



Description of Mark II/Signature People Meter Methodology

Statistics Research Department

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1 Sample Frame Overview

1.1 National Sample

The National service provides estimates of in-home audiences to network television programs and is based on a national sample of television households (excluding Yukon, Nunavut, Northwest Territories and Labrador). The sample consists of approximately 2,509 metered television households. It is dispersed geographically in proportion to household concentration (with over sampling in the province of Quebec and all local markets) and includes both urban and rural households.

1.2 Local Market Sample

The BBM Nielsen Media Research Metered Market service provides estimates of in-home audiences to local television stations and is based upon a Designated Market Area (DMA) sample of television equipped households. The meters are dispersed geographically in proportion to household concentration. At present there are three local markets; Toronto/Hamilton, Vancouver and Calgary with 800, 500 and 450 metered television households respectively. All local metered homes are part of the national sample.

1.3 Sample Design

The sample for both the National and the Local Market Services is a multi-stage Area Probability sample of housing units with each qualifying housing unit having an equal chance of selection. Prior to the initial sample selection, geographic strata were defined and the required sample size for each stratum was determined. Within each stratum, the sampling for the master sample takes place at a uniform sampling rate. The local Metered Markets are defined as stratum and comprise 3 of the 7 strata that make up the National sample. There are three stages used in the sample design of the National and the Local Market Services.

1.3.1 First Stage

The first stage of selection involves the assignment of all measured counties to primary sampling units referred to as primary areas. A primary area consists of one or more counties or parts of counties with a minimum housing count of 1,000 housing units (based on Statistics Canada's census count).

1.3.2 Second Stage

The second stage consists of the selection of census Dissemination Areas (DAs) within the sampled primary areas. DAs are small geographic regions used for census enumeration. They

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have well defined boundaries and generally contain 400-700 persons; e.g., 200-400 housing units. The sample of DAs within each of the sampled primary areas is selected as follows:

- a. The DAs in the primary area are listed in geographic order.
- b. The census housing counts for each DA are obtained and accumulated.
- c. DAs are selected systematically with a random start between one and the sampling rate. This systematic sample selection provides a sample dispersion within the primary areas that parallels the population.

Before the commencement of the third stage of selection, the second stage selection of DAs is evaluated to guard against the possibility of having selected a somewhat atypical sample of Dissemination Areas. In this way, we avoid the slim possibility of a substantial investment in a sample that might be considered atypical in some important socio-demographic respects.

1.3.3 Third Stage

The third stage consists of enumeration of housing units within the sampled DAs and selection of the sample housing units. The procedure is as follows:

1. Using census DA maps, the BBM Nielsen Media Research Field Surveyor locates the selected area and enumerates the housing units using a pre-determined pattern.
2. Statistical Research provides the Field Surveyor with the randomly selected sample housing unit using a prescribed probability selection method.
3. The Field Surveyor lists the address of the pre-designated housing unit (Basic) and addresses of adjacent housing units.
4. In cases where street addresses are not available, each of the listed housing units is located on maps. A description of each housing unit is included by the BBM Nielsen Media Research Field Surveyor to later enable the BBM Nielsen Media Research Field Representative to locate the pre-designated sample housing unit.
5. The listed addresses are reserved as substitute housing units in the event that the pre-designated housing unit will not co-operate.

The desired number of sample housing units from each area is one. However, where the housing count found at the time of enumeration differs from the census count due to new construction or demolition, there may be either no housing units or more than one. This method ensures each housing unit has an equal chance of selection. If only one housing unit was selected regardless of the count of actual housing units, then the sample units would have been selected with different probabilities.

Households with a television set occupying the pre-designated housing units are recruited for the panel sample by Field Representatives. Vacant housing units are checked periodically to determine if they have become occupied. If so, they are recruited for the sample.

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1.3.4 Housing Units

A housing unit is defined by the census as a group of rooms or a single room occupied or intended for occupancy as separate living quarters. Separate living quarters have direct access and are quarters in which the occupants do not live and eat with any other person in the structure. Living quarters have direct access if the entrance to the unit is directed from the outside of the structure or through a common or public hall, lobby or vestibule used by occupants of more than one housing unit. The common hall must not be part of any unit but clearly separate from all units in the structure.

There are two criteria for housing units:

- a. Separateness
- b. Direct Access

The occupants of a housing unit may be a family, one person living alone or several unrelated persons who share the living quarters. Both occupied and vacant housing units are counted. Recreational vehicles, tents, boats, railroad cars and the like are included only if they are occupied and used as a permanent residence.

All new housing units are counted only if construction has proceeded far enough so that the roof is on and all walls, doors, and windows are in place.

Vacant housing units are excluded if they are unfit for human habitation, that is, the roof, walls, windows or doors no longer protect the interior from the elements, or there is positive evidence (such as a sign on the house or in the block) that the unit is to be demolished or is condemned. NB: This rule of exclusion applies only to vacant units - all occupied housing units, regardless of their condition, must be counted.

Excluded from the People Meter sample are Indian reservations, bars, restaurants and all collective type households such as homes for the elderly, student residences, hospitals, hotels and military bases, etc.

1.3.5 Sample Updating

Each year the People Meter sample of housing units is updated to include newly constructed housing units.

The Canada Mortgage and Housing Corporation (CMHC) provides data on the number of residential building permits issued by each municipality. Selection of newly constructed housing units for these areas is as follows:

- a. The building permit offices are listed geographically within each stratum.
- b. The number of building permits issued is accumulated for each municipality.
- c. The accumulated list is sampled systematically using the same sampling rate used for the BBM Nielsen Media Research People Meter sample.

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- d. Field Surveyors trained by the Statistical Research Department are sent to the selected building permit offices. In each office, the surveyor systematically arranges the permit (usually by issue date), identifies the randomly selected sample housing unit(s), and obtains the geographic location. Similar information is obtained for additional new housing units to be used as alternates in the event the selected household refuses to cooperate.
- e. The BBM Nielsen Media Research Field Surveyor locates the sample housing unit. Housing units still under construction or not yet started remain in the sample and are periodically visited to verify construction progress and occupancy.

In order to keep constant the number of BBM Nielsen Media Research People Meter housing units, an equal number of existing sample housing units is randomly selected to be removed from the sample.

1.3.6 Systematic Sample Replacement

The BBM Nielsen Media Research People Meter system provides for replacement or “turnover” of sample households which have been in the sample longer than five years. Replacement housing units are generally selected from the same neighbourhood or area as the households removed from the sample.

In addition to planned turnover, housing units may be replaced due to demolition, non-cooperation or sample revision. If a sample housing unit is demolished, it is replaced by another housing unit in the same primary area. If co-operation cannot be secured from a pre-designated housing unit, a substitute household is specified in the same neighbourhood with the same specified characteristics. Annually, the sample is revised to add newly constructed housing units to the sample in their proper proportion, while previously specified households are removed.

Estimates of the number of housing units in the 7 strata are made annually. These estimates are used to determine the number of sample housing units in each sampled primary area. Through the procedures of sampling new construction and updating via annual household estimates, the sample endeavors to reflect population shifts.

2 Sample Recruitment and Data Collection/Checking

2.1 Implementation of Sample Design

2.1.1 Field Staff

The BBM Nielsen Media Research Field staff is made up of trained full-time Field Technicians and Membership Representatives whose principal duties are to recruit, install, maintain, teach and coach the sample households.

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Field staff also includes Regional Managers and Assistant Regional Managers who are responsible for the quality and quantity of the work performed by the people under their supervision.

The typical Field Technician has a technical diploma or degree in Electronics and has participated in an 8 week in-house training program. Upon successful completion, the Field Technician works under the supervision of the experienced Regional Manager and Assistant Regional Manager.

The typical Membership Representative possesses strong interpersonal skills and is an effective communicator. Their role is considered to be primarily that of an ambassador, responsible for building positive relations with all of the BBM Nielsen Media Research families.

Membership Representatives are also responsible for training and coaching panel members on the correct use of television audience measurement systems and devices. They contribute significantly to the company's standards for delivering optimum quality and accuracy of data.

Membership Representatives work under the supervision of the experienced Regional Manager and the Assistant Regional Manager.

2.1.2 Field Office Staff

The Field Office staff perform two prime functions: Field Operations and Field Controls. Field Operations monitors the day-to-day performance of the Regional Managers, Field Representatives, and provides technical support to all Field personnel. The Field Controls Department receives, processes and updates the demographic and home classification information for the sample households and provides a continuing review of the completion, quantity and quality of fieldwork.

2.1.3 Field Procedures and Sample Recruitment

2.1.3.1 Basic Household Co-operation

A Basic household is a household which occupies a housing unit specified by the Statistical Research Department. Once the Basic households are selected for the BBM Nielsen Media Research sample, every effort is made to recruit the Basic home for participation in the sample and to maintain the continued co-operation of such households. If, after repeated attempts, BBM Nielsen Media Research is unable to recruit the Basic household, a replacement (Alternate) is recruited as specified by the Statistical Research Department.

2.1.3.2 Alternate Household Co-operation

There are very stringent rules that must be followed when selecting Alternate homes for co-operation. Characteristics that affect viewing habits must be obtained from the "refusing Basic household", i.e., cable, language and age of household maintainer. BBM Nielsen Media Research will search for an Alternate household within the same Dissemination Area as the

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refusing Basic household until a home is found that has the same characteristics as the refusing Basic.

2.1.3.3 Demolished and Vacant Housing Units

Some of the pre-designated sample housing units may be demolished or vacant at the time the Field Representative goes to a specified address to seek co-operation. Demolished housing units are replaced by new construction through sample revisions.

In the event a housing unit is vacant, the unit is re-checked periodically to determine whether it has become occupied in the interim. If and when the vacant unit becomes occupied, standard recruitment procedures are followed.

2.1.3.4 Occupational Disqualification

A small percentage of Basic or Alternate households include occupants who may have a vested interest in the results of television audience research. Such households are excluded from the sample. If the household is a Basic household, the Basic sample home becomes dormant and is re-checked after a specified time period to determine whether the occupants continue to have a vested interest in the results of TELEVISION audience research. If the household is an Alternate household, normal substitution is made with another Alternate.

2.1.3.5 Non-Television Households

If the Basic sample home does not own a television set, the Field Representative periodically re-checks the household to determine if the household has acquired a television set. If and when a television set is acquired, recruitment procedures are instituted. Until such time, the Basic sample home remains dormant and no Alternate housing unit is specified

2.1.4 Installation

Once a Basic household or an Alternate household is recruited to participate in the People Meter sample, an appointment is made to install the equipment.

Installation involves the attachment of the People Meter hardware to all operable media devices (Digital set top boxes, VCRs, TVs, Converters, PVRs) and games (Nintendo, Sega, etc.) in the household. The time it takes to install equipment in a household is dependent upon the number of sets that require metering.

The BBM Nielsen Media Research policy is to meter all operable media devices, such as television receivers that have a screen size greater than 5 inches. Upon discovery of a non-metered media device, a household will be withheld from the sample until such time as this condition has been rectified

2.1.5 Calls on Sample Households

Field Representatives are scheduled to contact the sample household at least twice a year, either in person or by phone to update the household demographics, station information, service the

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equipment and to coach household members on BBM Nielsen Media Research People Meter procedures. Additional visits are made, as needed, to meter newly acquired media devices, to investigate and solve equipment/viewing faults or to remove equipment in those households that are moving, or are otherwise forced out of the sample.

3 Projection of Viewing Data

3.1 Overview

Sample households and people are weighted according to our latest universe estimates. Weighting is done by stratum, and initially each home within a stratum receives the same weight.

3.2 Household Weighting

$$\text{Initial Weight} = \frac{\text{TV Household Universe Estimate for a Stratum}}{\text{In-Tab Households within a Stratum}}$$

Example: Toronto/Hamilton DMA (stratum)

<i>TV Household Universe Estimate</i>	<i>= 2,412,000</i>
<i>In-Tab Households</i>	<i>= 900</i>
<i>Initial Weight = 2,412,000/900</i>	<i>= 2,680</i>

The initial weights are then adjusted according to various characteristics by a sequence of simple ratio estimates. For example, the household characteristics used for weighting the Toronto/Hamilton DMA are:

- Digital/Satellite/Cable Analogue/Off-Air
- Age of Household Maintainer
- Single TV set/Multi TV sets
- Toronto CMA/Hamilton CMA/Remaining DMA

The household characteristics used for weighting the National data are the same as the Toronto/Hamilton DMA with the addition of French/Non-French (Quebec, New Brunswick), and Metro/Non metro.

At each step, the weighted sample is re-tabulated and factors are calculated and applied to the weights computed from the previous step. This weighting method is generally known as **Iterative Proportional Fitting**. This process goes through various iterations until the sum of weights equals the universe estimate within a pre-defined threshold.

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3.3 Demographic Adjustment Factors (For People Weights)

People weights are determined by applying an age/sex factor, referred to as a **Demographic Adjustment Factor** (DAF) to the final household weight previously computed.

This ensures that the sum of the weights for each age/sex category is equal to the corresponding universe estimate for the category. The computed age/sex factor for a category is simply the ratio of the universe estimate to the weighted sample total based on the final household weights. The final people weights are computed by applying demographic adjustment factors to both household members and visitors.

Example:

Toronto/Hamilton DMA

Universe Estimate Women 18-24 = 310,700

In-Tab Women 18-24 = 80

Assume all 80 women had the same final household weight of 3,900

DAF for Women 18-24 = $\frac{310,700}{80 \times 3,900} = 0.995833$

80 X 3,900

The final weight for each Woman 18-24 would be: $3,900 \times 0.995833 = 3,884$