



EU Project “Development of Integrated Social Services for Exposed Children and Families”

ANALYTICAL NOTE

**APPLYING UNIT COST INDICATORS IN SOCIAL POLICY DESIGN AND IMPLEMENTATION:
ANALYSIS OF CURRENT SITUATION AND PROPOSED POINTS TO ACTION**

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Applying unit cost indicators in social policy design and implementation: analysis of current situation and proposed points to action

1. The debate on the role of service unit costs in the public finance system

Overall interest in methodologies for unit cost calculation and application is growing. Over the recent years, reforms in social policy in Ukraine focus increasingly on the importance of developing effective financing systems for service provision. In particular, numerous discussions look at ways to assess and apply unit cost of service delivery. The need in unit cost assessment is mentioned in connection with the following challenges: introducing social service commissioning and contracting, diversifying social services network, increasing the role of alternative and community-based services, and improving budgeting techniques at all levels.

Existing analytical materials can serve as a platform for developing an action plan. A number of analytical materials dedicated to this issue were developed in Ukraine with involvement of international technical assistance experts based on wide consultations with officials of governmental agencies. Comprehensive analysis was carried out by DFID *Facilitating Reform of Social Services in Ukraine* Project (FRSSU) in collaboration with the Ministry of Labour and Social Policy and Ministry of Finance, which was documented in a number of analytical notes on the process of calculating unit cost (see (1) and (3) in the list of references). In addition, FRSSU Project and World Bank experts worked together to develop and present to the government draft terms of reference for a pilot unit cost assessment study, which was planned under the funding of World Bank loan for the Ukrainian Social Investments Fund (2). As of today, this document remains the most fundamental publication on the question in Ukraine. The recommendations on the specific procedures for assessing unit cost of services were formulated based on detailed analysis, which was performed by an EU Project *Strengthening Regional Social Services* based on the model of delivering social services to single elderly people in Lutsk (4) and EU Project *Developing Integrated Social Services for Vulnerable Families and Children* based on the case study of Kyiv Oblast (5).

A common vision for the role of this instrument is currently lacking. Recommendations on the necessity of applying this instrument usually focus on methodological details of procedures for unit cost assessment. At the same time, explanations on why unit costs should be calculated are usually rather generalised. Most materials that are currently available in Ukraine dwell on the importance of systems of unit cost assessment for all aspects of the reform process. However no practical guidelines are given as to how this information should be applied at specific stages of policy-making process and implementation of the service delivery policy. Consequently, the stakeholders in the reform process lack a common vision of the instrument, and, hence, of the steps that have to be made to introduce it and the optimal distribution of responsibilities between various government levels and agencies. As one side-effect, this ambiguity makes it difficult to agree and approve terms of reference for donor initiatives and projects in this field.

In current discussions, opinions clash on a number of critical issues. Some issues regarding unit cost assessment for social services are not only open but have become stumbling blocks to further discussion. Namely, controversial questions include:

- The role of unit cost indicators in defining the size of intergovernmental transfers - what should it be and should the indicators be used at all at this stage?

- Scope and regularity of unit cost assessment: what is the role of pilot and sampled studies of unit costs; how regularly and under which principles they should be conducted; what should be the scope and the system for data collection; and how to organise it?

The purpose of this analytical note is to systematise existing materials and to formulate proposals for a common vision and an action plan. Drawing on the available Ukrainian materials and international expertise, the note attempts to define clearly and practically the following points:

- The role of unit cost indicators at all stages of social policy implementation;
- Core principles and methods for calculating such indicators;
- Proposals for next steps towards introducing this instrument in Ukraine.

2. How and when is it helpful to analyse unit cost data?

The main purpose of unit cost indicators is to inform decision making in social policy. Information about how much it costs to provide a certain service can play a deciding role at various stages of decision-making by officials of all levels of government. However, it is clear that stakeholders should make the whole range of various decisions in the process of policy design and implementation. This variety is illustrated by the list of the following diverse decisions that should be considered:

- What strategic goals should the reform pursue?
- What challenges will the social policy face in future (for instance triggered by demographic changes) and what preparatory action can be taken?
- What should be the balance between different types of services in the overall menu available to clients?
- What obstacles will appear on the path of reform and how to overcome them?
- How should the scope of funding social services compare to other public programmes and how can it be reasoned?
- What is the most effective distribution of responsibility for services between various levels of government and service delivery organisations?
- What should be the size of intergovernmental transfers for funding social services to the budgets of various levels?
- What can be the realistic minimum of guaranteed services for people and standards of their delivery?
- How to select the most effective providers of social services and how to organise funding of services to be delivered by these providers, as well as control effectiveness of this spending?

Reflecting the differences in the type of decisions, approaches to collection and analysis of data on unit costs to inform these decisions should also vary. Moreover, while unit costs play a decisive role in making some decisions, other processes may use such information only as secondary or additional.

Decisions in social policy have to consider both financial and non-monetary factors of service effectiveness (2). Effectiveness and social value of social policy activities, and of social services in particular, depends not only on financial resources invested, but also on a number of other factors. These “non-monetary” factors include inputs, which are more difficult to evaluate in financial terms, such as attitudes and values of social workers, institutional customs and traditions, approaches to policy-making and decision-making. The impact of intangible factors can be quite essential and should be dully taken into account alongside with the information on unit cost of social steps or services.

Funding social policy can be imagined as a multi-stage process of procurement of social services using public funds with, trying to maximise their effectiveness. The process is "multi-stage" due to the organisational complexity of service delivery system, including the need to decentralise their delivery. In other words, the central government, which is responsible to the people for practising human rights and implementing national programmatic documents, usually funds respective programmes through a number of 'intermediaries', which are granted the funds and endowed with responsibility to make further procurements. The 'intermediaries' in question include local governments, which actually finance social programmes from their budgets. What are the various links and stages in this process, and what are the roles of all counterparts, depends on the state structure and the model of decentralised distribution of state functions, specific to each country.

Every stage of this complex process may apply different approaches to allocate funds and monitor their effectiveness, depending on the nature of the “agreement” used at this stage between the source of funding and the stakeholder taking over further steps related to the service. The nature of the agreements may vary vastly. In particular, approaches and information the central government needs to use in assigning funds for implementation of the delegated liabilities between local budgets will essentially differ from approaches and information which is used by local governments for identifying a specific range of services and specific service providers.

- **The last link in the procurement process - the choice of concrete service for each client and selection of an appropriate provider stands out due to the choice of alternative options (services and providers)¹ and needs to actively use unit cost data on a regular basis.** At this stage, the main decision of the *source of funding* (specifically local government) – is a decision about the balance between various types of services to be procured and the choice of providers based on the number of economic and social criteria. Decision-makers at this point need to make of range of numerical projections. As the next chapter details, there is a wide range of different research data that can be used for choosing between alternative options and service packages and their providers. It is at this stage that there is an immediate need in collecting and actively applying various types of information about the unit cost of service delivery. Moreover, to make these assessments properly, the information of the costs of service delivery should be complemented by quantitative indicators of service effectiveness. In addition, at this stage, the data on unit costs of services is of critical importance for the effective organisation of financial relations with service providers (for designing appropriate contracts and control terms).
- **On the other hand, when the central government allocates funds for delegated functions among local budgets, this decision assumes a principally different type of “agreement”. It also requires fundamentally different information on the cost of services.** At this stage, the nature of the “agreement” is a joint decision to decentralise public functions. The degree and the nature of decentralisation may vary. In traditional

¹ Apparently, only if the intitutional and statutory regulations allow such freedom of choice (*de jure* and *de facto*).

classification, there are three degrees of decentralisation: the most powerful, *devolution* (when all decisions on the implementation of the corresponding functions are made locally), moderate - *delegation* (when the local level is empowered to make decisions which are to some degree controlled by the centre) and the weakest - *deconcentration* (when local level only implement certain tasks of the central government).

- The weaker is the degree of autonomy granted to the local level, the stronger the role of the central government resembles direct service procurement.
- When a country opts for the model, which gives more autonomy to local government (e.g. when delegating takes place), the role of the central government is different. The central level typically retains control over certain aspects of services delivery (i.e. their quality and accessibility). However, the central government performs these functions not through direct influence over the range of services procured and over selection of providers. Rather, it exerts influence through a system of reasonable, realistic and controlled effectiveness standards of service delivery to ensure that its requirements are met.

The central government also remains responsible for assessing social expectations regarding guaranteed rights for social services. Accordingly, the central government is responsible for macroeconomic decisions about the optimal size of public sector and the need to augment it or redistribute among the main social functions. Although many factors are taken into consideration for making decisions of this nature, they should necessarily include objective calculations as to how realistic are the declared civil rights. Such calculations should incorporate information on unit costs of service provision. However, approaches to using such indicators in strategic decisions for social policy design should be different from approaches to using them for direct procurement. In strategic planning at policy level, data should be collected based on representative samples; analysis should be performed in cases where it has to inform specific strategic tasks (not as a routine procedure) and should not be related to the tactical decisions about allocation of funds to specific budgets and providers.

- **Relations between governmental levels in Ukraine are still evolving and retain elements of both delegated and deconcentrated systems.**

Legal definitions. The principle of delegated expenditures was introduced to Ukraine in 2001 within a newly adopted Budget Code. Introduction of this principle symbolised an attempt to establish a new paradigm in the Ukrainian system of intergovernmental fiscal relations. Prior to the adoption of the Budget Code, the post-soviet budgetary system regarded local budgets of all levels as components of a single 'consolidated' national budget. Essentially, every smallest local expenditure article had to be approved, through a lengthy cascading process, at the central level. The Budget Code attempted to replace this system with a fundamentally new approach, allowing each level of local government to design and approve its own. This has transformed the former term of 'consolidated' (konsolidovanyi) budget into a new term of 'combined' (zvedenyi) budget which became a purely analytical instrument devoid of legal effect.

In addition, the new Budget Code has divided all expenditure functions into three groups, each group broadly describing responsibilities most appropriate for being 'central', 'delegated' or 'own/local' costs, depending on the government level responsible for funding and implementing them. The idea behind 'delegated' expenses was that the central government remains responsible for the delivery of this category of public services, but since they can be more effectively delivered locally, the funds

are delegated to the corresponding local budgets for service delivery. On the other hand, local governments were made fully responsible for the quantity and quality of their “own” local programmes.

The Budget Code itself (or any other document) has not directly defined any single one of the above mentioned concepts. The issue of defining responsibilities of different levels of government was deemed too fundamental and required broader political consensus. Still, although the terms of delegated and local expenditures are not used in any law, the idea behind them was introduced through application of the corresponding system of intergovernmental transfers. The Budget Code has clearly defined the list of expenditures that can be funded by different levels of government, and it has also defined principles for intergovernmental allocation of revenues to cover these expenditures. The new revenue allocation system assumed that equalisation transfers were calculated depending on the relative expenditure needs for delegated functions, while spending needs for “own local” functions were not included into transfer calculation. Therefore, the official terms describing these three types of expenditures – (1) expenditures covered from the national budget, (2) expenditures covered from local budgets and included into intergovernmental transfers and (3) expenditures covered from local budgets and not included into intergovernmental transfers - have in fact become synonymous to central, delegated and own/local responsibilities.

Practical complications. Defining delegated responsibilities only in *budgetary terms*, without full legal implementation of the concept, was a forced step of crucial importance. Even though it was somewhat limited in scope, it allowed to clarify relations between levels of government and provoked a systemic discussion, based on unified terminology, in the professional circles on how to further improve existing allocation of responsibilities. Nonetheless, because the reform was not complete, the concept of delegated responsibilities has not yet been practically introduced in Ukraine to this day. This fact is manifested in the following symptomatic problems:

Firstly, the fundamental legal definition of responsibilities of different level governments to deliver public services remains a highly controversial question. Allocating types of expenditures between the budgets has not been an adequate replacement for such legal definition. To the contrary, it has accentuated the lack of political consensus on the question and the dire need in such consensus.

Secondly, since the adoption of the Code, the local governments have not been granted sufficient level of institutional autonomy to make decisions on the organisation of public services delivery. As explained earlier, the concept of delegating responsibilities assumes that the central government *delegates* some of its functions to the local level in order to make them more effective and suitable to local needs. But delegating functions without the flexibility in administering them defeats the purpose since it does not leave local governments any space for making decisions which could accommodate the local context and maximise effectiveness as intended.

In the classical delegation scenario, greater effectiveness is ensured by two related conditions. On the one hand, authorities receive delegated functions with sufficient governance freedom in respective areas to deliver these functions effectively. On the other hand, the delegating level introduces appropriate control mechanisms to check the quality with which the delegated services are provided (ensuring that agreed performance indicators are achieved and / or national quality standards are maintained). Achieving this

requires a number of additional steps. E.g., effective quality control of delegated services at sub-national level calls for introduction of a range of effectiveness indicators and for establishment of a specific competent authority at the regional level to perform this control function (of the type similar to Poland's regional accounting chambers).

In Ukraine, local authorities responsible for “delegated” functions still remain hostages to the central regulatory policy, which, in turn, is often focused not so much at maintaining standards as at imposing a uniform and universal method of service delivery throughout the whole country.

Thirdly, the Budget Code has allocated expenditure functions between the levels of government by as specified *categories of budget services and institutions* (for instance certain types of hospitals and schools), not by defining actual functions (e.g.. *primary medical aid or primary education*). This continued to dictate local governments which specific types of institutions they have to use for delivering delegated functions. This discourages them from looking for alternative, and perhaps more effective, approaches.

The forth remaining problem is a perpetual deficit of local revenue sources and excessive dependence of local budgets on equalization transfers. Theoretically, this situation could be acceptable (if the transfers were calculated based on generally accepted methodology and the funds were transferred fully in a timely fashion). However, transfer dependence in Ukraine is problematic not so much because it leads to scarcity of resources, but because how it crowds out the flexibility of local governments in decision making. Local revenue sources (duties and taxes where local government can regulate both the tax base and tax rates) are significant for two reasons. Apart from being an additional source of local revenue, they also offer extra space for manoeuvre and create opportunities to pursue a more active local policy in performing delegated functions.

To summarise, the features of Ukraine's intergovernmental relations clearly indicate that, as of today, the key budgetary responsibilities have not yet been *delegated* to sub-national level and still remain *deconcentrated*.. This classical distinction in terms is rather critical. Traditionally, the degree of decentralisation is assessed by the following scale: the most powerful level of decentralisation is called *devolution* (when all decisions on the implementation of the corresponding function are made locally), a moderate degree implies *delegation* (when the local level is empowered to make decisions which are to some degree controlled by the centre) and the weakest degree is called *deconcentration* (when local level only implements certain tasks of the central government)..

- **Increasingly strategic role of the central government in a delegating system implies that unit costs of services should not directly affect the size of the *normatives of budget sufficiency* in the formula for allocation of intergovernmental equalisation transfers.** As described in the Note on page 8, the existing formula was developed to simultaneously address two tasks: inter-regional budget equalisation and covering the gap between delegated responsibilities and locally available financial resources. The variable called *normative of budget sufficiency* in the formula is purely mechanistic and is obtained by dividing the projected volume of delegated spending in a certain sector by the overall projected number of potential recipients. This variable only shows what overall scope of funding was allocated to a specific sector throughout the year - that is the scope of the

generally accessible resources in the field. The decision about the scope of funding is made (and should be made) prior to the application of the formula based on a completely different set of procedures. The formula is intended to only distribute the resource among the territories based on objective differences between them (of demographic and geographical nature).

- **Meanwhile, the government should use sampled targeted studies of the cost of services as an important tool to support policy-making.** As has been noted, such decisions include fundamental issues of social policy that affect the overall scope of the allocated resource, distribution of powers between government levels and agencies, as well as introduction of the respective quality standards. Deliberation and discussion of these decisions can be made more effective if based on objective analysis of the projected budget implications of the decisions. For instance, when a regulatory body is developing new standards or requirements for the service it should make an objective analysis of the projected outcomes of the decisions: from the point of view of their benefits and cost to the budget. A similar analysis can be made for projecting budget implications of demographic changes and reflecting this in policy-making.

- **One way to use the instrument for analysing unit cost of services at the central level could be to create a reference database on the approximate costs of specific types of services.** According to one of the existing proposals (2), the first step to introducing the instrument for analysing unit cost could be a sample study of the approximate current costs of the main types of services delivered in Ukraine at present. The data base with the indicators in question could serve as a source of reference information for all stakeholders of the social policy and especially for people involved in defining standards of service delivery.

Summary on the role of unit cost indicators:

The format of collecting and using data on the unit cost of services should differ. It directly and essentially depends on the specific application in social policy that it is intended to be used for.

- It is not possible to develop a system for unit cost analysis without a clear vision of the final goal for the calculations.
- In the majority of cases, other data, namely service effectiveness indicators, should complement unit costs information.
- The central government should draw on the unit cost information as on an ancillary instrument in the form of separate targeted research for analysing strategic objectives of social policy (i.e. for initiating reform, justifying distribution of resources between public sectors, defining the system of power distribution between levels of government, developing service standards, etc.).
- Local governments should make active and regular use of the unit cost data for making direct procurements (for identifying the most effective service packages and providers and for concluding corresponding agreements).

Box: Formula as a mechanism for covering horizontal and vertical gaps

All budget equalization systems are created to help the central national government to address two main tasks:

On the one hand, decentralisation of functions means that local governments incur certain additional cost liabilities and thereby create a certain *vertical gap* - that is a gap between expenditure liabilities and local financial capacities. The central government needs to find a way to breach the gap. Possible solutions include transferring tax collection to the local level altogether, sharing the taxes and/or introducing a range of different transfer systems.

The other task of the central government is to develop a position regarding regional differences in their ability to finance the services. The discrepancies between budgets of the same level in this case are named a *horizontal gap*. Usually governments use certain equamechanisms between the budgets, at least regarding the services which the central governments are obliged to deliver to certain categories of people in accordance with the laws.

Countries devise different systems for breaching vertical and horizontal budget gaps that differ vastly and are conditioned by numerous factors, including peculiarities of the political system, national concept of the distribution of responsibilities between government levels, preferences of the voters as to the optimal degree of equalisation between the regions, etc.

Ukraine's approach to fiscal equalisation is not unique and has elements which are frequently used in other countries. It was constructed to use one formula (and hence one set of transfers) for *two parallel tasks*: firstly, to level horizontal imbalance between budgets of one level and equalise the difference between them, and, secondly, to breach the vertical gap between the delegated expenditure liabilities, transferred to the local level in accordance with the Budget Code and the sources of revenue the local budgets have at their disposal.

This attempt to address two tasks is reflected in the twofold principle of the formula of transfer calculation:

- **Revenue part of the formula** calculates estimated volume of the revenue-earning capacity of each budget in two steps. First, the coefficient of the relative tax collection capacity of the budget, which compares its revenue positions against the national average (the average value is taken as one and the budget coefficient has a value below one if its capacity is below average and above one if it is higher than average). Secondly, the coefficient received is multiplied by the average projected volume of collected delegated revenues for the coming year and thereby a UAH estimate of its projected relative revenue capacity is generated for each budget. Thereby the received volume of relative revenues contains information on the relative rating of this budget against other budgets in the country and a projection of its revenues in the absolute value.
- **Expenditure part of the formula** for each expenditure function uses a set of indicators of the relative demand in corresponding services (i.e. population or number of school students), which is multiplied by the projected level of average corresponding costs in the country per unit. Certainly, the notion of "*projected level of average costs calculated per unit of need indicator*" sounds cumbersome and calls for detailed clarifications. However in spite of its drawbacks this terms more accurately reflects the nature of this variable than its commonly (and legally) accepted name of *financial normative of the budget sufficiency*.

This inappropriate term contributed to the sharp conflicts and misunderstandings continuing over the expenditure side of the formula. This is due to the fact that the *financial normative of the budget sufficiency* is actively associated with the notion of *normative*, as a certain standard of expenses, which have to be made by local government and *budget sufficiency* can justifiably be interpreted as volume of funding sufficient to cover certain budget needs.

But in reality none of these interpretations reflects the approach which was adopted for the formula that is currently used. In the revenue part, the *financial normative of budget sufficiency* is only a mechanistic indicator generated by dividing projected scope of delegated expenses in a certain field by the number of its potential recipients (i.e. population of Ukraine or national total of students of a certain category). To estimate the projected scope of expenses of a specific local budget this total national average per capita *projection* is multiplied by the number of potential recipients residing on the given territory. In other words, as in the revenue part the calculation is twofold: (1) estimation of the total national average projection, and (2) application of this projection to each city and rayon based on their relative rating against others in the country.

Considerations as to why complications arose with the introduction of the twofold idea formula in Ukraine are outlined in the annex.

3. How exactly is unit cost of service calculated?

3.1. Types of analysis where unit cost indicators are used

Depending on the goals of analysis and possibilities of data collection, several types of economic assessment of alternative ways of funds utilisation are distinguished. All of them use information on costs associated with service delivery but compare this information with different indicators of achieved results. The following summary is taken from a more detailed description provided in (2).

- **Cost minimisation analysis.** This is the simplest type of economic assessment, which considers only cost indicators and does not take into consideration the indicators of the expected results of the funds utilisation. This analysis can serve the only purpose of identifying the cheapest alternative. Accordingly, its use is limited to the cases when the analyst is prepared to make an assumption that all alternatives in the analysis are equally effective.
- **Cost-effectiveness analysis.** This type of analysis is quite popular, especially in health care (2). Calculations measure benefits in so-called *natural units* - i.e. years of life gained, number of disability free days, depression level, etc. In case of social services the improvements in family relations, ability of elderly people to be self-sustainable or ability of disabled people to perform certain functions could be taken as units. Then, it is possible to define for each alternative project (i.e. alternative types of services or providers) a measure of proposed costs per one *natural unit of outcome gained*. Priority is given to the projects with the lowest value of costs per unit of outcome.
- **Cost-utility analysis.** In essence, this is special case of cost-effectiveness analysis, which measures outcomes specifically as “utility” or improvement in quality of life. Quite often 'Quality Adjusted Live Years' or now commonly accepted abbreviation QALY are used as utility indicator. To estimate this indicator, life years are adjusted with a number of coefficients according to the impact of various health conditions on the quality of life. This analysis is more widely used in health care and not commonly used for social services.
- **Cost-consequence analysis.** As in the simple cost-effectiveness analysis, this approach estimates project costs per certain *natural unit*; however, it assumes that the same activities may simultaneously have several different effects. This analysis is based on the fact that for many services it is impossible to measure effectiveness with just a single unit.
- **Cost-benefit analysis.** This approach measures project costs and outputs in monetary terms. Thereby it becomes possible to directly compare the cost and benefits of the proposed steps. Certainly it is difficult to use this method if it is hard to estimate the results of some events in monetary value. In such cases it is recommended to distinguish monetary and non-monetary dimensions on the output which in fact approximates this method to the cost-consequence analysis.

The range of analytical approaches to be used depends on the goals of the research, subject of analysis and, most importantly, on the available resources. Cost-consequence is most popular in social services domain in the EU member states, as it allows for multiplicity of effects of each step in social policy as well as difficulty of expressing them in monetary values.

It is clear that the more complex is the adopted approach to measuring effectiveness, the greater demands its places on the availability of data on unit costs. To calculate costs per complex effectiveness unit, researchers have to have access to detailed cost data on service delivery and to classify them accordingly. For this reason, analytical instruments have to be phased in gradually and go hand in hand with the continuous expansion of the database on the various cost aspects of social policy.

The main approaches to collecting and processing information on various cost aspects of services are presented below.

3.2. Approaches to sequencing the actions

Two principles are applied for the logic of calculating unit cost of services: *top down* and *bottom up* calculations.

- **Top down calculation.** This is the simplest approach. The researcher collects data on all costs that were actually incurred for service delivery and divides them by the number of units of services delivered. Given its simplicity this approach is useful as a quick instrument, especially at the initial stages of discussions of policy questions. However it may be difficult to apply this approach as comparisons grow more complex, when it is not possible to clearly match the actual costs to the specific services delivered - for instance to compare services delivered by different organisations.
- **Bottom-up calculation.** This approach is more complex. The researcher identifies a complete list of resources requisite for delivering each type of service and tries to objectively evaluate them. The final value of the indicator is the total of all estimated costs. The advantage of this approach is that it allows to encompass a more realistic scope of costs. As a rule this analysis is more difficult to carry out, but its results are much more illustrative. This type of analysis is optimal for the majority of cases.

3.3. General principles

Regardless of the goals, type and logic of analysis, unit cost assessment should follow the principles outlined below:

- **Cover all aspects of the service.** Calculations should include estimated costs of all service components: remuneration of all specialists involved, utilities, maintenance of premises costs, etc. Administrative costs should also be accounted for. In addition, sometimes it is necessary to also take into account resources received by service provider from other organisations (for instance if certain projects are shared).
- **Consider specific nature of service utilisation by clients.** Quite often some services are used concurrently by several client groups (i.e. residential facility client group and group of children who receive consultations from a social worker). To correctly calculate the time spent it is important to have a clear understanding of the mode of delivery of each service.
- **Reflect long-term marginal costs.** Marginal cost is the change in total service delivery costs necessary to serve one additional client. It is rather typical, and misleading, to think of unit cost information assuming that it shows how much it costs to provide services regardless of how many clients are in the system, and that the costs per client will be the same no matter how many new clients have to be covered. However in reality this is not always so (for example in case when the institution assessed is working at its maximum capacity). In the long-term these considerations can be of critical importance.

- **Consider alternative costs.** Alternative costs are benefits that could be received if the resources were spent differently. In spite of the fact that this aspect of analysis appears complicated and of low priority, it really deserves meticulous attention. Since the main goal of any economic assessment is to inform decision-makers on more effective allocation of limited resources, this assessment will be much more useful if it can reflect which opportunities were lost to implement this particular project.
- **Up-to-date information.** The analysis should reflect the planned service delivery period (or use the results otherwise) since the prices can change in the meantime. For this reason the most recent cost data should be used and if necessary adjustments for inflation should be made.

3.4. Typical algorithm for calculations

The generally accepted sequence of steps for calculating unit costs (based on *top down* approach) includes four steps described below.

- a) **Description of service ingredients.** This stage requires making a fully exhaustive list of all aspects of service delivery. This detailed analysis should serve as a platform for assessing monetary value of separate elements. It is also very useful for identifying service elements that may appear free of charge (for example if some services are rendered by a specialist paid by another institution, free use of facilities or use of volunteers).
- b) **Identification of unit of measurement.** To identify it, all types of activities connected with service delivery should be clearly listed and used for selecting a unit of measurement. This task will be more complicated for some types of services. An example of an obvious logical unit could be the number of days spent in the facility, number of clients of day care institutions or a percentage of utilised capacity of the institutions. This task will be more complex if the facility deliver several types of services at the same time (i.e. apart from day care services for children, their parents are given consultations, etc.). In this event, multiple units of measurement can be considered.
- c) **Evaluation of the cost of separate elements of service delivery.** This is the most complicated and time-consuming part of analysis. It requires financial information on all aspects of service delivery. The researcher may draw on various sources of information and may encounter difficulties with co-operation and effective provision of data. For instance, public financial reporting systems often lack needed level of detail and it may be difficult to obtain the data from service providers. In any case the researcher should be prepared that this stage will require most time and effort.
- d) **Assessment of unit cost.** At the final stage, the researcher should make sure that the data reflects the full range of costs related to service delivery and carefully calculates the final indicator of the general assessed value calculated per unit of service.

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