	.98019	1.92150	2.82537	3.69321	4.52634	5.32604
35	.98014	1.92131	2.82494	3.69245	4.52513	5.32429
36	.98009	1.92110	2.82448	3.69160	4.52381	5.32235
37	.98004	1.92088	2.82396	3.69068	4.52234	5.32021
38	.97997	1.92062	2.82338	3.68963	4.52068	5.31780
39	.97990	1.92033	2.82273	3.68847	4.51886	5.31515
40	.97982	1.92001	2.82201	3.68718	4.51682	5.31219
41	.97973	1.91966	2.82122	3.68575	4.51458	5.30893
42	.97964	1.91927	2.82033	3.68417	4.51208	5.30530
43	.97953	1.91885	2.81935	3.68242	4.50932	5.30128
44	.97941	1.91836	2.81826	3.68046	4.50623	5.29680
45	.97928	1.91783	2.81706	3.67830	4.50282	5.29183
46	.97913	1.91724	2.81571	3.67588	4.49901	5.28632
47	.97897	1.91658	2.81422	3.67320	4.49480	5.28020
48	.97878	1.91584	2.81254	3.67022	4.49011	5.27339
49	.97858	1.91502	2.81071	3.66693	4.48493	5.26589
50	.97835	1.91413	2.80867	3.66328	4.47919	5.25756
51	.97811	1.91313	2.80641	3.65923	4.47282	5.24832
52	.97782	1.91200	2.80387	3.65471	4.46572	5.23805
53	.97752	1.91078	2.80110	3.64974	4.45791	5.22673
54	.97719	1.90941	2.79800	3.64420	4.44922	5.21416

TABLE II (continued).

Age.	Years.					
	1	2	3	4	5	6
55	.97680	1.90789	2.79456	3.63807	4.43959	5.20024
56	.97638	1.90619	2.79073	3.63125	4.42891	5.18482
57	.97591	1.90431	2.78649	3.62370	4.41709	5.16778
58	.97539	1.90224	2.78182	3.61537	4.40406	5.14898
59	.97482	1.89993	2.77663	3.60613	4.38961	5.12818
60	.97418	1.89737	2.77087	3.59590	4.37364	5.10520
61	.97347	1.89453	2.76449	3.58459	4.35599	5.07986
62	.97268	1.89139	2.75744	3.57208	4.33651	5.05192
63	.97181	1.88791	2.74962	3.55824	4.31499	5.02113
64	.97084	1.88405	2.74098	3.54295	4.29128	4.98724
65	.96977	1.87977	2.73142	3.52609	4.26516	4.95000
66	.96857	1.87504	2.72086	3.50749	4.23641	4.90909
67	.96725	1.86980	2.70919	3.48699	4.20479	4.86423
68	.96579	1.86401	2.69632	3.46442	4.17007	4.81510
69	.96418	1.85761	2.68212	3.43959	4.13199	4.76138
70	.96238	1.85053	2.66646	3.41229	4.09026	4.70272
71	.96040	1.84271	2.64923	3.38235	4.04464	4.63884
72	.95820	1.83409	2.63027	3.34953	3.99483	4.56938
73	.95578	1.82459	2.60945	3.31362	3.94058	4.49406
74	.95310	1.81412	2.58661	3.27439	3.88157	4.41256
75	.95014	1.80259	2.56156	3.23159	3.81754	4.32462
76	.94687	1.78992	2.53416	3.18502	3.74827	4.23006
77	.94327	1.77600	2.50424	3.13445	3.67353	4.12872
78	.93930	1.76074	2.47161	3.07967	3.59312	4.02048
79	.93493	1.74403	2.43611	3.02050	3.50692	3.90539
80	.93013	1.72575	2.39756	2.95675	3.41484	3.78352

### 3. Cases of disfigurement of any part of the body.

1. The incurred loss in these cases is taken as the product of the weekly compensation multiplied by the number of weeks compensation specified in the statute for the particular dismemberment involved. Discount for mortality and interest is disregarded for reserve purposes. In most cases it is apparent, from the description of the cause and nature of the injury on the accident history card, that amputation has or will eventually result, and it is therefore not essential to look over the claim folder. In doubtful cases it is the practice to consult the claim record card of the claim division, to which are attached copies of reports in the claim folder, in preference to attempting to secure the claim folder, which is necessarily in much greater demand by the various divisions of the Fund. In border-line cases, where the loss may be either total or partial, the former is always assumed. The most difficult class of

cases are eye injuries. A splinter of steel in the eye—a common accident in the steel industry—more often results in loss of vision than other foreign substances in the eye. In cases where the employee has received multiple injuries in one accident, he may receive compensation for total temporary disability, in addition to an award for permanent partial disability.

2. Cases in which compensation is paid under the total temporary disability classification for a period in excess of three months, and which are described as injuries to the knee, ankle, elbow or wrist frequently are finally granted awards for the injured member under the loss of use clause, either total or partial. Disabilities of this nature that are protracted for a year or over from the date of injury will generally result in total loss of use, and it is therefore our practice in such cases to set up as the incurred loss the entire schedule benefit.

3. An award for disfigurement (not exceeding \$3,500) may be made under the amendment effective June 1, 1916, to the New York Workmen's Compensation Law.

*Present Values of Dismemberments.*—Table II is used for the commutation of benefits payable under the dismemberment schedule of the New York Act, where a lump sum settlement is granted.

*Example 2.*—In the case of an employee, aged 35, earning \$4.50 daily, who lost an arm, the compensation is payable for 312 weeks at \$17.31 weekly. The amount of the award paid annually is 52 times \$17.31, or \$900.12. This last amount should be multiplied by the annuity at age 35 for six years, 5.32429, to secure the present value, \$4,792.50.

*Example 3.*—Take a case where the employee, aged 50, earning \$2.50 daily, lost the use of a foot; the benefit is 205 weeks, out of which 15 weeks have been paid, and commutation is granted for the balance of 190 weeks at \$9.61 weekly. The period of 190 weeks is equal to 3.65385 years. Table III gives weeks expressed as a decimal of a year. The method of computation follows:

Age 50—Annuity at fourth year .....	3.66328
Age 50—Annuity at third year .....	2.80867
Difference .....	.85461
Multiply by fraction of year .....	.65385
Product .....	.55879
Add annuity at third year .....	<u>2.80867</u>

Annuity at 3.65385 years .....	3.36746
Multiply by annual award .....	<u>\$499.72</u>
Present value of 190 weeks .....	\$1,682.79

TABLE III.

WEEKS EXPRESSED AS A DECIMAL OF A YEAR.

Weeks.	Decimal.	Weeks.	Decimal.	Weeks.	Decimal.
1	.01923	21	.40385	41	.78846
2	.03846	22	.42308	42	.80769
3	.05769	23	.44231	43	.82692
4	.07692	24	.46154	44	.84615
5	.09615	25	.48077	45	.86538
6	.11538	26	.50000	46	.88462
7	.13462	27	.51923	47	.90385
8	.15385	28	.53846	48	.92308
9	.17308	29	.55769	49	.94231
10	.19231	30	.57692	50	.96154
11	.21154	31	.59615	51	.98077
12	.23077	32	.61538	52	1.00000
13	.25000	33	.63462		
14	.26923	34	.65385		
15	.28846	35	.67308		
16	.30769	36	.69231		
17	.32692	37	.71154		
18	.34615	38	.73077		
19	.36538	39	.75000		
20	.38462	40	.76923		

## IV. PERMANENT PARTIAL DISABILITY—NOT DISMEMBERMENT.

—These are cases resulting in decreased earnings, where the award is made for two-thirds of the reduction in earning power. Those cases that are open on the date of valuation have the incurred loss set up according to Table C in Mr. Woodward's paper.

*Example 4.*—An employee, aged 47, who was injured on September 3, 1915, earned on the date of injury \$24 weekly and subsequently earned only \$15 weekly. He is entitled to two-thirds of the difference, or \$6 weekly, so long as his disability continues. Assume that he has been awarded \$6 weekly until the valuation date, March 31, 1916, at which time his case has been marked "continued," and it is consequently an open case. On March 31, 1916, 30 weeks have elapsed since the date of injury, and Table C gives a reserve of \$220 for each dollar of compensation at 30 weeks. The product of 6 and \$220 gives \$1,320 as the reserve on this case.

*Example 5.*—If in Example 4, the Commission closed the case by awarding the employee the sum of \$6 weekly for life, then the reserve is computed by multiplying the annual award of \$312 by 16.420, the value in Table I at age 47, which amounts to \$5,123.04.

V. (a) TEMPORARY TOTAL DISABILITY—OPEN CASES.—Cases in which the injured employee has not recovered or returned to work, or upon which information as to these facts is not ascertainable at the date of valuation, are called “open.” Whether an award has been made or not, the incurred loss consists of the total of the following items:

1. The reserve set up according to Table C (*Proceedings*, Vol. II, p. 200).

2. The compensation due prior to the date of valuation, which is the product of the compensation rate and the number of weeks (less the two weeks’ waiting period) elapsed since the date of accident.

3. One-eighth of the reserve under Item 1 for suspended mortality.

4. Medical, \$30 on each case, or the amount of medical actually awarded, whichever is the greater.

The most serious of the temporary disabilities result in death or permanent total disability, and in either event the amount as computed by Table C sets up an increasing incurred loss on the theory that the longer a man has been disabled the more nearly he approaches permanent total disability. A large percentage of cases of arm and leg injuries on which compensation is awarded under the temporary total disability provision are continued as such for many months, until amputation or loss of use of the member results, upon which the Commission grants the balance of the schedule benefit for dismemberment, and thus it retroactively becomes a case of permanent partial disability. In this last class of cases, if it has been reserved for as a temporary total disability case at the time when the award for dismemberment is made, the incurred loss thus set up is generally equal to or greater than the permanent partial award that is finally granted.

V. (b) TEMPORARY TOTAL DISABILITY—CLOSED CASES.—These are by far the most numerous class of cases, constituting about five-sixths of all compensatable cases in the experience. By a “closed” case is meant one where the injured employee has recovered or returned to work, according to the records, at the date of the valua-

tion. There are many cases in which the injury occurred six or more months prior to the valuation date and which have not been officially adjudicated by the Commission, owing to the delay of the employer or employee in filing the necessary papers, but which are deemed closed under the above definition. In cases where the date of recovery is reported, but no claim for compensation had been filed at the valuation date, the amount set up is the liability for compensation to date of recovery. In the absence of information as to the date of recovery, it is presumed that the employee has not recovered and it is valued as an open case.

VI. **TEMPORARY PARTIAL DISABILITY.**—Cases in which this kind of benefit is payable directly after the two weeks' waiting period are rare. The majority of these cases have previously received awards of temporary total disability, and when the injured employee has returned to work at a reduced wage, an award for two-thirds of his reduction in earning power is granted, which is terminated upon evidence of his recovery or return to work at his former earning power. This class of cases has generally been awarded some other kind of benefit, in addition to that of temporary partial disability. When the case is closed, it is placed in that class of benefit in which the largest amount of compensation was paid, and it appears in the statistics as only one case.

VII. (a) **MEDICAL AID—COMPENSATABLE CASES.**—On accidents reported under policies providing for medical aid, where the injury is classified as being in one of the previous divisions of compensatable cases, the sum of \$30 is set up as the average incurred loss for medical. This average covers awards under the medical provision of the law, using the word "medical" in its broadest sense to include physicians' services, hospital bills for board and lodging, nurses' fees, surgical operations, artificial surgical appliances and medicines. Where medical actually paid at the valuation date exceeds \$30, the amount paid is carried into the incurred loss.

VII. (b) **MEDICAL AID—NON-COMPENSATABLE CASES.**—Where the notice of injury or subsequent employer's report gives the date of recovery or return to work as being within the two weeks' waiting period, the case is clearly not compensatable. Where a policy provides for medical aid, the sum of \$10 is set up as the incurred loss, or the amount actually paid, whichever may be the greater.

VIII. **No Loss.**—There are two classes of cases under this head: first, policies providing for medical aid in accidents that are not

compensatable and which are so trivial as not to require any medical service or first-aid treatment; second, policies not covering medical, where the cost of medical aid is borne by the employer, and hence is a no-loss case so far as the insurance carrier is concerned.

*Revaluations.*—A valuation of every case is made quarterly, because a financial statement of the Fund is made as of March 31, June 30, September 30, and December 31 of every year. Open cases are revalued at every valuation, the incurred loss being taken as the sum of the cash payments and the outstanding liability at the valuation date.

## ILLUSTRATIONS OF VALUATIONS ON ACCIDENT HISTORY CARDS.

## ILLUSTRATION 1.

## ESTIMATED INCURRED LOSS.

Valuation Date.	Injury Classified as	Wks.	Medical.	Temp. Total.	Dis- mem- berment.	Death.	Comp. Duc.	Susp. Mortality.	Funeral.	Total.
6-30-15	Open T.T.	7	B	144	...	.....	48	18	.....	210
9-30-15	" "	20	...	1,153	...	.....	173	144	.....	1,470
12-31-15	Dead	...	...	.....	.....	4,500	.....	.....	100	4,600
3-31-16	"	...	...	.....	.....	4,069	.....	.....	100	4,169

In Illustration 1, the employee was injured on May 12, 1915, and died on October 15, 1915. Daily wage \$2.50, weekly compensation rate \$9.61. The notice of accident stated that he was struck by a rock from a blasting machine and that he was seriously injured in the back. On June 30, 1915, it was valued as an open temporary total case, on account of the seriousness of the injury, although no award had yet been made. Up to September 30, 1915, several awards of compensation had been made and the case continued, hence it was still carried as an open case. The dependents were unknown on December 31, 1915, and the case was valued at \$6,000 per \$1,000 wage because the deceased was married. By March 31, 1916, the dependents were found to be a widow, aged 50, and children aged 16 and 10; the present values were set up for these annuitants. No amount was set up for medical, as this loss occurred under a B policy, under which the employer assumes the cost of statutory medical aid.

ILLUSTRATION 2.  
ESTIMATED INCURRED LOSS.

Valuation Date.	Injury Classified as	Wks.	Medical.	Temp. Total.	Disen-berment.	Death.	Comp. Due.	Susp. Morality.	Perm. Total.	Total.
12-31-14	Open T.T.	8	105	190	.....	...	60	24	.....	379
3-31-15	" "	21	150	1,300	.....	...	190	162	.....	1,802
6-30-15	" "	34	165	2,600	.....	...	320	325	.....	3,410
9-30-15	Perm. Part.	288	165	.....	2,880	.....	.....	301	.....	3,346
12-31-15	Perm. Total— Age 67.....	.....	180	.....	.....	.....	.....	610	4,877	5,667

In Illustration 2, the employee, aged 66, was injured on November 6, 1914. Daily wage \$2.60, weekly compensation rate \$10. He fractured his left leg when a horse suddenly started his wagon and threw him to the pavement while attempting to get on the wagon. A number of awards of total temporary disability were made to him, and the case was reserved for on the basis of Table C for three valuations. Indications pointed to an ultimate award for loss of use of leg, 288 weeks, and the injury was therefore classified as a permanent partial on September 30, 1915. Medical examinations subsequently disclosed the fact that the hip was seriously affected, and on account of the advanced age of the employee, recovery was a remote probability. Since December 31, 1915, this case has been valued as a permanent total.

ILLUSTRATION 3.  
ESTIMATED INCURRED LOSS.

Valuation Date.	Injury Classified as	Wks.	Medical.	Temp. Total.	Disen-berment.	Death.	Comp. Due.	Susp. Morality.	All Other.	Total.
3-31-15	Open T.T.	12	195	315	.....	...	75	39	.....	624
6-30-15	" "	25	235	1,275	.....	...	172	159	.....	1,841
9-30-15	" "	38	290	2,250	.....	...	270	281	.....	3,091
12-31-15	Perm. Part.	312	290	.....	2,340	.....	.....	245	.....	2,875
3-31-16	" "	244	305	.....	1,830	.....	.....	169	.....	2,304

In Illustration 3, the employee was injured on January 8, 1915. Daily wage \$1.95, weekly compensation rate \$7.50. He received a compound fracture in the right arm in an accident while working at a machine. In the three valuations following the date of injury,



it was reserved for as an open temporary total case. The claim folder showing that an award for loss of use of the arm would probably be made, it was set up as a permanent partial for that benefit on the December 31, 1915, valuation. In January, 1916, the employee having received 54 weeks' compensation under the guise of total temporary disability, was granted an award of 190 weeks, which was the balance for loss of use of hand.

Up to December 31, 1915, 51 weeks' compensation had accrued, leaving a balance (not as an award but according to the valuation on that date) due of 261 weeks at \$7.50 weekly, amounting to \$1958. One-eighth of this amount, or \$245, was set up for suspended mortality on the December 31, 1915, valuation. One-eighth of the amount due *after* the valuation date, is placed under suspended mortality on all permanent partial cases.

ILLUSTRATION 4.  
ESTIMATED INCURRED LOSS.

Valuation Date.	Injury Classified as	Wks.	Medical.	Temp. Total.	Dismem-berment.	Death.	Comp. Due.	Susp. Mortality.	Perm. Total.	Total.
12-31-14	Open T.T.	6	B	180	...	...	60	22	.....	262
3-31-15	" "	19	...	1,650	...	...	255	206	.....	2,111
6-30-15	" "	32	...	3,600	...	...	450	450	.....	4,500
9-30-15	Perm. Total— Age 42	...	...	.....	.....	.....	.....	1,737	13,897	15,634
12-31-15	Temp. T. Closed.....	...	...	810	.....	.....	.....	.....	.....	810

In Illustration 4, the employee was injured on November 18, 1914. Daily wage \$5.20, weekly compensation rate \$15.00 (maximum). He fell off a platform and received contusions all over the body. Numerous awards for total temporary disability were granted, and it was consequently set up as an open case, according to the values in Table C, on December 31, 1914, March 31, 1915, and June 30, 1915. A reserve for permanent total disability was carried in the September 30, 1915, valuation, the claim papers all pointing to such a conclusion. However, after that date the employee made such a rapid recovery, that he had returned to work on December 16, 1915, as of which date the case was closed by the Commission on December 27, 1915. On the December 31, 1915, valuation the entire loss consisted of 54 weeks' compensation, and the injury was classified as a total temporary disability.

*Unreported Losses.*—This item is one requiring careful consideration, and, in a final analysis, must depend upon the geographical distribution of the policy issues of the insurance carrier. In the case of the New York State Insurance Fund, only risks within the State of New York are carried, and the Fund is therefore in fairly close touch with its policyholders and is in prompt receipt of reports of accident.

The rule adopted after numerous practical tests is as follows: All notices in which the accident date is prior to the date as of which valuation is made, are included in the valuation and all accidents occurring after such valuation date are put aside for subsequent quarterly valuations. If the valuation is completed fifteen days after the date as of which the valuation is made, 15 per cent. of the aggregate incurred loss for the six months preceding the valuation date is added for unreported losses. One-half of 1 per cent. is deducted for every day later at which the valuation is completed. For instance, if the valuation is concluded twenty-five days after the date of valuation, then only 10 per cent. of such incurred loss is added for unreported losses. The addition is then distributed back over the incurred loss for the six months in question, in the ratio that the reported loss under each kind of injury bears to the aggregate reported loss.

*Lump Sum Settlements.*—Section 25 of the New York Law provides that “the Commission, whenever it shall so deem advisable, may commute such periodical payments to one or more lump sum payments, provided the same shall be in the interest of justice.” Commutation is frequently resorted to in border line cases that have been classified as open temporary total or permanent total for the purposes of valuation only. Any settlement that is predicated upon the incurred loss set up by valuation standards is likely to be erroneous, for the reason that valuation standards for these classes of cases merely attempt to provide an average which may be more or less than the amount to which the insurance carrier and the injured employee jointly agree as being a fair lump sum settlement.

A long-standing case of temporary total disability may have all the earmarks of a permanent total case and yet a partial or complete recovery may ensue shortly after the valuation date. The valuation cannot even be considered to be an approximate measure of an amount that may be paid as a lump sum, and therefore each case under consideration for such a settlement must be individually

considered, medically and actuarially, before a settlement is finally agreed upon.

*Subrogation.*—All notices of injury are inspected upon their receipt, to ascertain cases in which the employee was injured through the negligence of a third party. In such cases the full amount of the incurred loss is set up on account of uncertainty as to whether there is a good cause of action or the possibility of recovery on a judgment against the third party. If a settlement is made with the third party, it is deducted from the incurred loss, and the balance is set up at the next quarterly valuation.

*Tabulatable Accidents.*—According to the accepted definition “a tabulatable accident is one which causes loss of time on any day other than the day of the injury.” Judging from the clarity of this definition, it should be simplicity itself to take any number of accident notices and divide them into the two classes of tabulatable and non-tabulatable accidents. Yet, in practice, there are a number of factors which militate against any system which requires as its foundation an accurate record of tabulatable accidents. Personal inspection of a large number of cases and reports leads me to make the following comments:

1. The employer's first report of injury has a question: “Has employee returned to work?” which often remains unanswered, either through lack of information, or the negligence of the employer.

2. The tendency of some employers is to fail to report any accidents except in those cases where the injured employee may become entitled to compensation.

3. Where the employer carries a policy under which he pays the medical cost, he is under a great temptation not to report those accidents which appear to him to be not compensatable; such a practice may be carried on indefinitely without coming to the knowledge of the insurance carrier, since the latter is not required to make any payments for compensation or medical.

4. Many injuries that are trivial at the time of reporting to the Commission and which state that the employee returned to work on the same day, ultimately develop into compensatable cases or cases where the employee may lose one or more days. There are always a number of such cases when experience data is compiled, and, in this respect, such data is both misleading and inaccurate.

5. The rules of the New York State Industrial Commission do

*not* require the employer or employee to file any report as to the date of recovery, except in cases where the employee claims compensation because of disability exceeding fourteen days. There are probably 150,000 non-compensatable cases reported annually in New York State, which never come to the attention of the Commission but are filed as "No Claim" in the claim division.

In order to determine the correct number of tabulatable accidents, a large amount of labor and expense is involved, and it is not likely that any insurance carrier makes any attempt to go to these lengths to secure statistical information which does not affect its financial statement.

Since there are over 15,000 notices of accident received by the Fund annually, it becomes essential to have a system which permits of a rapid summary to be made of incurred losses of any policy or calendar period. The methods outlined herein have been thoroughly tested in the business of the Fund, and have the merit of being practical, easily understood and permit of a valuation being completed within a month after the date as of which the valuation is made.