

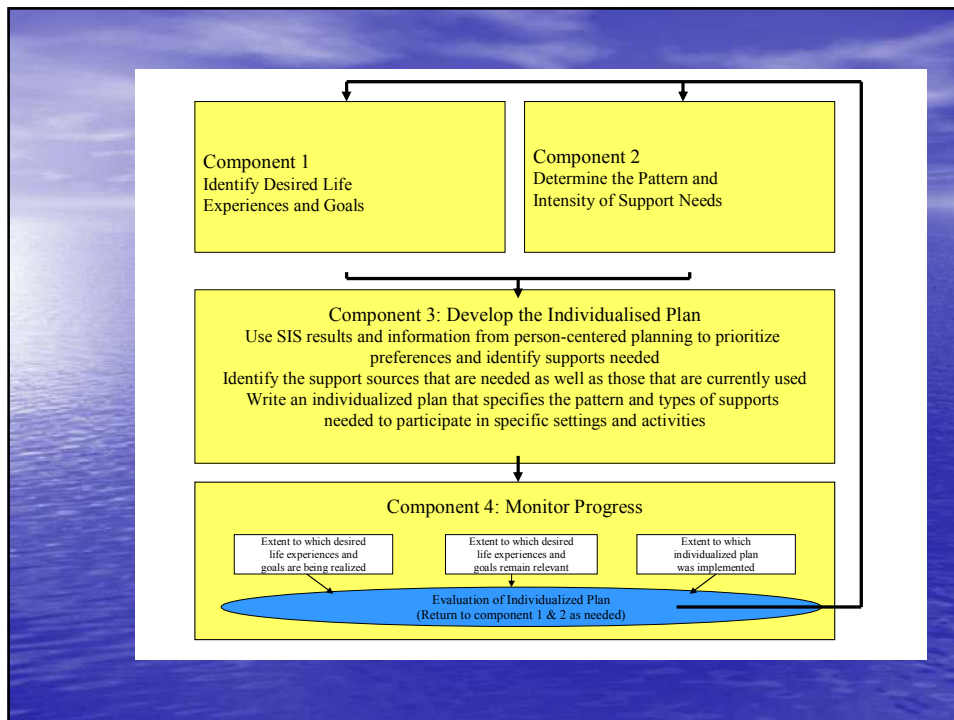
Resource allocation based on Supports

Two studies with the Supports Intensity Scale

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Important starting points for the SIS:

- All people in society are fundamentally equal to each other .
- Every person should always be understood in connection with the context in which he / she lives.
- Supports have to make sure that people with disabilities get and hold access to the social, political and economic resources of the society.
- Every person needs to get the opportunity to participate in the given activity, if necessary with maximum support (in terms of type of support, the daily support time, and frequency).
- The SIS is meant to use in combination with a individualized person-centered support plan and is intended to create a better connection between the support plan and the needs and choices of people with an intellectual disability.



- Context: Arduin, (after a deinstitutionalisation-process) a community-based service provider in the Netherlands. For all clients there are data on an interview on goals and perspectives and SIS-scores. Interviews were held with the person himself or a proxy.
- First study: developing a formula to translate SIS scores to financial means. On the basis of the SIS it appears to be possible to redistribute the support budget of the total organisation according to the scores of individual persons.
- Second study: The clients of Arduin are also classified according the new Dutch funding system based on seven care weights, which define functions and amount of time needed per client for living, daily activities and treatment. The scores on the SIS were compared with this classification in care weights.

Study 1: Redistributing the supports budget according to the SIS scores of the clients

- Until now the budget is based on the number of clients
- + Bonus for people with severe challenging behavior
- + Bonus for people with extreme need of support
- Assumption (research based) : the supports the clients get, in their life in the community, nowadays in Arduin is of good quality

- Distinction between Fixed costs and Support-dependent costs:
- Fixed costs: the same for every client; costs per place, independent of the person who takes this place: material costs, housing, transport, and other overhead costs (as indirect wage costs, costs of management and administration).
- Supports-dependent costs: the amount of money that is left, is the budget Arduin has as its disposal to expend on the supports-dependent costs of all the clients.

Application: The Formula

- The formula starts with the score for SIS Section 1: A through F. If the score on Medical Supports Needed, Section 3a, is larger than 5, or at least one 2 is circled, the score of section 1 was increased. Therefore the score on Medical Supports Needed was multiplied by a certain factor (in our example to come to the Arduin-benchmark we kept a factor 1) and then this number was added to the score for SIS Section 1.
- The same was done with the score on Section 3B, Behavioral Supports Needed, but only for the clients for whom Arduin doesn't get a bonus because of their severe challenging behaviour.
- The resulting total score of an individual client is then divided by the total score of the whole population, and multiplied by the total supports-dependent budget.
- Then the individual budget is divided according to the scores per part of Section 1, and, if applicable, the scores on Medical Supports Needed and Behavioral Supports Needed.
- For those clients for whom Arduin gets the bonus because of their severe challenging behaviour, step 2 is skipped and an additional amount is added from the total of these bonuses Arduin receives. Therefore their individual score is divided by the total score for these clients on Behavioral Supports Needed and multiplied by the total budget of these bonuses.

A short example

- Frank has a total score for section 1, A t/m F, of 53. He needs on Exceptional Medical Needs extensive support because of his epilepsy, so here a 2 is circled. He also needs some support in inhalation therapy, so in total for Exceptional Medical Needs he gets a score of 3. He has a 2 circled on Behavioral Support needs because of the need for prevention of tantrums, and he needs some support in prevention of assaults or injuries to others, prevention of property destruction, prevention of self-injury, prevention of nonaggressive but inappropriate behaviour, prevention of wandering and support in maintenance of mental health treatments, so he has a score of 8 on Behavioral Support needs.
- His total score in the formula for resource allocation is therefore $53+3+8=64$.
- For him there is no bonus because of challenging behaviour.
- His score of 64 is now divided by the total of all scores of all clients at a fixed point in time (the first of January 2007), which was 19995, and multiplied by the total supports-dependent budget (14.139.636 euro) to get as a result 45.258,15 euro.
- The calculated cost for his support over 2006 were 46.878 euro. It will be evident that the total amount based on the SIS formula is equal to the available budget, because this budget was reallocated.

Evaluation of the application

- Sample of 11 houses with 1 to 5 clients
- For 27 clients who get all their professional support from Arduin), and for who we had a SIS score, the supports-dependent costs per person were calculated.
- Correlation of .585, with a significance at 0.01, between these costs and the financial outcomes of the formula based on the SIS.
- Data however showed that of these 29 clients there were 5 with substantial higher or lower supports-dependent costs than as indicated by the SIS formula:
 - Two of these clients live in a house where there is constant supervision because of their fragile health situation.
 - One client lives under supervision because she can be suicidal.
 - The fourth client left the house where she used to live to move to more independent living; but she did so after the date we took the data from (01-01-07).
 - And with the fifth client, who has, according to the SIS, a firmly higher need of support than she got at 01-01-07, a new, more expensive, support plan is made on the base of the 'bonus' for extreme need of support (due to challenging behaviour) that became available for her.

- After excluding these five clients from the database, the correlation for the remaining 22 clients between the support-dependent costs and the financial outcomes of the formula based on the SIS, is a strong .885, with a significance at 0.01:
 - 78 % of the supports-dependent costs can be explained by the formula on the base of SIS-scores.
- The formula used thus seems a valid way of calculating support-dependent costs.
- However, in deciding on a budget, one should also take into account which environment is needed to give the support needed to the person, as indicated in the SIS manual already (Thompson et al.,2004). The need for constant supervision meant in the cases mentioned above some 45% to 70 % extra costs.

Study 2: Comparison of scores on the Supports Intensity Scale with the 'packages of care weight' in the Dutch system of service delivery for people with intellectual disabilities.

- New Dutch system of finances on the base of the seven packages of increasing care weight
 - 1 VG Living with some support
 - 2 VG Living with support
 - 3 VG Living with support and care
 - 4 VG Living with support and intensive care
 - 5 VG Living with support and very intensive care
 - 6 VG Living with intensive support, care and behavioral support
 - 7 VG (Closed) living with very intensive support, care and behavioral support

Table 1. Mean scores of clients of Arduin per package of care weight, on the SIS-Index on Support Needs, on Exceptional Medical Support Needs, and on Exceptional Behavioral Support Needs

| Package care weight | Number of clients | Mean SIS-Index | Range SIS-Index | Mean Medical Support Needs | Range Medical Support Needs | Mean Behavioral Support Needs | Range Behavioral Support Needs |
|---------------------|-------------------|----------------|-----------------|----------------------------|-----------------------------|-------------------------------|--------------------------------|
| 1VG | 20 | 62,65 | 55-74 | 0,25 | 0-2 | 1 | 0-3 |
| 2VG | 40 | 74,33 | 54-102 | 0,63 | 0-3 | 1,48 | 0-8 |
| 3VG | 71 | 79,92 | 56-99 | 1,01 | 0-4 | 2,14 | 0-9 |
| 4VG | 70 | 89,50 | 72-107 | 1,40 | 0-6 | 2,21 | 0-8 |
| 5VG | 90 | 93,02 | 69-113 | 4,82 | 0-17 | 2,50 | 0-12 |
| 6VG | 42 | 80,05 | 55-113 | 1,07 | 0-4 | 6,95 | 0-19 |
| 7VG | 44 | 81,39 | 55-109 | 0,84 | 0-5 | 8,48 | 1-22 |

In this table one sees a clear increase of the SIS Index, and also of the scores on Exceptional Medical Support Needs, with the packages of care weight 1 t/m 5. The SIS Index for the packages of care weight 6 en 7 is different, because these packages are based on the presence of challenging behaviour. The average scores for Exceptional Behavioral Support Needs are thus clearly higher with the packages 6 en 7.

When we look at the correlation between the SIS-Index and the packages of care weight, in Table 2, we see significant correlations between:

- The packages of care weight and the SIS Index: a reasonable correlation
- The packages of care weight and the SIS scores on Exceptional Medical Support Needs: a reasonable correlation
- The packages of care weight and the SIS scores on Exceptional Behavioral Support Needs: a good correlation.

Table 2. Correlation between Package of care weight, SIS Index, and scores on Exceptional medical and Behavioral Support Needs

| | | | Package amount of care | SIS Index | Medical Support Needs | Behavioral Support needs |
|----------------|--------------------------|--------------------|------------------------|-----------|-----------------------|--------------------------|
| Spearman's rho | Package amount of care | Correlation Coeffi | 1,000 | ,301(**) | ,213(**) | ,497(**) |
| | | Sig. (2-tailed) | . | ,000 | ,000 | ,000 |
| | | N | 377 | 377 | 377 | 377 |
| | SIS- Index | Correlation Coeffi | ,301(**) | 1,000 | ,531(**) | ,146(**) |
| | | Sig. (2-tailed) | ,000 | . | ,000 | ,005 |
| | | N | 377 | 377 | 377 | 377 |
| | Medical Support Needs | Correlation Coeffi | ,213(**) | ,531(**) | 1,000 | -,038 |
| | | Sig. (2-tailed) | ,000 | ,000 | . | ,461 |
| | | N | 377 | 377 | 377 | 377 |
| | Behavioral Support needs | Correlation Coeffi | ,497(**) | ,146(**) | -,038 | 1,000 |
| | | Sig. (2-tailed) | ,000 | ,005 | ,461 | . |
| | | N | 377 | 377 | 377 | 377 |

When we limit the comparison between the packages of care weight and the SIS Index to the packages of care weight 1 t/m 5, where the weight of the package mainly depends on the general support needs (and where the behavior is not decisive) we see in Table 3 clearly higher significant correlations between:

- The packages of care weight and the SIS Index: a excellent correlation
- The packages of care weight and the SIS scores on Exceptional Medical Support Needs: a good correlation

Because behavioral support needs in particular score on the packages 6 en 7 the correlation is lower here, although still significant.

Table 3. Correlation between Packages of care weight 1-5, SIS Index, and scores on Exceptional Medical and Behavioral Support needs

| | | | Package amount of care | SIS Index | Medical Support Needs | Behavioral Support needs |
|----------------|--------------------------|-------------------------|------------------------|-----------|-----------------------|--------------------------|
| Spearman's rho | Package amount of care | Correlation Coefficient | 1,000 | ,667(**) | ,555(**) | ,127(*) |
| | | Sig. (2-tailed) | . | ,000 | ,000 | ,029 |
| | | N | 295 | 295 | 295 | 295 |
| | SIS Index | Correlation Coefficient | ,667(**) | 1,000 | ,534(**) | ,170(**) |
| | | Sig. (2-tailed) | ,000 | . | ,000 | ,003 |
| | | N | 295 | 295 | 295 | 295 |
| | Medical Support Needs | Correlation Coefficient | ,555(**) | ,534(**) | 1,000 | ,040 |
| | | Sig. (2-tailed) | ,000 | ,000 | . | ,490 |
| | | N | 295 | 295 | 295 | 295 |
| | Behavioral Support needs | Correlation Coefficient | ,127(*) | ,170(**) | ,040 | 1,000 |
| | | Sig. (2-tailed) | ,029 | ,003 | ,490 | . |
| | | N | 295 | 295 | 295 | 295 |

A linear regression analysis with the packages of care weight as dependent variable and the SIS-Index plus the score on Exceptional Medical Support Needs as independent variables show a high correlation between these variables ($r=0,729$, $p<.001$).

The SIS-Index and the score on Exceptional Medical Support Needs predict strongly the package of care weight (r quadrate= $0,532$), the SIS-Index stronger ($t=12,563$; $p<.001$) than the score on Exceptional Medical Support Needs ($t=5,502$; $p<.001$).

A linear regression analysis with the packages of care weight as dependent variable and the score on Exceptional Behavioral Support Needs as independent variable shows a high correlation between these variables ($r=0,540$, $p<.001$).

The score on Exceptional Behavioral Support Needs predicts reasonably the packages of care weight (r quadrate= $0,292$; $t=12,431$; $p<.001$). In this one has to take into account that the packages 6 en 7 are meant for behavioural support.

Conclusion (1)

There is a clear connection between the eventual classification in packages of care weight by the staff of Arduin and the scores on the Supports Intensity Scale. The SIS thus offers good possibilities to come to this classification in packages of care weight as well. In this one has to look at a combination of the SIS Index, the SIS scores on Exceptional Medical Support Needs and the SIS scores on Exceptional Behavioral Support Needs:

- The SIS Index, combined with the SIS scores on Exceptional Medical Support Needs, and with a low score on Exceptional Behavioral Support Needs, can be used to come to a classification in the packages 1 VG t/m 5 VG
- A high score on Exceptional Behavioral Support Needs can be used for the packages 6Vg en 7 VG

Conclusion (2)

- However, an important advantage of the SIS is that it is not about what a service system offers, but about what a client's support needs are; it is based on the support needs of a person.
- The SIS can be used to come to this classification in packages of care-weight, but in first instance it leads to scores on the supports needs of people on a continuum. If one connects the financial means to this, instead of to seven packages of care-weight, thus one could attribute financial means on the base of individualised support needs.
- An important advantage of the SIS-based methodology: the interview about the goals and perspectives, plus the SIS-interview give a good overview on what are very concrete the support needs of a person (on all the important areas of life), in relation to what the person wants with his/her life. Next one can very directly, go in dialogue on this with a service provider, who immediately has the information to make a Individual Support Plan.