Goal Attainment Scaling (GAS)

Sarah Owen
Ursula Philpot
What today will look like

* What is Goal Attainment Scaling?
* How can you start to use the tool
* Our experiences of using the tool

* Opportunity to use GAS with your goal
* Setting GAS from a consultation
Your Information Pack

* Copy of the presentation
* Worksheets

This symbol refers to writing on your worksheet

* GAS tool
* Toolkit
Think of a goal . . . .

Write this down on your worksheet

I want to be able to find my way around the London tube network without getting lost.
Goal Attainment Scaling – What is it?

History . . .
* Outcome measure introduced in 1960’s by Thomas Kiresuk and Robert Sherman
* A way to assess community based mental health services.

What it does . .
* A way to score if the patients goal as been achieved
* A standardised way to measure outcomes and allow statistical analysis

How it does this . .
* Individuals identify goals to suit them.
* The current level of functioning is individually set as well as the expected level of performance.
* Review
The tool enables the service user and clinician to:

- Formalise goal setting
- Standardises goal setting
- Focus treatment
- Set collaborative and individualised goals
- Set realistic outcomes
- Identify importance of a goal
- Identify the difficulty of the goal
- Sensitive to change
- Track goals
Why choose the GAS?

* Easy to Use
* Fits with SMART goals
* Adaptable to different client groups
* GAS was used in Dietetic sessions for:
  * motivational purposes
  * track changes
  * To show the outcome of interventions
How to use GAS

- Identify the goal
- Make it SMART
- Identify how important it is
- Identify how difficult it is
- What is the baseline?
- What is the expected outcome?
- Review the goals
- Goal Attainment Scaling
# Goal Attainment Scaling (GAS) Record Sheet

<table>
<thead>
<tr>
<th></th>
<th>Patient stated goal</th>
<th>SMART goal</th>
<th>Importance</th>
<th>Difficulty of achieving</th>
<th>Baseline</th>
<th>Achieved</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td>□ Yes</td>
<td>□ No</td>
</tr>
</tbody>
</table>

- **Importance**
  - Not Imp
  - Imp
  - V Imp
  - Ex Imp

- **Difficulty of achieving**
  - Not Difficult
  - Minor Difficulty
  - Mod difficulty
  - Extreme difficulty
  - No function

- **Baseline**
  - Some function
  - No function

- **Achieved**
  - Yes
  - No
How to use GAS

* Identify the goal

To be able to make a meal without weighing out all the ingredients
- Identify the goal

<table>
<thead>
<tr>
<th></th>
<th>Patient stated goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
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</table>
How to use GAS

- Identify the goal
- Make it SMART

To be able to make one meal without weighing out all the ingredients in 6 weeks time
How to use GAS

- Identify the goal
- Make it SMART

<table>
<thead>
<tr>
<th>SMART goal</th>
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<td></td>
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</tbody>
</table>

To be able to make one meal without weighing out all the ingredients in 6 weeks time
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
  * 4 point scale
    * 0 = not important
    * 1 = important
    * 2 = very important
    * 3 = extremely important
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
  * 4 point scale
    * 0 = not important
    * 1 = important
    * 2 = very important
    * 3 = extremely important
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
* Identify how difficult it is
  * 4 point scale
    * 0 = not difficult
    * 1 = minor difficulty
    * 2 = moderate difficulty
    * 3 = extreme difficulty
How to use GAS

- Identify the goal
- Make it SMART
- Identify how important it is
- Identify how difficult it is
  - 4 point scale

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>□ Not Difficult</td>
</tr>
<tr>
<td>□ Minor Difficulty</td>
</tr>
<tr>
<td>□ Mod difficulty</td>
</tr>
<tr>
<td>□ Extreme difficulty</td>
</tr>
</tbody>
</table>

- 0 = not difficult
- 1 = minor difficulty
- 2 = moderate difficulty
- 3 = extreme difficulty

A little difficult - score 1
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
* Identify how difficult it is
* What is the baseline?
  * Some function - 1
  * No function – 2
  * as bad as they could be
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
* Identify how difficult it is
* What is the baseline?
  * Some function - 1
  * No function – 2
    * as bad as they could be

Has managed to not weigh bread once
Score -1
How to use GAS

- Identify the goal
- Make it SMART
- Identify how important it is
- Identify how difficult it is
- What is the baseline?
- What is the expected outcome?
  - Much better (+2)
  - A Little better (+1)
  - As expected (0)
  - Part achieved (-1)
  - Worse (-2)
<table>
<thead>
<tr>
<th>Goal</th>
<th>Worse (-2)</th>
<th>Part achieved (-1)</th>
<th>As expected</th>
<th>A little better (+1)</th>
<th>Much better (+2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be able to make one meal without weighing out all the ingredients in 6 weeks time</td>
<td>Not to be able to start to make a meal or weighed food more often</td>
<td>Made a meal but weighed ingredients most of the time</td>
<td>Made a meal without weighing the ingredients in the 6 weeks</td>
<td>Made a meal without weighing the ingredients before the 6 weeks</td>
<td>Made more than one meal without weighing the ingredients and/or before the 6 weeks</td>
</tr>
</tbody>
</table>
How to use GAS

* Identify the goal
* Make it SMART
* Identify how important it is
* Identify how Difficult it is
* What is the baseline?
* What is the expected outcome?
* Goal Attainment scoring
  * Review - Made a meal without weighing the ingredients before the 6 weeks
  * For statistical analysis
Goal Attainment scoring

Overall Goal Attainment Scores are then calculated by applying a formula:

\[
\text{Overall GAS} = 50 + \frac{10 \sum (w_i x_i)}{[(1 - r) \sum w_i^2 + r(\sum (w_i)^2)]^{\frac{1}{2}}}
\]

Where:
- \(w_i\) = the weight assigned to the \(i\)th goal (if equal weights, \(w_i = 1\))
- (weight = importance x difficulty)
- \(x_i\) = the numerical value achieved (between –2 and + 2)
- \(r\) = the expected correlation of the goal scales (0.3)
- (taken from Turner Stokes)
-2  Much Less Than Expected Outcome—7%
-1  Somewhat Less Than Expected Outcome (usually Baseline)—21%
0   Projected Performance Expected by the end of the Measurement Period—43%
+1  Somewhat More Than Expected Outcome—21%
+2  Much More Than Expected Outcome—7%
How to use GAS
How to use GAS

Frequency

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much Less</td>
<td>7</td>
</tr>
<tr>
<td>Somewhat Less (baseline)</td>
<td>21</td>
</tr>
<tr>
<td>Expected</td>
<td>43</td>
</tr>
<tr>
<td>More than Expected</td>
<td>21</td>
</tr>
<tr>
<td>Much more than expected</td>
<td>7</td>
</tr>
</tbody>
</table>
How to use GAS

Or use the Excell document . . . .
How to use GAS

| Patient Surname | 0 = not at all  
| Patient Firstname | 1 = fairly  
| Hospital Number | 2 = very  
| gender | 3 = extremely  
| diagnosis |

<table>
<thead>
<tr>
<th>Goals</th>
<th>Goal description</th>
<th>Importance</th>
<th>Difficulty</th>
<th>Weight</th>
<th>Wsq</th>
<th>Baseline</th>
<th>W x Base</th>
<th>Achieved</th>
<th>W x Ach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 2</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 3</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 4</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 5</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 6</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

SumW = Sum (Wsq)  
Factor = 0  
Sqrtfactor = 0.0

GAS calculation  
Baseline: #DIV/0!  
Achieved: #DIV/0!  
Change: #DIV/0!

Print & Save
How to use GAS

<table>
<thead>
<tr>
<th>Goals</th>
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<th>Difficulty</th>
<th>Weight</th>
<th>WSq</th>
<th>Baseline</th>
<th>W x base</th>
<th>Achieved</th>
<th>W x Ach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1</td>
<td>Make a meal</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>-1</td>
<td>-3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Goal 2</td>
<td>Make a snack</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>-1</td>
<td>-2</td>
<td>-1</td>
<td>-2</td>
</tr>
<tr>
<td>Goal 3</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 4</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 5</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Goal 6</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

SumW: 5
Sum (Wsq): 25
Factor: 16.6
SqrtFactor: 4.1

GAS calculation:
Baseline: 37.7
Achieved: 52.5
Change: 14.7
Goal Attainment scoring

- Rate the outcome scores at review
- GAS T is a measure of change
- > 50 shows a positive change
- A change shows clinical outcome

Mean T score 50 = accurate goal setting (unbiased)
- > 50 over cautious scoring
- < 50 overly ambitious
Where to find it

* Available free online
* Kings College London has produced a toolkit
  * http://www.kcl.ac.uk/lsm/research/divisions/cicelysaunders/resources/tools/gas.aspx
* You can use computerise documents to produce goals (via excel)
* A quick and shorter version is available - GAS Light
Who can you use the tool with?

<table>
<thead>
<tr>
<th>More appropriate</th>
<th>Less appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Degree of motivation to change</td>
<td>* Ambivalent</td>
</tr>
<tr>
<td>* Able to change</td>
<td>* Upset</td>
</tr>
<tr>
<td>* Able to retain and apply information</td>
<td>* Cognitive difficulties</td>
</tr>
<tr>
<td>* Intervention driven</td>
<td>* No follow up</td>
</tr>
<tr>
<td>* Goal driven</td>
<td>* General advice to carers/families</td>
</tr>
<tr>
<td></td>
<td>* Unable to read/write (can be adapted)</td>
</tr>
<tr>
<td></td>
<td>* Low communication level</td>
</tr>
</tbody>
</table>
When would we use GAS?

* Assessment
  * Agree goals (SMART)
  * What is the baseline?
* Complete intervention
* Review
  * Compare to baseline
  * Set new goals or re-assess goals set
How did we implement it in our service?

* May 2013
  * Discussion in Team Meeting by Professional Head of Dietetics
  * The Dietitians trialled with 3 patients each – team was unsure
* June 2015
  * One Team took this on to focus on in more detail – CAMHS
  * GAS Champion - Band 6 Dietitian took this on
* July 2015
  * ½ day in depth Training
  * Engaging staff
* Toolkits available
* July 2015 – present. Quarterly follow up
* Regular email contact
* September 2015 - July 2016
  * Service Evaluation and Masters Project
* July 2017
  * Take it back to the team to roll out
How did we use it in our service?

- Used with Eating Disorder Services
  - Dietetic Service
  - Occupational Therapist
- Engagement tool with clients
- The GAS tool was used across differ
  - Inpatients
  - Outpatients
  - Social Eating Groups
  - Leave planning groups
- Specific Interventions
  - Supermarket trips
  - Meal preparation sessions
  - Food challenges
The majority of goals set using the GAS tool focused on dietary compliance (29.3%)
- Reducing compensatory behaviours (17.1%)
- Tackling fear foods (17.1%).
How did we use it in our service?

* Outcomes presented to NHS commissioners to show outcome of Social Eating Group
* Helped to show our outcomes with patients
* GAS tools fit nicely with the use of individualise SMART goals
* The GAS tools allow patient to be empowered as they were in charge of care
Clinicians perceptions 1 year on . . .

Perception

* Limited time to complete the tool
* Increased paper work
* Documentation doesn’t fit with current electronic case note

Solution?

* Effective in the longer term
* Use the GAS Light
* Use the tool as part of the assessment
Clinicians perceptions 1 year on . . .

Perception

* It is not being recognised as a ROM’s tool by managers and other clinicians

Solution?

* Tool can be adapted into care documents or notes
* Promote the tool and educate team on its benefits
* Use with MDT interventions
* Increase engagement
* Show our worth
Clinicians perceptions 1 year on . . .

Perception

* It is difficult to remember to use the tool.
* Tool needs to be embedded into clinical practice.

Solution?

* Use the tool as part of the paperwork
* Tool can be adapted into care documents or notes
* Have a prompt to use the tool on current assessments
* Increase the engagement and confidence of the team – workshops, training and support
Dietetic review session template

Dietetic review appointment.
Patient and _____ attended.

Weight details
Weight: _____ kg (increased by _____ in ____)
Height: _____ m
Average rate of weight change: ________
% of median Body Mass Index:
Ideal Median BMI is _______ based on a height of _____ and age of _____.

Protocol: ________
Refer to updated weight record sheet/weight graph in paper notes.

Blood results
Patient’s blood results (from tests on _____) showed _______. These were discussed within the session.

Other physical issues (including e.g. menstruation, dental issues etc.)

Physical activity
Dietary Intake

Nutritional requirements
Energy: calories per day
Fluid: ml/day

Nutritional Intake
Nutritional supplements

Vitamin / mineral preparation
Advice given within session:
Written information provided:

Plan:
Goal 1:
Goal 2:
Review of Goals:

Goal Attainment Scaling

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<td></td>
<td></td>
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Perception

* Tool not useful for every session
* The discussion may not warrant the use of the tool
* The service user may not engage.

Solution?

* The tool can be used at the start and end of an intervention
* As with any tool you only use it when clinically appropriate
* Service users may not be ready to change therefore goal setting is no appropriate.
Assessing our quality

- The goals were set in an unbiased fashion
  - No difference between GAS T scores in
    - Diagnosis
    - Clinicians
    - Setting
    - Localities
- 11.1% of the goals from the original caseload (n=117) were not completed correctly.
What did our service users think?

* “Good way to look at how I've change my diet” service user in CAMHS (weight management)

* “I’ve done quite well!” service user doing Meal prep

* “I like making goals so it kept me focussed and I wanted to make sure I did it” service user in Adults inpatient unit, leave planning group

* “I wanted to exceed expectations.” service user in Adults inpatient unit leave planning group

* “Another piece of paper”

* Collecting views via questionnaire – in progress
Your goal

* What was your goal?
* Make it SMART
* Identify how important it is
* Identify how difficult it is
* What is the baseline?
* What is the expected outcome?
Think about the goal you just set
Can you add this to a GAS recording sheet?
## Using the Recording Sheet

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<tr>
<td>1</td>
<td></td>
<td>Not Imp</td>
<td>Not Difficult</td>
<td>Some function</td>
<td>Yes</td>
<td>Much better (+2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Imp</td>
<td>Minor Difficulty</td>
<td></td>
<td>No</td>
<td>A Little better (+1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>V Imp</td>
<td>Mod difficulty</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Ex Imp</td>
<td>Extreme difficulty</td>
<td></td>
<td></td>
<td>Part achieved (-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No function</td>
<td></td>
<td></td>
<td>Same as baseline</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Worse (-2)</td>
</tr>
</tbody>
</table>
Using GAS in Practice

* Think about the goal you just set
* Can you add this to a GAS recording sheet?
* Can you review the Goal?
Using GAS in Practice

* Role Play
  * Participant 1 – Clinician
  * Participant 2 – Service user

* Complete a typical assessment – based it on a current case
* Set goals with your service user
  * Use the GAS recording sheet to complete this

Swap!
Using GAS in Practice

* Role Play
  * Complete a typical review
  * Review goals with your service user
    * Use the GAS recording sheet to complete this
Think about how this may be helpful in your service
Thank You