



IOM International Organization for Migration

Management of Operational Data

Section 3.10

Topics:

Obtaining Information from Data

Data Sources and Issues

Designing a Collection System for Operational Data

Management of Operational Data

Section 3.10

The collection and management of operational data supports the goals of migration policy and implementation. This Section discusses the elements of an ideal operational data management system, and the issues and challenges that States can address to close the gap between State practice and the ideal. Topic One outlines the information that can be gathered from operational data in migration processes. Topic Two discusses sources of data and several issues and challenges that surround data collection, aggregation, and analysis. Topic Three describes two scenarios for a data collection system.

Learning Objectives

- understand the concepts involved in using operational data for the purposes of managing migration
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- understand the benefits of a cooperative approach to sharing and integrating operational data
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- improve your ability to identify the potential for improving data sharing in your setting

Background

Data are used to describe, reflect, and draw a better understanding of migration trends and to make more informed policy decisions relating to all facets of migration. Raw data are collected, processed,

and analyzed in order to extract meaningful information that is useful for migration policy makers and practitioners. However, accurate and up-to-date migration data is largely incomplete.

The most accurate operational data are collected as a by-product of automated processes for migration management.

Data collected from the operational processes that manage migration can provide a valuable source of information for:

- deploying scarce resources in the most efficient and cost-effective manner (the resource allocation product)
- setting and maintaining standards of service for operational functions (the performance measurement product)
- analysis (the intelligence product)
- validating the effectiveness of policies (the evaluation product)
- understanding and addressing the impact of migration at the State level (the policy product).

Guiding Questions

1 What operational data collection systems are used for migration management in your setting? What are the characteristics of the operational data collection system(s) used for migration management in your setting?

2 Are policy makers and operational decision makers in your setting working with a comprehensive set of data that provides a full picture of what is going on?

3 To what extent are data confined by “stove-pipe” systems in your setting that lack interoperability or are not open to access by other parts of the migration management system?

4 What measures need to be taken to address deficiencies in the operational data collection and reporting system in your setting?

Key Message

Collection of reliable and useable operational data requires careful attention to consistency between data definitions and data collection methods. Data must be coherent in order to be usefully exchanged between different data systems.

Operational data are needed to:

- allocate and manage resources applied to migration management
- support migration intelligence analysis
- determine the extent to which policies are doing what they are supposed to
- determine the extent to which unintended negative consequences are being avoided.

It is important to remember that operational data are not solely a national resource. Exchange and sharing of data between States can add significantly to the capacity of any one of them to manage migration.

Terms and Concepts

Data collection method

The method whereby individual data elements are gathered and entered into the system

Data continuum

A conceptual model of a set of transactions with an individual migrant within the migration management process such that data collected at earlier stages on the continuum are used for decision making at later stages and validation or modification can take place at each individual client transaction

Data definition

Precise delineation of the meaning of an individual item of data

Data integrity

The extent to which collected data are consistent with the definitions used by the data management system and accurately reflect the activity from which they are generated

Data reporting

The end product of an operational data collection and data management system whereby volumetric or other data are presented in a formal structured manner as required by the users of the system to manage the system effectively and efficiently

Data transfer

The process of moving data from one location (the point of collection) to another location within the migration management process or from one data collection system to another

Harmonization of collection methods

A process to ensure that data elements collected by different authorities are not distorted through variations in the method of data collection

Integrated data system

A system of data collection that collects consistent data elements from a range of work activities along the continuum of an operational process, stores the data in a coherent way, and is open to access by all work activities that require it

Interoperability

The extent to which different data management systems are able to exchange and compare data elements with a known and acceptable level of assurance that the data elements are similar enough in definition and method of collection to permit meaningful conclusions to be drawn from analysis of the aggregate data product

Legacy system

A data collection and data management system that predates an organizational realignment of migration management functions or that has become outmoded in relation to the entirety of the information system or plans for its evolution and development

Operational data

Information collected during the operational implementation of a migration management work process

Performance measurement

The use of operational data to measure the performance of various parts of the operational delivery system. Examples would be processing times for visa applications, waiting times for border inspection, or timeliness in rendering decisions on requests for change of status.



Transaction data

Operational data derived from one or more discrete transactions with an individual migrant

Volumetric data

The lowest level of operational data consisting of a raw count of transaction volumes. Examples would be number of visas issued, number of persons inspected at the border, number of persons removed from the State, etc.

Topic One

Obtaining Information from Data

Operational data derived from migration management work processes are a primary source of essential information for any migration management system. They are used for a number of different purposes ranging from micro-management of migration management activities, to supporting a comprehensive understanding of the impact of migration at the State level.

The applications of operational data to migration management are, generally speaking, found at the level of the individual governmental authority, or authorities, responsible for implementing a specific policy or set of policies. At the highest level, that of the State itself, operational data also have a value. When they are combined with operational data drawn from other agencies, they can contribute to an understanding of the impact of migration on the State that is not constrained by the mandate or perspective of any one governmental department or agency.

This higher-level aggregation of operational data is essential in States where responsibility for implementing migration management policies is distributed throughout a number of different autonomous ministries or agencies. In other settings, where migration management policies are implemented through a single department, careful comparison of operational data with operational data collected by departments not directly involved in migration management can provide insight into the impact of migration on a State's educational, health or social welfare programmes. This can lead to closer harmonization of migration policies with policies in these other areas of public administration.

Section [1.9, *Developing an Administrative Framework*](#), discusses models for organizing a State's administrative approach to migration management.

The following important points provide a brief overview of four ways to use operational data that range from low-level volumetric analysis, to high-level and complex analysis.

Important Points

1 At the first level, operational data are needed to support the day-to-day management of the various individual activities that enable the State to manage migration. This is usually described as “volumetric” data since it reflects volumes of specified transactions such as visas issued, persons

inspected at the border, or asylum-seekers in the refugee determination process.

2 First level data are used to determine the human and financial resources needed to implement migration management policies and the optimum deployment of these resources. This use of data contributes to the resource allocation product of operational data management.

Example

The number of visa applications received each month, or border inspection volumes, may identify patterns of workload that reflect seasonal variation. This may require temporary additions to staff in certain locations or at certain times. At the micro-management level, subsets of these data can be used to determine staff deployment to various sub-functions, for example, visitor visa applications, or primary/secondary inspection tasks.

3 At the second level, operational data measure any gap between the performance of selected activities within the migration management process and predetermined standards of service that are set for these activities. Resources are not limitless, and decisions need to be made on the appropriate level of resources to be applied to any given function in the array of migration management activities. This use of data contributes to the performance measurement product as well as the resource allocation product of operational data management.

Example

Managers of a border inspection process need to determine the optimum staffing of inspection desks at a major international airport. This can best be done by establishing a “standard of service” that managers believe is acceptable, that the client regards as reasonable, and that managers and their staff are prepared to be accountable for maintaining. Operational processing data can be used to determine the extent to which this performance standard is being met so that the necessary corrective action can be taken if this is not happening.

Efficient operation of a migration management system requires a series of these measures that are supported by the collection of specific operational data. This provides managers, at different levels in the delivery organization, with regular accurate “snapshots” of the health of the operational delivery system.

4 It is best to select a relatively small number of measures when designing performance measures. Each measure should be supported by reliable operational data that can readily be collected. There

is, sometimes, a temptation to generate a large number of performance measurement indicators to cover every aspect of the operational process. However, this can lead to data overload and to a loss of credibility in the performance measurement system.

5 Performance measurement indicators are not designed to provide an explanation of everything that is going on in the operational system – they are, as they are called, “indicators” of how the operational system is doing on a number of key measures. Reporting of operational data outside the established range is not an explanation of what the problem may be. It is an indication that a particular

Example

The following is an example of a Performance Measurement System for migration management processes. It shows an indicator for the two key measures of “Timeliness” and “Quality of Decision Making” in four migration management functions.

FUNCTION	KEY MEASURE	INDICATOR
Visa Issuance	Timeliness	Elapsed working time between receipt of application and issuance of visa
	Quality of Decision Making	Ratio of “overstays” to visitor visas issued by individual post of issuance
Port of Entry Inspection	Timeliness	Average time taken for inspection interview at primary inspection line
	Quality of Decision Making	Percentage of persons appropriately referred to secondary inspection
Internal Processes	Timeliness	Elapsed working time between receipt of application for change of status and rendering of a decision on this request
	Quality of Decisions	Proportion of enforcement investigations that result in successful enforcement action
Detention and Removal	Timeliness	Elapsed time between issuance of deportation order and the departure of the person concerned
	Quality of Decision Making	Ratio of removals effected to removals attempted

aspect of the operational system requires attention, and further diagnosis is required before appropriate corrective steps can be taken. The important thing is that each migration management function is broken down into a number of key measures that reflect expectations and standards for the function. The indicator is a simple, reportable, usually numerical, piece of operational data or a calculation derived from one or more pieces of operational data. It can be set at a level that reflects an acceptable level of operational performance. Deviation from this norm or changes in the pattern of reporting then become “indicators” that this function needs closer examination to determine the nature of the problem and determine an appropriate response.

6 At the third level, operational data are used in the area of migration intelligence. Operational data are a primary source of information on the impact of irregular or illegal migratory movement on the State. This contributes to the intelligence product of operational data management.

The nature and requirements of a migration intelligence system are discussed in Section [3.11, *Migration Intelligence Systems*](#).

7 Raw data does nothing to help officials *understand* the impact of irregular or illegal migration.

Example

Volumetric data on the number of persons identified as being in the State without legal status tell officials nothing about the route they may have taken to arrive in the State, the methods they may have used to circumvent visa screening or border inspection, or the nature of the processes used to conceal their presence or to avail of benefits offered by the State in an inappropriate way. To reach this level of understanding, careful professional analysis of operational data is needed if there is to be an “intelligence-led” operational or policy response.

8 At the fourth level, operational data are used to evaluate the effectiveness of policies developed by the State for the management of migration. This contributes to the policy product of operational data management. Policy development in the field of migration is an extraordinarily complex and difficult exercise. It is not unusual to find that policies, designed in good faith and on the best available intelligence and understanding of the facts, fail to achieve their objectives because of new or unforeseen factors. Worse still, the policies may have unintended consequences that need to be addressed.

9 It is essential for a State to have the capacity to formally and regularly evaluate the effectiveness of its migration management policies. This contributes to the policy product of operational data management.

Example

In the area of refugee selection and settlement, officials need to know how effective the selection process is in meeting the policy objectives it was designed to meet, and how effective resettlement policies are in integrating the refugee into the State.

In the area of border management, officials need to know how effective the border inspection process is in identifying persons who should be denied entry into the State.

What Do You Think?

In some instances, judicious use of operational data can serve to demolish inappropriate perceptions or “myths” that may have developed in regard to such things as the economic contribution of migrants, the incidence of migrant criminality, or the impact of migration on urban or metropolitan areas.

Apply What You Have Learned _____

1 What kinds of data does your State collect in order to assess the impact of migration?

2 Which of the four uses of operational data could be improved in your setting?
How could this be accomplished?

3 What are the characteristics of the operational data collection system(s) used for migration management in your setting?



4 How does your State evaluate the gap between a standard and actual migration management practice?

Topic Two

Data Sources and Issues

Operational data are derived from a range of work activities that take place within a number of different migration management processes. The main operational processes from which operational data are derived include:

- visa processing
- border inspection
- refugee determination
- migrant settlement
- enforcement operations.

These operational processes involve a wide variety of migration categories on a continuum of transactions, many of which will involve a single person. For example, the visa applicant who is granted a visa is subsequently subject to border inspection and, if the terms and conditions of entry are not observed, to enforcement action.

An ideal system for collecting operational data recognizes the nature of this variety and continuum, and ensures that data collected at the first contact with a migrant are accessible at each subsequent stage in subsequent transactions with the individual. This operational data management system supports effective, informed decision making at each step in the continuum, and also affords the opportunity to validate or modify data as the process moves along.

The important points that follow explore some of the problems and challenges that surround data collection, operations, and management in systems that fall short of the ideal. If it is at all possible, these potential problems need to be addressed in the early stages of designing operational work processes, because once data problems surface, it may be too late or too expensive to modify the work processes from which they are generated.

Important Points

1 For most States the reality is quite different from the ideal system for operational data management. The reality often consists of a “stove-pipe” approach, whereby each operational process has its own system for collection, storage, and reporting of the data pertaining to its specific operations.



Example

In some cases, this may take the form of “legacy” systems developed in earlier forms of governmental organization. In other instances, the processes are not carried out by a single governmental agency. For example, visa issuance is the responsibility of a Foreign Affairs ministry, border inspection the responsibility of another department or agency, and in-country enforcement processes the responsibility of yet a third entity. In these, not uncommon, settings the task of collecting and using operational data can be further complicated by proprietary attitudes toward ownership of the data. In some settings, there are difficulties disentangling migration-related data from other non-migration data in a wider collection and storage system.

2 Operational data should be viewed as a national resource and not as a proprietary product of the governmental agency that generates it. Sharing and exchange of operational data between agencies and/or between States can significantly improve the State’s capacity to understand the nature and impact of migration and to develop appropriate policies and operational responses. Maintaining a “stove-pipe” approach to operational data does a serious disservice to policy makers and to managers of the overall migration management system. They are seldom presented with the full picture and are required to make operational decisions and policy recommendations based on partial information.

3 There is no, or limited, capacity to extract operational data “horizontally” or in aggregate and to draw conclusions in a data management system that is “client focused”. In such a system it may only be possible to know everything one needs to know about a particular client. For example, this system would be able to confirm the deportation of a given individual, but it could not identify the number of persons deported to a particular country over a specified time.

4 “Data-mining” techniques and software provide some solutions to this problem but can run into difficulty if there is variation in data definition or collection methods. Also, the data may:

- be useful for individual case processing but not be what is needed by managers of the system
- be collected in such a way as to render it meaningless for analysis or decision making
- not be stored or reported in a way that facilitates meaningful comparison with data drawn from other operational processes or activities.

Apply What You Have Learned _____

- 1 To what extent are data confined by “stove-pipe” systems in your setting that lack interoperability or are not open to access by other parts of the migration management system?

- 2 What measures need to be taken to address deficiencies in the operational data collection and reporting system in your setting?

- 3 What can remedy the disadvantages of a “client-focused” system identified in this Topic?

- 4 Describe a gap between the ideal system suggested in this Topic and the practice in your setting.



Topic Three

Designing a Collection System for Operational Data

In designing a system to collect and manage operational data, there are two general scenarios. Whichever scenario applies in a given setting will determine the approach to developing an effective data management system, the steps that need to be taken to do so, and the investment of time and financial resources required to achieve the desired result.

The first scenario is the ideal. It describes the steps that a State can undertake when introducing new policies and procedures that require some level of automated support to have the capacity to report volumetric or other data.

The second scenario is a more common one when a State wants to develop a comprehensive, integrated data management system. In this scenario, the State is already working with a number of “legacy” data collection systems and with established work processes that are only open to minor modification. In this situation a different approach is required. The existing or “legacy” databases may conceal differences in the way key data elements are defined or in the way the data are derived or input.

The following need to know points illustrate the differences between these scenarios by providing step-by-step decision checklists. They also identify the challenges that States can address to close the gap between an existing and an ideal system.

What You Need To Know About... *Designing an Ideal Data Collection System*

Identify the time required for developing the specifications of such a system in terms of data identification, data definition, consistent data collection, and coherence and data-transfer procedures.

Identify the users of the data and the purposes for which they will use the data.

Identify the data that will be required to meet the needs of these users.

Develop specifications for the data management system.

Decide whether or not it is to be an integrated data system in which information collected and stored in one location will be accessible to other locations carrying out the same function.

Decide if the data are to be accessible by other agencies and, if so, under what circumstances or protocol.

Determine the most effective method for collecting operational data and inputting them into the system. This is a significant decision-point. In some models of data collection and storage, the collection and inputting of data is seen as a specialized function that occurs in tandem with, or subsequent to, the operational process that generates the data. It may, for example, consist of requiring an official to make written notations for later entry into the data system. The difficulty with this model is that operational staff have no investment in the accuracy and timeliness of the data, and the data collection, or data entry, functions often deteriorate during periods of operational pressure or staff shortages. Wherever possible, therefore, and particularly as work processes are automated, it is more effective to generate operational data as a by-product of implementing work processes. Thus, for example, the inspection of travel documents at a point of entry could furnish complete and consistent data if the automated procedure for reading a passport or visa also captured the data.

Determine the design of the “hardware” used at various points in the operational delivery system. This is an issue that bears on the automated collection of operational data. In the early days of automating procedures, data were collected by “dumb” terminals at workstations and transferred to a database maintained on a central server. Cost considerations often drove the adoption of this model. The weakness of the model is that, if the central server ceases to function for a period of time, data for that period go uncollected, or are manually gathered and input in a way that increases the risk of distortion. Consideration should, therefore, be given to establishing a system whereby transaction data can continue to be collected by, and stored in, the workstation terminal and subsequently uploaded to a restored server with no loss of integrity or completeness.

Design and validate reporting formats for the data to be collected. This will allow any subsequent rethinking, fine tuning, or identification of gaps in the data to be addressed before implementation of the operational process, and its attendant expenditure of material and training resources.

What You Need To Know About...

Improving an Existing Data Collection System

Carry out a methodical review of existing sources of data.

Identify existing databases that will be incorporated into the system.

Examine the data definitions and data collection and aggregation methods used by each of these databases.

Agree on a means for harmonizing data collection procedures. If this is not feasible, then there is a need to develop qualifying statements for the data to reduce the possibility of misinterpretation, or drawing inappropriate conclusions. This issue of incompatible databases was addressed by European States when they began to share information in order to obtain greater insight into patterns and trends of migrant smuggling. Initial exchange of statistical and analytical information on travel routes and travel documents used by smuggled migrants identified a number of difficulties with the comparability of the data. These difficulties resulted from differing methods of estimation, and discrepancies with respect to definitions of the data elements. It was also noted that where data had been collected from various departments and agencies the risk of differing interpretation of the data elements multiplied according to the number of parties involved. Development of a more effective information exchange system was achieved by following a process similar to that outlined in the preceding point.

Example

EURODAC is an example of a regional cooperation initiative that is underpinned by legislation. The collection of fingerprints of asylum-seekers to prevent repeat applications in each of the member states of the EU has the potential to reduce uncertainty as to who has been where.

Similarly, the Schengen Information System (SIS) provides vital support for the operation of the border-free system among Schengen states. It acts as an “alert list” of those who have committed offences. If a visa applicant’s name appears in SIS, the visa is generally denied. Member states feed the system with information through national networks that are connected to a central system.

Apply What You Have Learned _____

- 1 What measures would contribute to harmonization of data collection in your setting?

- 2 What steps could be taken to improve the data collection system in your State?

- 3 How serious are “legacy” data collection system issues in your setting? What can be done to address them?



Concluding Remarks

This Section reviewed the nature of operational data, the role of operational data in the management of migration at the State level, and issues related to the design or improvement of systems to collect and manage operational data.

Resources

More detailed examples of how operational data are used by governmental agencies tasked with managing migration can be found in the Web sites of these agencies.

The Australian approach is particularly well developed and can be accessed at:

<http://www.immi.gov.au/statistics>

Information on the use of operational data by the Bureau of Citizenship and Immigration Services in the United States Department of Homeland Security can be found at:

<http://www.immigration.gov/graphics/shared/aboutus/statistics/index.htm>

Information on how the Canadian Department of Citizenship and Immigration incorporates operational data into a wide range of research and reporting products can be found at:

<http://www.cic.gc.ca/english/research/index.html>

A number of useful contacts also exist for those who wish to further explore the issue of developing performance measures and performance measurement indicators.

The Performance Measurement Association offers a site for linking with others in the field at:

<http://www.som.cranfield.ac.uk/som/cbp/pma/>

A similar service is provided by the Foundation for Performance Measurement through its Web site at:

<http://www.fpm.com>

In addition to these general sites, there are others that deal more specifically with the challenge of developing indicators that are meaningful and useful in the area of public administration.

Rutgers University offers “A Brief Guide for Performance Measurement in Local Government” at the following Web site:

<http://newark.rutgers.edu/~ncpp/cdgp/Manual.htm>

Rutgers University offers a more comprehensive contact point on Performance Measurement for Government at:

<http://accounting.rutgers.edu/raw/seagov/pmg>

A useful glossary of performance measurement terms and definitions, together with a practical description of the differences between performance measurement and evaluation, is provided by the US Government Accounting Office at:

<http://www.gao.gov/special.pubs/gg98026.pdf>

A detailed discussion of performance measurement in the health care field is available at <http://www.ahcpr.gov/chtoolbox/understn.htm> and may provide some insight into the application of this methodology in a governmental setting.

In this regard, an interesting, if somewhat dated, review of best practices in performance measurement in the US Government is available at:

<http://govinfo.library.unt.edu/npr/library/papers/benchmrk/nprbook.html>

Another useful site for practitioners in the public sector is available at the Institute on Governance in Canada Web site. It deals with Accountability and Performance Measurement in the governmental sector:

http://www.iog.ca/knowledge_areas.asp?pageID=3&area=2