Vital Statistics Data Collection and Compilation System: Hong Kong

International Institute for Vital Registration and Statistics
9650 Rockville Pike
Bethesda, Maryland 20014
U.S.A.
FOREWORD

With the large industrial and urban growth over the past 20 years in Hong Kong, the need for birth certificates for various social and economic purposes is said to have increased greatly. The incentives for birth registration resulted in increased birth registration coverage. Starting in 1970, birth statistics were tabulated by year of occurrence rather than by date of registration.

In 1971, birth registration figures were augmented by the hospital/midwives' birth returns to provide basic information about unregistered births. The statistical innovations significantly improved birth statistics for administrative and analytical purposes.

The Technical Papers series is issued by IIVRS for the information of its Associates. The views presented are those of the Authors'. The IIVRS does not necessarily endorse the views or recommendations in this document. There are no restrictions on the use of material published by IIVRS. Material from this publication may be quoted or duplicated without permission.
Vital Statistics Data Collection and Compilation System: Hong Kong

by
Mrs. Donna Shum
Census and Statistics Department
Hong Kong

HISTORICAL DEVELOPMENTS

Statistics on births, deaths and marriages are collected as administrative by-products. Before the 1970s, the only source of data was registration records. The figures, therefore, were reported by month of registration rather than month of occurrence. The data based on registration records were limited both in coverage and scope. Unregistered cases were omitted, and some useful information not required for registration purposes was not included. These limitations, together with the changing pattern of late registration overtime, had rendered the registration figures not suitable for analytical purposes.

These defects had been visualised by departments concerned and the Census and Statistics Department, a newly organised central statistical office, was charged with the responsibility for setting up a data collection and compilation system for vital statistics in 1971.

Starting in 1970, 'known' figures based on the actual date of occurrence have been used in place of registration data. To minimise possible cases of under-registration, other documents designed for administrative purposes, i.e. hospital returns, etc., have been used to provide some basic information on unregistered births.

The scope of the system has also been enlarged to include more useful data as recommended by the United Nations Seminar on Civil Registration and Vital Statistics. A review of the system was undertaken in 1975 to assess the adequacy of the system and to identify possible areas for improvement. A revised system has been introduced since January 1976. As the system covers births, deaths and marriages, these subject areas are discussed separately in the following sections.

BIRTH STATISTICS

Registration of births was made compulsory in 1872, under the first births and deaths ordinance. The time allowed for the normal registration of births is 42 days, exclusive of the day of birth. Even after 42 days, births can still be post-registered.

Birth registrations were incomplete even in the 1950s, but the coverage has been improved tremendously over the past two decades. This is due mainly to the following reasons:

Rapid urban growth. Hong Kong has undergone rapid industrialization and urbanization since the early 1960s. Under the modern conditions, a birth certificate for the young has become essential, and there are incentives for parents to register their births. This is confirmed by the marked decline in the number of births post-registered after one year from birth since 1962, indicating that only a smaller number of births have not been registered soon after birth.

Easy accessibility of birth registration facilities. Birth registration is now facilitated by the existence of a widespread network of birth registries throughout Hong Kong. In addition to the General Registration Office, there are sixteen district registries in the urban areas. In the rural New Territories, there are four full-time birth registries at the new towns and also part-time registries at various Rural Committee Offices serving villages in the more remote areas. To facilitate post-registration, a mobile team is also operating in the New Territories.

BIRTH STATISTICS DATA COLLECTION SYSTEM, 1971 - 1975

Statistics on births were collected as administrative by-products from registration records before 1970. The birth data were reported by date of registration rather than date of occurrence. Since the time allowed for birth registration is 42 days from the day of birth, data reported by date of registration could be distorted. Hence, starting in 1970, birth data were tabulated by date of occurrence and not by date of registration.

Registration figures are also affected by under-registration of births, although the number of such cases has been dropping significantly in recent years. In order to minimise the loss of information due to under-registration, hospital/midwife's birth
returns have been used to provide some basic information about the unregistered births since 1971.

It is the practice of hospitals and midwives to submit returns recording certain particulars on each birth taking place. Although the data items available on the return are limited, the coverage of this system is wide since about 99 percent of all births are institutional births. It was then decided that the estimate of the number of births be based on hospital/midwife’s birth returns, although registration records were still used as source documents for detailed tabulations. For each birth registered, the particulars were copied from the registration book onto a separate ‘statistics of birth’ data form. These data forms were then sent to the statistics unit at the General Registration Office where the information was coded onto separate Punch and Verification sheets before the data were processed by the computer. A registration number would also be entered in the hospital/midwife’s return to indicate that the birth had been registered. Returns without a registration number were those unregistered births. On 15 April each year, the particulars of these unregistered births would be extracted from the returns for input into the computer to make up the total number of ‘known’ births for the year.

This revised data collection system was not implemented without problems in the initial stage. Omissions in marking off the registered births on the birth returns were frequent. As a result, there were cases being input twice into the computer. Since unique identification was not available in the record input, double entries could not be sorted out by the computer. Other than these discrepancies, errors had also been found in recording, transcription and coding. All these rendered the annual tabulations produced less useful than should have been the case.

These shortcomings were caused by the following factors:

Confusion in handling. Hospital/midwife’s returns were counted to give the number of ‘known’ births each month while registration records were input into the computer for the annual tabulations. There could be discrepancies in the two sets of figures.

Records could not be physically separated. A total of 12 births were recorded on the same return. These returns were submitted by hospital superintendents and midwives every week and might overlap two months. Since the records could not be physically separated and were filed by hospital and midwife, manual counting of ‘known’ births for each month produced considerable errors.

Information had to be transcribed. Information collected when the births were registered had to be transcribed from the registration book onto a separate sheet. These sheets were then sent to the statistical unit of the General Registration Office for coding onto separate Punch and Verification sheets. The transcription of data to and from loose sheets provided chances for omissions, duplications and errors in coding.

BIRTH STATISTICS DATA COLLECTION SYSTEM SINCE 1976

To avoid omissions, duplications and errors in transcription, it was considered necessary that one and only one form for each birth should be used from data collection down to data preparation stage, and that the hospital/midwife’s return should be used as the only source document for data collection to avoid unnecessary confusion. The hospital/midwife’s return was therefore revised to this effect. This new form, which has been used since 1976, is composed of two parts and has four copies. The upper part is to be completed by staff of the hospital or midwife who delivers the birth. The 4th copy is retained in the hospital or maternity home for record, and the remaining three copies sent to the appropriate district birth registry where the 3rd copy is detached and sent to the appropriate Maternity and Child Health Clinic. The first and second copies are kept in the registry and filed by month of occurrence. By counting the number of returns received, institutional birth figures for each month could be reported.

When the birth is registered, the appropriate return would have to be taken out from the file and the lower part of the form completed. The second copy will be detached and sent to the statistics unit at the General Registration Office where the information is coded on the right-hand margin of the same form; and the coded forms will be sent to the data preparation centre for punching and, subsequently, the data will be processed by the computer. The original copy of the return will be kept in the birth registry as a permanent record.

For self-delivered births, both the upper and lower parts of the form have to be completed by the birth registry when the parents register the births. The second copy will also be sent to the statistics unit for further processing.

With the introduction of the revised hospital/midwife’s birth return, not only are errors eliminated but, also, more useful information can be collected from hospitals and midwives so that unregistered institutional births would not contribute to a loss of
information. Besides making use of the particulars in the registration records, additional information is collected from informants when they register the births. As a result, the scope of tabulations for birth statistics has been enhanced to include most of the tabulations recommended by the United Nations Seminar on Civil Registration and Vital Statistics.

DEATH STATISTICS

Statistics on deaths are also collected as administrative by-products through the registration system. Registration of deaths has been made compulsory in Hong Kong since 1872. For a congested city like Hong Kong (population density in mid-1979 being 4,667 persons per sq. km.), it is almost impossible for corpses to be buried illegally. Only in very remote areas of the New Territories are there possible cases of unregistered deaths. It is estimated that the number of such cases would be very small, probably not more than 10 in a year. Coverage of the death statistics system is effectively complete.

Under the Births and Deaths Registration Ordinance, a registered medical practitioner in attendance during the last illness of a deceased person should sign and give to a qualified informant of the death a certificate of the cause of death. The informant is bound to deliver the certificate to a registrar, and the death should be registered within 24 hours following death. The time lapse between date of actual occurrence and date of registration for normal cases of death is minimal.

If the deceased is not attended by a registered medical practitioner, the true cause of death has to be investigated. For these cases, medical officers at mortuaries will have to examine the dead bodies and submit mortuary returns to coroners, specifying the natural and external causes of death and indicating whether an autopsy has been ordered. The coroner will have to indicate whether a death report is called for and notify the death registry concerned. For cases where death reports are not called for, the deaths can be registered then. For cases where death reports are called for, usually only natural causes of death are given and it will take some time before the cases are investigated and the external causes of death certified. Only then can these deaths be registered. Existence of such cases contributed to a marked delay in registration which may not be self-compensating over time. These facts explained the shortcomings of the registration figures which were used until 1969.

Since 1971, 'known' death figures based on the date of occurrence have been compiled. As deaths have to be registered within 24 hours following death, these figures for the normal cases of death may be considered as complete and accurate.

For deaths where the true causes of death have to be investigated, mortuary returns only reach the registries after routing through the coroners who will decide whether a death report is called for. This process may take up to two weeks from the day the mortuary return is completed. Since mortuary returns can only be handled by two death registries, the entries in the daily mortuary returns will be counted separately for compiling death statistics by date of occurrence, irrespective of whether the cases can be registered at the moment.

When a death is registered, a medical certificate of the cause of death has to be produced. Other than recording the particulars needed for registration purposes, additional information required for statistical purposes is written down on the certificate. This will be sent to the statistical unit at the General Registration Office where the information is coded onto Punch and Verification sheets. The medical certificate of the cause of death is, therefore, the only source document for data preparation. This certificate, however, is not designed for statistical purposes. Data extraction from these certificates is tedious. Moreover, additional information was written on any available space on the certificate. This nonstandard practice of recording statistical information was deemed undesirable and might induce errors and omissions.

In the review of the system in 1975, it was felt that the medical certificate of the cause of death should be revised in line with the hospital/midwife's return, so that one and only one form may be used throughout the whole process to avoid duplications, omissions and errors in transcription. However, in view of the statutory nature of the form and the restricted nature of the information recorded, passing the copies with names and full particulars of the deceased through the whole data collection and preparation process may not be desirable. On the other hand, completing another specially designed form by subregistries would duplicate the work and may also induce unnecessary transcription errors. The original system of using the medical certificates as the source documents and coding on separate Punch and Verification sheets therefore has its own merit, although the extracting of information based on the certificates causes inconvenience.

It was decided to maintain the original system. Standard tabular space for recording the additional data collected was provided on the medical certificate.
so as to minimize possible omissions and transcription errors. This new medical certificate has been used since 1976.

MARRIAGE STATISTICS

According to the White Paper on *Chinese Marriages in Hong Kong* published in 1967, Chinese people in Hong Kong may be married in the following five forms:

1) Chinese Customary Marriages - marriages contracted in accordance with Chinese customs that existed and were recognised in 1843;

2) Chinese Modern Marriages - marriages contracted in conformity with Articles 980-988 of the Chinese Council Code, 1930;

3) Reputed Marriages - marriages treated as such by friends and neighbours as a result of two persons living together, but with no other basis for recognition;

4) Foreign Marriages - marriages contracted abroad under foreign law;

5) Registered Marriages - marriages, Christian or otherwise, contracted in accordance with the provisions of the Marriage Ordinance, Chapter 181 of the laws of Hong Kong.

Administrative statistics on marriages are restricted to registered marriages. There is no information on marriages celebrated in other forms known to be in existence in Hong Kong. Marriage statistics were, therefore, subjected to distortion by unregistered marriages. Following the enactment of the Marriage Reform Ordinance on 7th October, 1971, marriage can only be celebrated in accordance with the Marriage Ordinance. Other forms of marriages contracted after that date and not registered are no longer recognised. There is, therefore, complete coverage as far as marriages under the laws of Hong Kong is concerned.

The Marriage Ordinance provides that notice of an intended marriage must be given by one of the parties thereto to the registrar at least 15 days before the date of the marriage. A copy of the notice has to be exhibited and at any time from 15 days to 3 months after the giving of such notice, a Certificate of the Registrar of Marriages may be issued by the registrar which enables the marriage to be celebrated at a licensed place of worship, or contracted as a civil marriage before a Deputy Registrar. Marriage may be celebrated in any licensed place of worship, but no minister should celebrate any marriage until a Certificate of the Registrar of Marriages has been delivered to him.

Statistics on marriages are collected when notices of intended marriages are applied for. A total of 5 copies of 3 different forms have to be completed. The first one is a Certificate of the Registrar of Marriages, followed by 3 copies of the Notice of Marriage and one copy of the Marriage Statistical Data Sheet. All these forms are basically of the same layout. The last one, however, contains additional data items for statistical purposes. A copy of the Notice is then exhibited for 15 days and the others are filed. At anytime between 15 days and 3 months, the Certificate of the Registrar of Marriages may be issued at the request of one of the parties to enable the marriage to be contracted. Within 7 days after the ceremony, the Certificate of the Registrar of Marriages has to be returned to the marriage registry. Upon receipt of this certificate, the remaining items on date of marriage, place of marriage, registration number and type of marriage are filled in on the other forms. One copy of the notice is then sent to the main marriage registry for record purposes and the other sent to the Registration of Persons Department. The Marriage Statistical Data Sheet is then sent to the statistics unit at the General Registration Office where the information is coded before computer processing.

The system has been running smoothly since 1971 except that transcription and coding errors were frequently detected when information collected on the Marriage Statistical Data Sheets had to be coded onto separate Punch and Verification sheets for data preparation. The data items on these forms did not have the same order of sequence, thus making the coding work difficult and generating unnecessary coding and transcription errors. Since 1976, the Marriage Statistical Data Sheet has been revised so that coding could be done on the same data sheet without transcription. This has definitely reduced possible transcription errors.

ORGANISATION OF THE VITAL STATISTICS SYSTEM

Functionally, the vital statistics system involves five different stages of work:

(a) the legal registration of the occurrence of vital events;

(b) the collection process which brings together and controls the statistical returns;

(c) the statistical recording procedure which includes transcribing and coding the registered data for statistical purposes;

(d) the compilation procedure which includes editing and tabulating the data; and,

(e) the presentation and analysis of the statistics.
The first three stages of work are the responsibility of the Registrar General's Department. Since 1969, the Census and Statistics Department has been responsible for the compilation and analysis of the data. The arrangement and field of responsibility of the departments concerned is summarised as follows:

Because of the small size of Hong Kong and the relatively simple government setup, communication between the departments involved in operating the vital statistics system is very good. Training courses are organised from time to time for staff of the registries and coders in the General Registration Office to keep them up with the registration data collection and coding procedure. Visits by statistical staff of the Census and Statistics Department are also paid to registries to find out any problems encountered in collecting births, deaths and marriage data through the legal registration of vital events. It is through this close departmental cooperation that an efficient data collection and compilation system for vital statistics can be maintained.
<table>
<thead>
<tr>
<th>Name of baby</th>
<th>Date of birth</th>
<th>Sex of baby</th>
<th>Type of birth</th>
<th>Age of mother</th>
<th>Place of residence</th>
<th>History of previous pregnancies</th>
<th>Place of origin of father</th>
<th>Duration of present relationship of parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>English name</td>
<td></td>
<td>Male</td>
<td>Single</td>
<td></td>
<td></td>
<td>Live Birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese name</td>
<td></td>
<td>Female</td>
<td>Twin</td>
<td></td>
<td></td>
<td>Neo-natal Death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother's name</td>
<td></td>
<td></td>
<td>Triplet</td>
<td></td>
<td></td>
<td>Still birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Others</td>
<td></td>
<td></td>
<td>Abortion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name and maiden surname of mother</th>
<th>Name and surname of father</th>
<th>Name of hospital, maternity home or clinic/Address at birth</th>
<th>Signature of Hospital Superintendent/Registered Midwife</th>
<th>Date of registration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- One return, in quadruplicate, should be completed for each and every birth which occurred in your practice in accordance with the instructions given below.
- Age of mother should be given in complete years according to western reckoning.
- History of previous pregnancies categories previous pregnancies of the mother herself according to the definitions given below:
  - Live Birth - is the complete expulsion or extraction from its mother of a product of conception, which after such separation breathes or shows any other evidence of life.
  - Neo-natal Death - infant death occurring during the first 28 days after birth.
  - Still Birth - birth given by mother after 28 weeks of gestation which after complete expulsion or extraction does not breathe or show any evidence of life.
  - Abortion - any interruption of pregnancy before 28 weeks of gestation with a dead foetus. This includes miscarriage and abortion, whether legal or illegal.
- Place of residence - record in detail the usual address of the mother.

**R.G. 719 (Revised)**
MEDICAL CERTIFICATE OF THE CAUSE OF DEATH.
To be given by the medical attendant to the person whose duty it is to give it, with information of the death, to a registrar, and to no other person.

I hereby certify that I attended during the last illness; that such person's age was stated to be ..........................; that I last saw him on the .......... day of ........... 19..; that ........ died on the .......... day of ........... 19..; at .......... and that, to the best of my knowledge and belief the cause of his death was as hereunder written. An anaesthetic, namely ........... was administered before the death of ........... (or, if such was the case: No anaesthetic was administered before the death of ...........).

* Should the medical attendant not feel justified in taking upon himself the responsibility of certifying the fact of death, he may here insert the words "as I am informed."

† Insert here how long before death the anaesthetic was administered.

<table>
<thead>
<tr>
<th>CAUSE OF DEATH</th>
<th>Approximate interval between onset and death.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Disease or condition directly leading to death.§</td>
<td>(a) due to (or as a consequence of)</td>
</tr>
<tr>
<td>Antecedent causes</td>
<td>(b) due to (or as a consequence of)</td>
</tr>
<tr>
<td>Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last.</td>
<td>(c)</td>
</tr>
<tr>
<td>II. Other significant conditions contributing to the death, but not related to the disease or condition causing it.</td>
<td></td>
</tr>
</tbody>
</table>

§ This does not mean the mode of dying e.g., heart failure, asphyxia, etc. It means the disease, injury, or complication which caused death.

Deceased's nationality

" profession

" address

" place of death

Dated the day of 19..

Signature

Name (in block letters)

[Registered qualification]

Residence

W. S.—THIS CERTIFICATE IS INTENDED SOLELY FOR THE USE OF THE REGISTRAR, to whom it should be surrendered by the person giving information to him of the particulars required by law to be registered concerning the death. Penalty of $1,000 or 6 months imprisonment for neglect of a person to deliver this certificate to the registrar or a district registrar.

The Registrar of Births and Deaths cautions all persons against accepting or using this certificate for any purpose whatever except that of delivering it to himself or a district registrar.
CERTIFICATE OF REGISTRAR OF MARRIAGES

I, ................................., a Deputy Registrar of Marriages of Hong Kong, do hereby certify that on the ............................................. 19 notice was duly entered in the Marriage Notice Book of the said Colony of the marriage intended to be had between the parties herein named and described.

<table>
<thead>
<tr>
<th>Name and surname</th>
<th>Condition</th>
<th>Rank or profession</th>
<th>Age</th>
<th>Dwelling place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridegroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The issue of this certificate not been forbidden by person authorized to for issue thereof.

Witness my hand this ........................................ 19

..................................
Deputy Registrar of Marriages.

This certificate will be void unless the marriage is solemnized on or before the ........................................ day of ........................................ 19

R.O. 4128(2)
NOTICE OF MARRIAGE

To the Registrar of Marriages, Hong Kong,

I hereby give you notice that a marriage is intended to be had, within three months from the date hereof, between me and the other party herein named.

Witness my hand this ................... day of ...................... 19....................

No. ........................

Party giving the notice.

<table>
<thead>
<tr>
<th>Name and surname</th>
<th>Condition</th>
<th>Rank or profession</th>
<th>Age</th>
<th>Dwelling place</th>
<th>By whom consent (if any) given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgroom</td>
<td>(Bachelor/Widower/Divorced person)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bride</td>
<td>(Spinster/Widow/Divorced person)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PREVIOUS PUBLICATIONS OF THE IVRS TECHNICAL PAPERS

1. *A Programme for Measurement of Life and Death in Ghana*,
   D.C. Mehta and J.B. Assie, June 1979


5. *Civil Registration in the Republic of Argentina*, Jorge P. Seara and Marcelo E. Martin, November 1979


